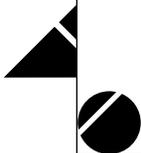




A School Administrator's Desktop Guide to Assistive Technology

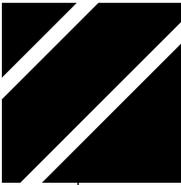


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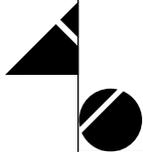
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A School Administrator's Desktop Guide to Assistive Technology

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Foreword

One Principal's Perspective on Assistive Technology

● ■
▼ **T**wo years ago, as a favor, I volunteered to serve on our district's newly established Assistive Technology (AT) team. Through the efforts of our Pupil Services Director (who had come to the district the previous year with a clear and purposeful vision for the incorporation of AT practices across grade levels), a sizeable state grant was secured to provide for inservice collaboration and training. It also covered the purchase of AT software, materials, and supplies for both pilot and pioneer projects in our schools. As the AT team was organized, it provided for fair representation of special education and related services professionals from all four of our district's schools, but with only limited representation from regular education. The regular education "risk" the first year was that AT induction would capture the interest of classroom teachers, who would eventually want to come aboard. (Our risk paid off in this, our second year.)

As inclusive as the AT team tried to be, especially given that all of the members were volunteers, there was no administrative representation other than the Pupil Services Director, who convinced me that a principal's presence on the team would indicate a wider administrative advocacy for the technology. The principal/member could facilitate communication and conversation with other building administrators, and might even have some special insight into the big picture concerns and considerations that could become roadblocks if they were not addressed and resolved in committee prior to spreading the AT word to the entire school community.

School principals, at least the ones who are honest with themselves, fully understand that it is not humanly possible to meet all of the wants and needs of their many constituencies. Time is a great enemy if it is not confronted head-on.

Some days, it is difficult to respond to all phone calls, answer all emails, and return all office referrals. Some weeks, it is nearly impossible to give full attention to all conferences, classroom visitations, or committee meetings that are scheduled.

Signing on to new initiatives (at least to ones that are not mandated by the superintendent, board of education, and state or federal legislation) can be problematic for a school principal. Responsibilities such as ensuring the safety and security of the school, encouraging a respectful learning environment in each classroom, evaluating faculty and staff, supervising curriculum standards and benchmarks, and establishing collaborative relationships with parents and families must come first.

When choosing a new venue for involvement and considering the limited time I may have in my school day for it, I have always tried to select endeavors that align solidly with my primary professional responsibilities. This seems both essential and efficient. And if the new project or committee or study supports, enhances or increases my own professional development, so much the better! (If this last point seems selfish, I acknowledge it, but I do not apologize for it. Professional development opportunities for principals diminish with one's age and experience as well as with the dwindling budgets of many school districts.)

Although it is true that I originally joined the district's AT team as a favor to a colleague, my decision to remain on the team has proven to be a favor to myself and (I can only hope) at least some small benefit to my school.

Here are some thoughts and observations resulting from the first two years of my AT team commitment:

1. I greatly respect the concept of assistive technology consideration for all children—not just for children with intellectual, emotional,

communicative, or physical challenges. Conceptually, a broadly encompassing AT prescription leads well beyond the requirements of IDEA and wraps itself snugly around the good parts within No Child Left Behind. School professionals and school districts that view AT only through the lens of disabilities are sorely limiting their vision and sadly missing the point. Classroom teachers will neither fully understand nor wholly embrace assistive technology if they see it only as a function of special education. Because of this shortsightedness, children who are ineligible for special education services might never benefit from the support that a low-tech or mid-tech application could give them, especially during the primary or intermediate grades. Pencil grips, paper with raised or dotted lines, portable word processors, and a whole host of easily accessible supplies, materials, and basic equipment can work for anyone—and for everyone—and can very well make the difference between a struggling learner and a confident one.

2. The universality of assistive technology, especially at low-tech and mid-tech levels, is remarkable. Because school principals have to cling dearly to ever-tightening budget strings, I delight in noting that so much of AT at these levels is very inexpensive. Specialized papers are becoming more widely available on most school supply bid lists—sometimes we just don't look for them. Scented and fluorescent markers are in the school supply aisles of most drug stores and supermarkets. The so-called giant discount department stores have a variety of Leap Frog® and Leap Pad® products. Although white boards can be pricey, especially when equipping an entire classroom or grade level, several sheets of shower board from a building supply outlet (and a colleague or parent handy with a power saw) will do the trick nicely. Whatever a school budget cannot support, an active PTA or PTO can. All it takes is a personal request from a principal for funding that would benefit all students in the school.

3. My AT education has made me a keener observer during classroom visitations and a more thoughtful problem solver when strategizing with teachers. Although a learner having difficulties during a lesson has always caught my attention, it is far easier now for me to make clinical notes about what I am seeing. Might a slant board be helpful to this girl? Would amplifying the teacher's voice during a period of outdoor construction near the classroom assist the children sitting at the back of the room? Would a colored filter allow this boy to focus more closely on the words in his book? How about a talking dictionary for this particular group of struggling spellers?
4. A principal's working knowledge of the continuum of assistive technology devices can provide a wealth of information to share with teachers and parents. Conversations with teachers become more authentic because the principal can actively participate in the discussion and share equally in the brainstorming. Parents who speak with a principal knowledgeable about AT practices can be reassured that the building's leader understands the needs of all children within the school, can be creative in suggesting possible resolutions to problems, and will encourage trial-and-error in determining the right approach for a particular child.
5. Principals need to understand that, when it comes to AT, in many cases less is more. Although it is important for principals to be aware of high-tech equipment and programs that support students with significant disabilities (e.g., electronic readers and writers, sip/puff switches, talking word processors, etc.), it is critical that principals have the background and expertise to explain to teachers and parents that a low-tech or mid-tech option might be perfectly acceptable as a first response.
6. I have saved the most important thought for last: Although my granddaughter is only two years old, she will be ready to start school in what, no doubt, will seem like the blink of an eye. When she is a kindergartner and then a student in each successive grade, I want her principals to know at least as much as I do about assistive technology should she or any of her friends and classmates ever have the need. I expect nothing less.

Raymond Grasso, Principal
Coventry Grammar School
Coventry, Connecticut



Overview

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- ▼ Administrators have special skills and responsibilities that contribute to the successful provision and implementation of assistive technology for individual students. Their skills also are essential in determining the overall success of an agency's AT efforts.

Instructional leadership begins with a vision of what quality educational services should look like. Effective school administrators develop a vision jointly with educators, parents, students, and other community stakeholders. They then set a course of action that helps the agency move toward that vision. Part of the vision for any educational program that serves students with disabilities is the vision of how assistive technology devices and services can be offered in an effective, legal, ethical, and cost efficient manner for all students who need them.

In addition to their overall leadership responsibilities, school administrators engage in three types of activities. They manage the programs for which they have responsibility. They supervise the staff employed in these programs. Finally, they lead program development and improvement efforts. Providing effective AT services requires a school administrator to address assistive technology from each of these administrative perspectives. As managers, school administrators sign purchase orders for new equipment and ensure consistent and equitable services. As supervisors, school administrators ensure that the agency has qualified staff members who are knowledgeable about assistive technology and the technology needs of students with disabilities. As leaders in program development, school administrators include assistive technology in long-term planning efforts.

This monograph is designed to help administrators identify critical issues and specific actions that will influence the provision of assistive technology devices and services. It will look closely at each of the four aspects of school administration—leadership, program management, supervision, and program development—and their application to assistive technology.



Assistive Technology Laws

Use this chapter to familiarize yourself with the laws that define assistive technology devices and services and mandate the school district's responsibility to provide these devices and services.

Figure 1 lists all of the words, terms, and definitions regarding assistive technology that are included in the 1997 Amendments to the Individuals with Disabilities Education Act (IDEA). The Act's assistive technology requirements contain few words, but have far reaching effects for students with disabilities. The requirement to consider AT for all children affects each IEP team.

In the following pages, this guide will discuss the assistive technology provisions in IDEA in detail in order to help create a better understanding of their impact.

Defining Assistive Technology Devices

One question that is often asked by administrators is, "What is assistive

technology?" When looking at the definition of AT devices found in IDEA, an administrator might notice that a wide range of items would fall under this very broad definition. There are really two parts to the definition. An assistive technology device:

- Is an item or piece of equipment.
- Increases functional capabilities.

The assistive technology definition in IDEA begins with the words "any item." Although many devices were originally developed as AT tools, there also are many common items designed for other uses that can be considered assistive technology. Thus, AT is any item that is required by a student to increase functional capabilities and that is written into the IEP.

Functional capabilities are broad areas of skills that are used across environ-

Figure 1: IDEA Assistive Technology Regulations

300.5 ASSISTIVE TECHNOLOGY DEVICE

...any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, or customized that is used to increase, maintain, or improve functional capabilities of children with disabilities

(34 CFR § 300.5 [Authority: 20 U.S. C. § 1401(1)])

300.6 ASSISTIVE TECHNOLOGY SERVICE

ASSISTIVE TECHNOLOGY SERVICE—The term “assistive technology service” means any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device.

Such term includes --

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

(34 CFR § 300.6 [Authority: 20 U.S. C. § 1401(2)])

300.308 ASSISTIVE TECHNOLOGY

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

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

(34 CFR §300.308 [Authority: 20 U.S. C. § 1412(a)(12)(B)(i)])

(continued)

Figure 1: IDEA Assistive Technology Regulations (cont'd.)

§300.346 DEVELOPMENT, REVIEW, AND REVISION OF IEP

(2) Consideration of special factors. The IEP team also shall --

- (i) In the case of a child whose behavior impedes his or her learning or that of others, consider, if appropriate, strategies, including positive behavioral interventions, strategies, and supports to address that behavior;
- (ii) In the case of a child with limited English proficiency, consider the language needs of the child as those needs relate to the child's IEP;
- (iii) In the case of a child who is blind or visually impaired, provide for instruction in Braille and the use of Braille unless the IEP team determines, after an evaluation of the child's reading and writing skills, needs, and appropriate reading and writing media (including an evaluation of the child's future needs for instruction in Braille or the use of Braille), that instruction in Braille or the use of Braille is not appropriate for the child;
- (iv) Consider the communication needs of the child, and in the case of a child who is deaf or hard of hearing, consider the child's language and communication needs, opportunities for direct communications with peers and professional personnel in the child's language and communication mode, academic level, and full range of needs, including opportunities for direct instruction in the child's language and communication mode; and
- (v) Consider whether the child requires assistive technology devices and services.

(34 CFR §300.346 (a)(2) [Authority: 20 U.S. C. §1414 (d)(3) and (4)(B) and (e)])

ments and for a variety of specific tasks. Here is a list some of the functional capabilities that might be increased, maintained, or improved by the use of assistive technology:

- Communicating.
- Managing the environment.
- Hearing and listening.
- Moving in the environment.
- Working with numbers.
- Playing.
- Reading.
- Remembering.
- Seeing.
- Completing tasks related to employment.
- Writing.

Almost anything can be considered assistive technology if a person with a disability needs it to increase, maintain, or improve these functional capabilities. For example, talking picture frames have become quite common. They were not designed as AT, but when programmed with a message and a symbol or picture to represent that message, they are now used as voice output communication devices.

Another way to look at the definition of assistive technology is to think of the outcomes of its use. Some of the changes that could result when a student uses AT are:

- Increased levels of independence.
- Improved quality of life.
- Increased productivity.

- Enhanced performance on specific tasks.
- Expanded educational or vocational options.
- Increased success in regular education settings.
- Reduced amount of support services needed.

Understanding the Range of Assistive Technology Devices

Because the definition of assistive technology is so broad—encompassing thousands of items, including many that are not traditionally considered “technology”—it is helpful to think of it in three general categories: (1) no-tech/low-tech devices, (2) mid-tech devices, and (3) high-tech devices.

No-tech/low-tech devices are relatively simple. They typically contain no electronic features. If they do have such features they are very simple ones that are powered by standard batteries. Pencil grips, slant boards, magnifiers, adapted feeding utensils, visual schedules, color coded items, and single message speaking devices are some examples of no-tech/low-tech devices. Use of this kind of assistive technology generally requires little or no training for staff or students. Despite their simplicity, however, no-tech/low-tech devices can be an enormous help to students with disabilities. They are nearly always sturdy, portable, and inexpensive.

Other AT devices (generally referred to as mid-tech devices) fall in the middle range of complexity. These items have a degree of electronic functioning and almost always have some sort of power source. Mid-tech devices are potentially very powerful, and most users require at least some training and support. Some examples of mid-tech devices include portable word processors, multiple

message communication aids, talking spell checkers, and large print calculators. Mid-tech assistive technology also is generally portable, sturdy, and relatively inexpensive.

The most complex devices fall into the high-tech category. This category includes computers, software, power wheelchairs, sophisticated computer based voice output communication aids, and a variety of more complex peripherals for computer input using speech or eye movements. Tools in this category generally cost more and require more training and maintenance than the other AT categories.

The wide range of assistive technology devices has led administrators to ask many questions.

1. Is all technology assistive technology?

No. There are spelling drill and practice programs, math tutorials, and many other kinds of technology that teachers use in classrooms to enhance their teaching, provide additional practice, or motivate students. Technology used in this way is not assistive technology. One way to understand the difference between instructional technology (IT) and assistive technology is to ask the following questions:

- What will the tool do for a student?
- What would happen to the student if this tool were taken away?

In order to be assistive technology, a device must increase, maintain, or improve a functional capability. If you take assistive technology away from a student with a disability who understands how to use it, the student will find it more difficult or even impossible to perform the task for which it is used. This is because the assistive technology acts as a support to help the student overcome the barrier posed by the disability. On the other hand, when you take instructional technology away from a student it is likely that the student will not show a decrease in performance. Instructional technology is used to help a

student learn new skills, but it is not needed as a support once those skills are learned.

The needs of the individual student determine whether or not an item is assistive technology. For example, the entire class may be learning to use word processing as a tool for writing. Most students in the class will be able to use a pencil and paper for some writing tasks. However, some students who have a physical or a learning disability in the area of writing may need to use word processing software for all writing tasks. For these students, word processing software is assistive technology.

2. Does the AT requirement of IDEA only apply to students with more severe disabilities?

No. IDEA made it clear that every IEP team must consider assistive technology for every student. This includes students with high-incidence disabilities such as learning disabilities and mild cognitive disabilities.

3. Isn't providing the assistive technology the most important part?

No. Provision of assistive technology is only a first step. Simply having an AT device does not ensure that a student with a disability will experience increased function. A variety of AT services may be needed to support the student's assistive technology use.

Defining Assistive Technology Services

The IDEA '97 definition of assistive technology services is included in Figure 1. It says AT services are services that support a student and those around him or her in the acquisition and use of an AT device. As teams consider a student's need for AT, they must think not only about devices that the student might need, but also the associated services that will be required. For example,

providing a communication aid for a student without providing adequate training for the teacher, student, and other key individuals fails to provide a needed service. When AT devices fail to meet the needs of a student, the resulting lack of success is often related more to the lack of AT services than to a problem with the assistive technology device itself.

The list of AT services is brief, but the words include a number of important ideas and concepts.

1. What does an AT evaluation include?

AT evaluations must identify both devices and services designed to allow the child to increase quality, quantity, or independence in the everyday activities identified by the IEP team. Simply identifying a device does not give the classroom staff enough information about what is required for successful use. Evaluations should be, at least in part, completed in customary environments. This includes schools, classrooms, and other places where the child needs to complete the task that is of concern. Unless some part of the assessment is done in the environment where the student will use it, there is no way to know how effective the AT will actually be. The assessment is incomplete without those data, and the school district has not yet complied with the mandate. When a school uses an outside evaluator for assistive technology assessment, the school based team can still ensure that at least part of the evaluation is completed in the customary environment. To accomplish this, the team might take the recommendation from the outside evaluator and conduct functional trials in the settings where the AT will be used. Only after those trials would a decision about permanent acquisition and long-term use be made.

2. What sources of funding may be used to purchase AT?

Funding the purchase of assistive technology is often an issue if an expensive device is needed. School districts are required to provide the

needed AT, but may seek outside funding or other assistance with the purchase. The use of district/agency funds is not required in IDEA if other funding is available. Parents can be asked, but not be required, to help purchase AT through the use of insurance or other funding sources.

Access to the needed assistive technology cannot be delayed while funding is being sought. It is always best practice to borrow or rent the designated device or provide a reasonable facsimile so that the child can be making progress on IEP goals while funding for a permanent device is being obtained. For example, if a student needs a complicated communication device that will take several weeks to order, the district could begin training the student to use the device by using computer software that emulates it. The student is then acquiring needed skills while waiting for the assistive technology to arrive.

3. *What is the education agency's responsibility to repair and maintain AT?*

If assistive technology is needed, it must be available and working at all times. If a school district is meeting its obligation to provide assistive technology by using a device that belongs to the family, then it may need to repair that device if it is damaged or provide a replacement for use at school to ensure that the AT is available to implement the IEP. IEP teams also should have a backup plan for times when a device is out of service. Such a plan might include where to borrow or rent another device or how to set up a laptop computer to temporarily serve as a communication device during the repair period.

4. *What does it mean to coordinate AT with other services?*

Without good planning and coordination, assistive technology is unlikely to be integrated into customary environments or functional activities. AT used only in isolation is ineffec-

tive. Real use in meaningful activities is the only way that AT can increase or improve a child's function. Only the individuals who work in the classroom on a daily basis can make sure that a child has daily opportunities to use the technology in real life situations. In order to do this, staff members (teacher and classroom assistants) must have a thorough understanding of the technology. If there is a person on the team who has primary responsibility for providing AT services, that person can coordinate those services by acting in a consultative role to other staff members, helping them to integrate use of the AT in a meaningful way.

When students have complex disabilities, a number of service providers may contribute to the educational program. Students may have an occupational therapist, physical therapist, speech and language pathologist, educational consultant, and vision or hearing specialist on their team. If assistive technology is to be an effective tool for a child, team members must have a clear understanding of the role it will play for the individual and their part in ensuring the success of the program.

5. *What kinds of training and technical assistance are needed for the child and family?*

The student needs training in both the operation of the device and in the functional area for which the device is identified. For example, a student who will use a computer for writing needs to know how the computer and the associated software work, and also needs instruction in the mechanics of writing sentences and paragraphs (the amount and type of instruction needed may or may not be the same for all students). Family members need to know what the child is doing and how assistive technology use is expected to impact performance in all customary environments. If the family doesn't understand, can't support, or has unrealistic expectations for what the AT will do, its use will not be successful.

6. *What training and technical assistance is needed by professionals?*

Because many service providers do not receive training in the operation and use of assistive technology in their preservice programs (Hasselbring & Glaser, 2000), and because new technology is continually being developed, there is an ongoing need for training and technical assistance. Lack of training for professional staff leads to under use, inappropriate use, and—finally—abandonment of the AT (Scherer, 2000). Training needs should be assessed so that training can be provided to meet those needs. Typical training needs include: awareness training about the range of AT available to address specific needs, in-depth training on specific hardware or software that the staff will be expected to use, training on how to evaluate the effectiveness of AT being used, and information on how and when to seek technical assistance. Effective training for professionals ensures that the plans made by the IEP team can be implemented and that the student will have the opportunity to learn to use assistive technology to overcome barriers posed by the disability.

IDEA's Assistive Technology Provision for Educational Programs

IDEA includes the provision that assistive technology devices and services be provided to every student with a disability if they are needed by that student in order to receive a free appropriate public education (FAPE). Education agencies are required to provide assistive technology to students with disabilities when they need it to ensure that they have access to their educational programs. This access can mean access to special instruction, access to the general curriculum, or access to extracurricular activities.

Part (b) of section 300.308 addresses the use of school purchased assistive technology at home. When students with disabilities have educational goals that require them to use specific skills at home, the IEP team may decide that the assistive technology also is needed at home—for example, if the student has homework and the AT is needed in order to do the homework. The use of an augmentative communication device also may require home use. One decision that school administrators should participate in making is what would happen if the device that a student takes home is damaged due to neglect or abuse on the part of the family. This is the kind of question that the IEP team cannot answer without direction from an administrator or written procedural guidelines from the educational agency.

The guidance about assistive technology that is provided in Attachment 1 of IDEA states:

Assistive technology must address:

- Personal needs for assistive technology devices.
- Access to technology commonly used by other students.
- Appropriate involvement in and progress in the general curriculum.

When assistive technology is needed, it becomes part of a free appropriate public education for the student. The AT devices that are necessary to ensure FAPE must be provided at no cost to the parents, and the parents cannot be charged for normal use and wear and tear (34 CFR, Attachment 1). Conversely, IDEA also states, “The provision of assistive technology devices and services is limited to those situations in which they are required in order for a disabled student to receive FAPE (34 CFR, Attachment 1).

RESOURCES

*If more information on the laws is needed, the complete text of IDEA (or the new law when reauthorization is completed) can be found at <http://www.ed.gov>.

*An excellent training module about the federal laws relating to assistive technology is available at <http://www.texasat.net/trgmod.htm>. It includes PDF files, PowerPoint presentations, and other materials that are useful both to learn from and to use to teach others about AT law.

Assistive Technology and Special Factors

IDEA requires that every IEP team consider the student's need for assistive technology when the initial IEP is developed and every time it is revised. This rule is contained in the section of the law that talks about the things that must be included in an IEP. Consideration is one area where the school administrator can play an important role. The administrator can help define the process for considering a student's need for assistive technology and identify ways that such services may be provided.

The requirement to consider special factors has had a powerful effect on the lives of many students

with disabilities. Several of the special factors, such as the need for Braille and the consideration of the child's communication needs, have a direct relationship to assistive technology. But the final special factor, "(v) Consider whether the child requires assistive technology devices and services," applies to every student. It has made it very clear that every student with a disability might potentially need assistive technology and that schools have a responsibility to provide it when it is needed. IDEA leaves the decisions about how to assess and formally consider a student's need for assistive technology up to the IEP team. Although the team's consideration may be a relatively brief process, it requires that every member of the team have an understanding of what he or she is considering and the factors that should help to inform the team's decision.

In order to ensure that assistive technology services are provided equitably to all students who need it, school administrators can provide guidance to IEP teams about the legal mandates and the process of AT consideration. It is important to offer this guidance not only because the law requires it, but also because it helps ensure that students with disabilities have the tools they need to benefit from their educational programs and to make adequate yearly progress.

Suggested Actions for Administrators

1. Review the IDEA rules and regulations pertaining to assistive technology. Compare the federal rules to current practice in your education agency.
2. Participate in IEP team meetings for students who use assistive technology and those who do not yet use it. Ask yourself if all aspects of the IDEA rules regarding assistive technology have been applied by the IEP team.

CHAPTER
2

Leadership

Use this chapter to help develop a vision of your agency's assistive technology services.

Leadership and AT Services				
	Always Evident	Usually Evident	Seldom Evident	Not Evident
I know what AT is and how it can benefit students with disabilities.				
I know the legal requirements to provide AT for students with disabilities and the implications for my program.				
I facilitate the shared development by all stakeholders, including students and families, in development of a vision for AT use and I communicate that vision widely.				
I identify, communicate, model, and enforce social, legal, and ethical practices to promote responsible use of AT.				
I support faculty and staff in using AT to improve the education of students with disabilities.				
I publicly acknowledge the importance of AT and highlight student achievements that result from its use.				
I advocate on the regional and state level for policies, programs, and funding opportunities that support implementation of the district AT plan.				

There is a wide variety of literature that discusses the importance of leadership in education, industry, government, and many other areas. Leadership also is critical to the field of assistive technology, and the school administrator plays an important role in providing that leadership—for example, when carrying out the tasks required for supervision, management, or program development. In fact, it is sometimes difficult to distinguish between leadership and other responsibilities, such as management (Fullan, 2001). No matter what tasks an administrator is dealing with, it is the large problems—the complex issues—that require leadership. These are the places where leaders provide solutions, encourage appropriate actions from others, and set the tone for future actions. The field of assistive technology has many complex issues. It requires school administrators to play an active role in addressing them. This chapter will focus on the role of the school administrator as a leader in assistive technology services.

In conjunction with thinking about what the school administrator contributes, it is important to be clear about what the administrator's role in assistive technology is not. It is not being an AT expert, providing direct AT services, or making independent AT decisions. Administrators do not function at this direct service level. Instead, administrators lead by developing the context in which those tasks will be carried out. In assistive technology, as well as all aspects of school operation, the successful administrator:

- Takes the lead in developing a vision and mission (Bateman & Bateman, 2001).
- Recognizes and utilizes other's expertise (Parsons, 2001).
- Leads by example (Technology Standards for School Administrators, 2001).
- Keeps in touch with the students (Murphy & Lick, 2001).

- Develops a climate of inquiry and continuous self-improvement (Blase & Blase, 2001; Brewer, 2001).

RESOURCES

*To learn more about assistive technology, here are two useful websites: <http://atto.buffalo.edu>, which provides an excellent overview of AT in its AT Basics section, and <http://www.wati.org/resourceguide.htm>, which includes a downloadable 24-page booklet on AT designed for general education teachers and administrators.

Developing a Vision

One of the most important leadership roles in AT is helping stakeholders develop a vision of what AT services should be in their setting. It is the administrator who can bring the stakeholders together and develop a shared vision of how technology can play a role in enhancing student achievement. Just as the full use of instructional technology by teachers and students is only achieved through the support and vision of a technology savvy administrator (Bosco, 2002), the full use of AT is only achieved with that support and vision. The administrator's role in helping to create a vision that will foster the full use of assistive technology by students with disabilities is just as important as it is in promoting overall student achievement by creating a vision, mission, and goals for the school or district (Hallinger & Heck, 1998).

Figure 2: Quality Indicators for Assistive Technology Services	
ADMINISTRATIVE SUPPORT	
(1)	The education agency has written procedural guidelines that ensure equitable access to assistive technology devices and services for students with disabilities, if required by FAPE.
(2)	The education agency has clearly defined and broadly disseminated policies and procedures for providing effective assistive technology devices and services.
(3)	The education agency has written descriptions of job requirements, which include knowledge, skills, and responsibilities for staff members who provide assistive technology services.
(4)	The education agency employs a range of personnel with competencies needed to provide quality assistive technology services within their areas of primary responsibility.
(5)	The education agency includes assistive technology in the technology planning and budgeting process.
(6)	The education agency provides continuous learning opportunities about assistive technology devices, strategies, and resources for staff, family, and students.
(7)	The education agency uses a systemic procedure to evaluate the components of assistive technology services to ensure accountability for student progress.
CONSIDERATION OF ASSISTIVE TECHNOLOGY NEEDS	
(1)	Assistive technology devices and services are considered for all students with disabilities, regardless of type or severity of disability.
(2)	The IEP team has the knowledge and skills to make informed assistive technology decisions.
(3)	The IEP team uses a collaborative decision making process based on data about the student, environments, and tasks to make determinations.
(4)	A continuum of assistive technology devices and services is explored.
(5)	Decisions regarding the need for assistive technology devices and services are made based on access to the curriculum and the student's IEP goals and objectives.
(6)	Decisions regarding the need for assistive technology devices and services and supporting data are documented.

(continued)

Figure 2: Quality Indicators for Assistive Technology Services (cont'd.)

ASSESSMENT OF ASSISTIVE TECHNOLOGY NEEDS
(1) Assistive technology assessment procedures are clearly defined and consistently used.
(2) Assistive technology assessments are conducted by a multidisciplinary team that actively involves the student and family or caregivers.
(3) Assistive technology assessments are conducted in the student's customary environments.
(4) Assistive technology assessments, including needed trials, are completed within reasonable time frames.
(5) Recommendations from assistive technology assessments are based on data about the student, environments, and tasks.
(6) The assessment provides the IEP team with documented recommendations about assistive technology devices and services.
DOCUMENTATION IN THE IEP
(1) The education agency has guidelines for documenting assistive technology needs in the IEP and everyone on the IEP team is aware of them.
(2) Assistive technology is included in the IEP in a manner that provides a clear and complete description of the devices and services to be provided and used.
(3) Assistive technology is used as a tool to support achievement of IEP goals and objectives as well as participation and progress in the general curriculum.
(4) IEP content regarding assistive technology use is written in language that describes measurable and observable outcomes.
(5) All services needed to implement assistive technology use are documented in the IEP.

(continued)

Figure 2: Quality Indicators for Assistive Technology Services (cont'd.)

ASSISTIVE TECHNOLOGY IMPLEMENTATION
(1) Assistive technology implementation proceeds according to a collaboratively developed plan.
(2) Assistive technology is integrated into the curriculum and daily activities of the student.
(3) Team members in all of the child's environments share responsibility for implementation of the plan.
(4) The student uses multiple strategies to accomplish tasks and the use of assistive technology may be included in those strategies.
(5) Training for student, family, and staff is an integral part of implementation.
(6) Assistive technology implementation is initially based on assessment data and is adjusted based on performance data.
EVALUATION OF EFFECTIVENESS
(1) Team members share clearly defined responsibilities to ensure that data are collected, evaluated, and interpreted by capable and credible team members.
(2) Data are collected on specific student behaviors that have been identified by the team and are related to one or more goals.
(3) Evaluation of effectiveness reflects objective measurement of changes in the student's performance (e.g., student preferences, productivity, participation, independence, quantity, quality, speed, accuracy, frequency, or spontaneity).
(4) Effectiveness is evaluated across environments, including during naturally occurring opportunities as well as structured activities.
(5) Evaluation of effectiveness is a dynamic, responsive, ongoing process that is reviewed periodically.
(6) Data collected provide a means to analyze response patterns and student performance.
(7) The team makes changes in the student's educational program based on data.

Because students with disabilities are included in many general education classrooms, all educators—not just special education staff—must understand assistive technology and share a vision for its use. It is this shared vision that creates the environment and context that allows the realization of effective services. If there is no shared vision, and if the culture does not support or encourage student use of assistive technology, individual AT specialists trying to persuade teachers or assistants to implement its use struggle against often insurmountable barriers.

A visioning process is needed in order to ensure that everyone in an agency shares the same vision. Before beginning the visioning process, everyone involved needs to have a sense of what high-quality assistive technology services look like. Each agency will have different resources, processes, and levels of expertise to apply to an AT program, but there are a number of common principles that should be evident. The Quality Indicators for Assistive Technology Services (QIAT) is one tool that describes these common principles. Each area addressed by the QIAT includes quality indicator statements, descriptions of the intent of each indicator, and a list of common errors. Figure 2 shows the QIAT indicators for AT administrative support, consideration, assessment, inclusion in the IEP, implementation, and evaluation of effectiveness. The full set of Quality Indicators as well as a wide variety of support materials for their use can be downloaded from <http://www.qiat.org>.

Once there is agreement about what high-quality assistive technology services might include, the agency can prepare to develop a vision by determining the nature of existing AT services. The School Profile of Assistive Technology Services (included in the Program Development chapter) is one tool that can assist agencies in evaluating the specifics of their current services and target actions

for change. Participants also can prepare for vision setting by using action research strategies to gather information (Glanz, 1998). They might look for answers to questions such as the following:

- Which students currently use assistive technology?
- What types of AT do they use?
- Are there students who could benefit from AT, but haven't had it made available?
- Do teachers know what AT is available?
- Do they know how to access it?
- Do teachers or other staff need training?
- Where could the training be obtained?
- Is there an AT team?
- Is there a need to develop an AT team?
- If an IEP team is required, what particular 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)?

One of the most important aspects of developing a shared vision of assistive technology services is helping both special education teachers and general classroom teachers recognize the important roles they play in successful AT use. The classroom teacher is the only school professional who can identify opportunities for the student to use AT in a meaningful and productive way and ensure that these opportunities are available on a daily basis. No therapist who provides itinerant services or consultation and no AT specialist who serves as a resource can do this critical task.

Modeling Technology Use

Making assistive technology use part of the context of the school is critical. People perform differently in different contexts (Gladwell, 2002). When the culture of the school is one that includes widespread, visible use of a variety of AT tools, teachers will be encouraged to expand their use of them.

The principal's role in AT is important because administrators are the educational leaders in the building and they need to take the lead in this area. Students need the support that assistive technology can provide to improve their performance and enhance their learning.

The power of the principal is that he or she is the one whom people look to for leadership. By supporting the use of assistive technology, the principal is indicating that he or she believes in and promotes its use.

We all know that students have different learning styles and that teachers need to address those styles in order to differentiate their instruction to meet the needs of the students. Assistive technology, when used properly, helps to differentiate the instructional program and make the instructor's job easier.

For example, the Kurzweil™ scanning and reading software program helps our students in both inclusion and self-contained settings.

Regular and special education students are fascinated by the program and enjoy it. It provides the teacher with a tool to assist the struggling readers.

*David Lloyd
Principal
Chesapeake High School
Baltimore, MD*

The administrator who is using technology is providing a model for staff about regular technology use. So, how can an administrator model assistive technology use? Certainly, an administrator would not be expected to use a voice output device, a screen reader, or a wheelchair when it isn't needed except as a participant in a disability awareness activity. However, many instructional technology tools can be assistive technology for some students. The administrator who uses presentation software during staff meetings, takes notes using a portable word processor, and collects data on a handheld computer also is making it more acceptable for students to use these tools.

Supporting AT Use

Administrators set the tone for what is considered desirable behavior in the school. They do this through modeling, through formal recognition of staff and students, and through informal conversation and comments. Administrators who value the use of assistive technology demonstrate those values every day in many small ways. They might congratulate a teacher who has just mastered the use of new software that will help students who are struggling with reading, stop and converse with a student who uses a voice output communication device, or encourage a student who is working hard to operate a power wheelchair independently.

Another form of support includes recognition in the school newsletter of students who use assistive technology, demonstrating sensitivity to how they would want to be recognized. For example a middle school student struggling with reading may not want his peers to know he is not able to read at their level. At the same time, he may welcome a story that talks about how skilled he is at using complex scanning and text reading software if the emphasis is on the many features of this software rather than his reading difficulties.

When a school administrator encourages discussion and reflection on a topic it promotes growth and improves teaching (Blase & Blase, 2001). If increasing the academic performance of all students is a goal, the administrator should encourage staff members to share ideas, including the use of AT, at every staff meeting. He or she also should make it a point to inquire about whether or not students have their AT available in all academic settings. This communicates the message that the administrator considers AT availability an important goal for which everyone has a responsibility.

An administrator also may encourage individuals to take a leadership role in helping others learn more about AT. As a leader of leaders, the administrator has a powerful effect on the performance of the staff (Ash & Persall, 2000). An administrator might encourage a task force to analyze student data and investigate the impact of AT use across classes and grades. Assigning responsibility for this type of investigation enhances and encourages not only the learning of students, but also the learning of the adults working with those students.

Advocating for AT

Administrators frequently have natural opportunities to advocate for AT in forums that are not open to the teachers and others who are engaged more directly in the implementation of such programs. These opportunities occur at school board meetings, administrative meetings, community forums, parent teacher organizations, and in their own professional organizations. The well-informed administrator who is aware of the AT use and needs of students can often highlight the effectiveness of the technology as agencies develop their budgets, their priorities, and their lobbying efforts.

Administrators have the opportunity to ensure that AT needs are included in district or building technology plans and in technology grants that are being written. In one school, a 21st Century Schools Grant provided assistive technology for many students. One of the students commented at the end of the first year of the grant, "The other students thought I was dumb until they saw what I could write using voice recognition" (Polster & Katzmarek, 2004, p. 18). This ability to simply say, "Let's not forget the students who need assistive technology," is critical.



Suggested Actions for Administrators

1. Assess your assistive technology services using the School Profile of Assistive Technology Services and review the results.
2. Make a list of all the ways you model and support AT use in your building.
3. Identify two opportunities that you typically have where advocating for AT use might be appropriate and effective.

CHAPTER
3

Management

Use this chapter to identify internal processes and operating guidelines to help ensure that assistive technology services are legal, effective, equitable, and cost efficient.

Management and AT Services				
	Always Evident	Usually Evident	Seldom Evident	Not Evident
I develop, implement, and monitor policies and written operating guidelines to ensure legal, ethical, and cost effective AT services..				
I ensure that written guidelines include processes for AT consideration during the IEP meeting, AT assessment, and finding sources of AT for trial use.				
I ensure equity of access to AT devices and services.				
I ensure that all appropriate employees know how to respond to a parent's request for AT.				
I require that staff use data to make AT decisions.				
I allocate funds and human resources to the implementation of AT services.				
I make time available for staff to plan for implementation of AT services.				
I ensure that AT services are provided in a cost effective and efficient manner.				

Most school administrators find that day-to-day program management tasks take up an enormous amount of time. Management tasks include a wide variety of activities ranging from making sure the furnace is working, to signing purchase orders, to arranging for fire drills. While management tasks may not be as exciting as the dynamic activities of leadership, they provide staff with the stability and balance they need to do their work. Management activities keep the whole operation on an even keel so that staff members understand what is needed and can work to meet program goals.

In general, assistive technology management tasks fall into three categories. Managers (1) develop processes and systems to ensure that AT services are effective and responsive to the needs of students and families; (2) allocate the physical, human, and monetary resources needed to provide AT devices and services; and (3) ensure accountability so that AT services are equitable, effective, ethical, legal, and cost efficient. The development of operating guidelines for assistive technology services is one action that a school administrator can take to enhance all three of these management roles.

WHAT IF...

- The parent of a student who has not had the use of a computer comes to the IEP meeting and says, "I want my student to have a computer"?
- One of your staff members recommends expensive assistive technology for a student and you have no budget for assistive technology?
- The school librarian, who is in charge of the computer lab, tells you that students in the special education classes are not allowed to use the computers because they might break them?
- A new student who previously used a Braille N Speak moves into your district and you do not have a Braille N Speak?
- Your district purchases an expensive augmentative communication device for a student and the student moves to another district?

Develop Processes and Systems

Assistive technology teams need a process that can apply to each student. If each student team uses a different decision making process, the AT services will be inconsistent. And inconsistency can create problems of equity across classrooms, grade levels, and programs. The processes an agency develops will help its teams make decisions in a consistent and ethical way. They also will provide the necessary degree of stability to ensure that AT services are effective and that they run smoothly.

Operating guidelines and policies identify the actions that people should take in response to recurring problems or events. A school's operating guidelines help staff, families, and students avoid disruption and confusion in a child's educational program. Operating guidelines delegate specific tasks to team members and help to clarify who is to do what. When educational agencies and buildings have operating guidelines, administrators are more able to handle unusual or unpredictable problems that may arise (Uben & Hughes, 1997).

Operating guidelines also make it less likely that there will be conflict about assistive technology decisions and implementation. When everyone on an IEP or Individualized Family Service Plan (IFSP) team has a clear picture of what will be done for a student, and how and when it will be done, it is easier to track progress, identify things that need to happen, and make sure they do happen.

Written operating guidelines and policies include questions that can only be answered at the program level. That is because many local factors such as financial resources, personnel resources, geography, and educational practices differ between districts and between buildings within a district. To be useful and effective, AT procedures

must have a good fit with local resources and local practices. However, the guidelines don't have to be complicated or separate from other procedures and processes. In fact it is helpful to everyone involved if they are an integral part of the day-to-day program operation. Figure 3 identifies the kinds of questions that might be answered by assistive technology operating guidelines.

An administrator does not have to know a lot about assistive technology to take the lead in the development of AT operating guidelines. Administrators need to understand what assistive technology is and the district's responsibility to provide it (and the limits on that responsibility). Chapter 1 offered an overview of these responsibilities as they are contained in IDEA. Armed with this basic information, an administrator, in the role of manager, can begin to develop answers to many of the procedural questions that arise as IEP teams consider every child's need for assistive technology.

Following is a list of important questions that administrators, in their role as program managers, can address through the creation of procedures or operating guidelines for assistive technology:

1. What should be done when someone requests an assistive technology assessment for a child?

When a parent or other advocate requests an assistive technology assessment, either formally or informally, educators must know how to address the request in a legal and timely manner. An initial request for an assistive technology assessment is similar to other requests for services such as speech therapy or transportation, and assistive technology requests should generally be treated in the same way. Everyone on the IEP team should know what forms should be completed, who they should be sent to, and what will happen next. A responsive process at this stage sets a tone that indicates that assistive

technology is an important topic that will be addressed in a complete and professional way.

2. What should members of a child's IEP team do before they ask for help with an AT assessment?

Many education agencies include informal assistive technology trials in their pre-referral processes. If the assistive technology tools a child needs are commonly used in classrooms, an IEP team may be able to assess that child's need for assistive technology without outside help. Almost anyone can help a child try out a calculator or a portable word processor and collect data about its effectiveness. Operating guidelines can help teams identify appropriate pre-referral activities to engage in before a formal request for help with an assistive technology assessment is made.

3. If an IEP team feels the need for additional information, what are the district's resources to help with assistive technology assessments?

Outside help may be necessary if a team needs information about a particular kind of tool or if the tools a child needs are complicated. Administrators can help teams understand what help is available in the district and who might provide the needed information. If an education agency does not have the kind of resources the team needs within the district, administrators can identify outside resources that can be used. These might include education service agencies, the state education agency, or private centers or clinics. Once resources are established, processes also can be established for internal and external referrals. Most education agencies have processes in place for using some outside assessment services. These same processes often can be applied to assistive technology needs as well.

Figure 3: Assistive Technology Policies and Procedures Should Answer:

Questions About Referral for AT Devices and Services

- Who should the parent contact to make a referral?
- How should the parent or team request that AT services be documented?
- How should the referral question be framed?
- What should the team do before making a referral?
- Who should receive the referral?
- When should administrators be informed about a referral?

Questions About a District's AT Assessment Resources

- What is the district process for AT assessment?
- What common classroom tools are available?
- What should the team do when more information is needed to complete the assessment?
- What should the team do if a very costly device is being considered?
- How can IEP teams use the AT team's services?
- What other help is available?

Questions About Consideration of AT Need

- What kind of data should the team use to determine need?
- If the IEP team determines a need for AT, how will it be acquired?
- If the IEP team determines a need for AT, will it be used during state assessments?
- If the IEP team decides AT is not needed, where and how should that be documented?

Questions About Documentation in an IEP

- Where and how should AT be listed?
- How is the planned use of AT in state assessments recorded?
- What is the district policy regarding use of device names?

Questions About Implementing AT Programs

- What steps should be taken to plan for AT implementation?
- What should the team do if the AT plan isn't working?
- At what point should the IEP be changed?

Other Questions

- What should be done about AT that is sent home and damaged?
- What services are provided to students who attend private schools?
- How can services be more cost efficient?
- What resources are available for dealing with conflict within the team?

4. *If an educator or an IEP team plans to recommend a particular kind of assistive technology for a child, how and when should an administrator be informed? What information should be provided?*

Administrators cannot interfere with the IEP processes established in IDEA. For example, they can't change an IEP team's recommendation. They can, however, ask to be informed when the IEP team might recommend certain actions. Operating guidelines might identify when an administrator who does not normally sit on the IEP team should be alerted to a potential recommendation to provide assistive technology so that he or she can be present. Guidelines also might identify the source of funding for low-cost vs. high-cost items and the process involved in acquiring them. The guidelines developed in each agency will depend, in part, on the way budgets are structured and funds are distributed for classroom materials. While some agencies have specific budget lines for purchases of assistive technology devices, others may fold AT into existing, more general budget categories.

5. *When an IEP team considers assistive technology, what kind of evidence should be used to make a decision?*

Evidence-based decisions about assistive technology are more likely to be equitable and result in effective use of the technology. At the district level, administrators can help to develop a description of the kinds of data that IEP teams should use when they consider assistive technology. Evidence indicating a need for assistive technology might include changes in the student's quality, quantity, or speed in the identified functional skill. Determinations of need should be based on the expectation that AT will increase, improve, or maintain a functional capability of a student.

6. *How should assistive technology that is identified as necessary be written into the IEP?*

Education agencies give guidance to staff about how to write IEPs. Guidance about assistive

technology in IEPs should include the district's approach to developing specific goals for device use and the listing of AT as accommodations or modifications. Whether or not to include the specific name of hardware or software also should be addressed. It is recommended that the name of a specific product not be written into the IEP until that product has been shown to be successful for the student in the customary environments. IEP teams need guidance about when, if ever, they should name a product.

7. *What are the agency's rules about special circumstances, such as cases where the child is placed in a private school or when the assistive technology is sent home?*

IDEA has a variety of rules about agency responsibilities in these special circumstances. Each state interprets those rules in a slightly different manner, and education agencies also have flexibility in developing specific rules, processes, and operating guidelines. As managers, administrators can help IEP teams become more effective by identifying the rules that apply to the wide variety of special circumstances that relate to AT.

The operating guidelines that an education agency develops help to ensure that services are effective, ethical, legal, and cost efficient. They also help to shape management decisions about allocation of money, time, and personnel.

RESOURCES

*Once policies and operating guidelines have been established, another important step is to ensure that everyone knows about the procedures and how they are to be implemented. Operating guidelines must be widely disseminated and readily available to teams when a question arises. A model for school district operating guidelines can be downloaded as a PDF file from the website of the Oregon Technology Access Program at <http://www.otap-oregon.org/>.

Allocate Resources

As managers, administrators develop budgets, allocate resources to specific programs and activities, and ensure that all educators have, to the greatest extent possible, the tools and physical resources they need do their part in the education of students. Supporting assistive technology use includes tackling the TEARS. The TEARS are the issues that have been identified for more than 70 years as roadblocks to using technology (Cuban, 1986; Leggett & Persichitte, 1998). They are:

- Time.
- Expertise.
- Access.
- Resources.
- Support.

These five obstacles were first identified when teachers were asked to learn to use movie projectors. They occur when each new technology is introduced, and they must be addressed in order for technology to be used in schools.

Time

Time, or the lack of it, has always been a problem. Educators need time to learn about, plan for, and use assistive technology. Some require more time than others to learn a new skill or figure out how to incorporate a student's assistive technology into instructional activities. The administrator can set aside time for training and meetings. This may involve rescheduling some days for study groups or cohorts to meet or using a rotating substitute to free up time to attend training or practice skills learned in training, or it may involve including training on AT as part of inservice days. Incentives such as compensatory time or release time also can be helpful in leading the staff in planning for ways they can free up time to master the necessary skills.

Expertise

While some AT tools are simple, easily mastered items such as portable word processors and pencil grips, others are complex and require specific expertise. Some of the software and many of the high-end voice output communication devices require specific training in order to operate. Teachers need training and experience in order to use these AT tools successfully in their classrooms. Training also should include a focus on integrating the use of the technology into the context of instruction. This is easier to understand in some situations than in others. Many teachers easily incorporate the use of concept mapping or outlining software into the writing process, while other types of AT integration may be more difficult to identify and carry out. For example, teachers often need to provide content vocabulary from social studies or science ahead of time so that it can be programmed into a voice output communication device for a student who will not be able to be an active participant in a class discussion without it. This kind of advance planning step can make the difference between success or failure of a plan to use assistive technology.

Sources to help increase expertise may come from within the school or the district, or may even involve regional or state assistance. In seeking ways to increase expertise, school administrators can lead their staff members in discussing what the status of AT knowledge is in the school, how it can be improved, and who has the needed expertise. In some cases, individuals or teams may take the lead in increasing expertise for specific tools. In one school, the fifth grade team decided to take the lead in learning to use voice recognition software and met on their personal time during the summer to do so. When school started again in the fall, they provided training to their peers. The building principal committed to providing funds to purchase the voice recognition software, and the technology coordinator committed to having

it installed on the school network by the beginning of the school year.

Study groups such as the one described above are a very effective way for educators to learn new and complex information. They provide support, motivation, and onsite access to technical assistance. Administrators are important to the success of study groups. They play several important roles in making such groups successful, including: advocating for the establishment of the group, planning time for group members to meet, monitoring their progress, and monitoring and reporting to others the impact on student learning (Murphy & Lick, 2001).

Access

Another aspect of management of physical resources is identifying the assistive technology that is already available. Most schools have many AT tools, but not everyone may be aware of them. Students with disabilities will need to use things like calculators, but to use them more frequently or in a different way than their nondisabled peers. An administrator might want to take the lead in identifying common classroom tools that could be used as assistive technology and ensure that they are available to all students with disabilities who need them.

Making assistive technology available for training and for ongoing use can be a challenge. Sources from which AT might be borrowed for short term use might include a district, regional, or state lending library or local vendors. In some cases, even national vendors will allow 30 to 45-day free trial periods for many AT products. In addition, vendors often will loan multiple copies of AT products for training sessions. It is critical that teachers have access to the assistive technology so that they can learn to operate it and to develop a real sense of how to use it effectively in classroom activities.

Resources

Identifying and obtaining the needed resources takes administrative leadership. However, this is not something that the administrator must do alone. A committee or working group can be an effective way to identify what is needed and how it might be obtained. In many cases, district, state, or federal technology grants can include assistive technology. Many school districts have used grant funds to help acquire the AT tools that they need—especially software and computer peripherals. Considerations must include the quality of the technology infrastructure, compatibility with that infrastructure where necessary, sources of technical support, budget, and staff development resources.

When people think of physical resources for assistive technology, they tend to focus on budgeting for the purchase of assistive technology devices. But there are other associated costs as well. For example, if an agency decides to maintain a library of AT devices that can be loaned for trial periods or long term use by students, space must be allocated to store the devices when they are not being used. A cataloging and tracking system also will be needed. If sufficient resources are not allocated to equipment management, maintenance, and repair, the funds used for the initial purchase may not be effectively utilized. Figure 4 suggests some of the items that should be included when budgeting for assistive technology use in a school district and provides two examples of how that might look.

As managers, administrators also are responsible for the allocation of human resources. Assistive technology programs need to have people with the right kind of knowledge available to implement them. If assistive technology skills are included in appropriate position descriptions, an administrator can ensure that educators with assistive technology skills are available, when IEP and IFSP

Figure 4: Budget Considerations		
Budget Category	District A	District B
PERSONNEL		
Certified Salaries	1 AT specialist .3 occupational therpaist .3 speech language pathologist 2 vision specialist	.3 occupational therapist .5 speech language pathologist .5 teacher consultant
Classified Salaries	1.0 AT program assistant	---
OPERATING EXPENSES: PURCHASED SERVICES		
Instructional, Professional Services	6 days staff development	2 days staff development 8 days evaluation services
Repairs and Maintenance	Maintenance contracts for 5 devices Funding for repairs as needed	Funding for repairs as needed
Rentals	14 months equipment rental	Use state lending library
Printing/Copying	Manuals, handouts, operating guide- lines, tech tips newsletter	Handouts
OPERATING EXPENSES: SUPPLIES AND MATERIALS		
Consumable Supplies	Paper, printer cartridges, pencil grips, adapted writing tools, batteries	Paper, printer cartridges, pencil grips, adapted writing tools, batteries
Books	Reference materials and instructional manuals	Reference materials and instructional manuals
Non-Consumable Items (\$1-\$1,000)	Slant boards, adapted seating, switches, etc.	Slant boards, adapted seating, switches, etc.
Computer Software	Various software, early childhood titles Site licenses	Various software titles, expand to middle school
OPERATING EXPENSES: CAPITAL OUTLAY		
Additional Equipment (over \$1,000)	Laptop computer systems with scanners Augmentative communication devices	4 classroom computers 2 scanners
Replacement Equipment (over \$1,000)	Replace one augmentative communi- cation device	Upgrade 3 computers
OPERATING EXPENSES: DUES AND FEES		
	Assistive technology newsletter Technology and media division membership	3 state assistive technology confer- ence registrations

teams need assistance. Administrators may allocate human resources by assigning specific people to be assistive technology specialists, or they may identify a group of people who will provide assistive technology technical assistance. Whether a program's service delivery model uses an expert model or one of a "guide on the side," the allocation of human resources should be driven by the program's vision of assistive technology services.

Support

Lack of ongoing support is the final obstacle. Staff will need ongoing consultation and support from an AT specialist or other knowledgeable staff person. It is often effective to have an on-site contact person, who may not know a great deal about all of the AT tools, but who is willing to be the conduit of questions to a district level AT specialist to ensure that individual teachers don't spend an inordinate amount of time before they seek and receive technical assistance and answers to their questions. The school administrator can help identify this support person and provide needed personal support. Finally, the administrator is the key to creating a culture of support for AT use. An administrator who values AT use, encourages risk taking, and rewards teachers who seek and learn new skills that promote the achievement of all students will create that culture.

Ensure Accountability

While it is important to make sure a program has sufficient resources, it is also a manager's responsibility to ensure that the program uses those resources wisely. If assistive technology services are not cost effective and efficient, it is possible to end up with a program that has lots of resources but is too costly to maintain. On the other hand, a program that errs on the side of saving resources may do so at the expense of quality services. Ad-

ministrators are charged with the responsibility to make sure that public funds are used in a cost effective and efficient manner.

Efficiently managed assistive technology programs have little duplication of costs and services. When assistive technology budgeting is integrated into the agency's general budgeting and planning process, there are many opportunities to ensure efficiency. For instance, in some areas, AT budgets and services have been integrated with IT budgets. This kind of integration can result in less duplication of purchases and more efficient use of resources.

Another aspect of efficient management is tracking equipment. If one classroom has an expensive assistive technology device in a storage closet, it is important to know where it is in case another child needs that device. Accurate equipment tracking can save education agencies thousands of dollars a year. This is also a reason that regionalized equipment libraries can be so beneficial. Another strategy is to participate in bulk purchase or volume licensing agreements whenever possible.

One way to make sure that AT services are cost effective is to ensure that AT evaluations are completed in-house as often as possible, either by the IEP team or with the help of a school district team. Relying on outside evaluators for all or most AT evaluations is not cost effective. The further removed the AT evaluators are from the student's customary environment, the more complex and expensive the recommended assistive technology may be (Behrmann & Schepis, 1994).

Another way is to help IEP teams understand how to use data when they consider a child's need for assistive technology during the IEP meeting. Consideration of need for AT should be based on factual information and assessment results, not on unsubstantiated opinions. If teams do not have information and data, it is preferable to make a

plan to collect some rather than to make a decision without any facts.

Ensure Equity of Access

Administrators are in the unique position of having the ability to ensure equity of access to AT tools across the programs they supervise. Building administrators can ensure that all teachers in their building have access to AT tools for their own learning and for use with students. District level administrators can ensure this same level of access throughout the district. Service providers need access to both hardware and software to try out, learn to operate, and utilize for trials with students prior to purchase (McInerney, Osher, & Kane, 1997). Large school districts may be able to provide this for themselves, but smaller school districts will need to collaborate with other districts or seek assistance from an education service agency or their state education agency. The Florida Assistive Technology Educational Network, the Georgia Project for Assistive Technology, the Oregon Technology Access Program, the Wisconsin Assistive Technology Initiative, and many other successful state assistive technology projects operate assistive technology lending libraries that are open to all school districts in their states.

Used computers can be made available to schools and families for use with students with disabilities. Many districts, groups of districts, and states have

formed partnerships with the National Cristina Foundation (<http://www.cristina.org>) and other computer reutilization projects to obtain and deploy used computers with appropriate software.

Administrators also can ensure equity of access to training by bringing training into their building or district, taking advantage of online training, and requiring staff to come back and train others when they have attended conferences or workshops. Successful administrators redirect resources as needed to build competence and support high standards (Brewer, 2001). It is unethical and costly to determine what a student needs, train the staff, train the student, have that student experience success, and then move on to the next grade only to find that the technology is not available, the teacher doesn't know how to use it, and the teacher doesn't understand the need for it. Only an administrator can ensure the money and effort that are expended in the first setting are not wasted in the next one.

Management is only one aspect of an administrator's role in assistive technology services, but it is the part of administration that makes it possible to improve programs, supervise staff effectively, and lead a program toward attainment of a commonly held vision. Productive schools exhibit a high degree of consistency and staff members use well understood policies to guide the daily operation. Members of a well managed organization should be able to expect that routine matters will be dealt with in fair and consistent ways so that the other aspects can change to improve the performance of all students. (Uben & Hughes, 1997)



Suggested Actions for Administrators

1. Create district operating guidelines that include AT.
2. Review your agency's procedural manuals to ensure that AT is adequately addressed.
3. Identify the opportunities that staff members have to plan for implementation of AT services.
4. Analyze your budget to identify the places where AT is/can be included.
5. Check with your state education agency to learn if an AT project exists in your state.

CHAPTER
4

Supervision

Use this chapter to gain ideas about how assistive technology can be addressed in staff supervision, evaluation, and goals.

Supervision and AT Services				
	Always Evident	Usually Evident	Seldom Evident	Not Evident
I assess staff knowledge, skills, and performance in using AT.				
I recruit professionals with AT skills when hiring new staff.				
I ensure that all staff, including general education teachers, have the necessary level of understanding of AT to fulfill their role in the provision of AT services.				
I address AT as part of staff evaluation and supervision.				
I use staff assessment results to make informed decisions about personnel assignments, responsibilities, and needs for training.				
I ensure that all staff members who serve a child with a disability implement an IEP that includes AT in a legal and ethical manner.				
I foster a school environment that has a low level of conflict and I assist in conflict resolution when AT issues arise.				
I facilitate and support collaboration in AT-enriched environments to improve learning for students with disabilities.				

As supervisors, administrators have a responsibility to recruit and hire highly qualified staff, complete staff evaluations, ensure that students receive effective educational services, and foster a positive and productive climate for learning. Some supervision activities, such as conflict management, are done on an almost daily basis. Others, such as staff evaluation, are completed infrequently but with mandated timelines. As supervisors of employees who provide assistive technology devices and services, administrators have a unique opportunity to ensure that AT is on the radar screen for all employees. Assistive technology knowledge can be part of both the hiring and training of staff. Only the administrator can ensure that staff members are qualified to provide AT services, ensure the services that are provided are legal and ethical, and help create a positive learning environment that supports and expects functional and effective AT use.

Staff Knowledge and Skills

Not everyone needs the same level of assistive technology expertise. However, every educator who works with a child who uses assistive technology must have some level of knowledge. It is important that educators are sufficiently knowledgeable to carry out their specific roles in making assistive technology an effective, well integrated part of the child's overall educational program. In order to do this, staff members must have access to all the information they need to plan and implement assistive technology programs. Essential information includes the goals and objectives and the specific services in the child's IEP, as well as specific information that applies to the assistive technology tools the child needs in order to accomplish IEP goals and objectives.

However, not every person on a student's IEP team

needs to know everything about the technology, or even to know the same things. The kind of information that a resource room teacher needs is much different than the information that an educational assistant or a general education teacher might need. And neither of these individuals would need to have the same level of expertise as the person identified as an assistive technology specialist for the district. Administrators can make an enormous difference in the provision of assistive technology devices and services if they understand how each position fits into the larger picture.

The principal and administration set the tone for the building. They have the ability to implement the use of AT within the academic environment. Special education can only do so much. But within the general education area, administrators have the ability to force the issue. They can open doors where the non-administrator cannot. I see the value of AT, and I told our county AT specialist to send any AT that needs to be tested to Chesapeake High School.

We will find a way to use it.

We are lucky at Chesapeake High School to have a principal who is flexible in allowing his staff to implement services that will raise the academic potential of all students. He also sees the value of AT. A couple of months ago, I attended a meeting where we were discussing the implementation of the Kurzweil™ Reading Program. Chesapeake High School was far ahead of the other schools in using the software.

If it were not for the support of our principal and the administrative team, I believe that this would have been a very difficult sell. I am a social studies teacher and I use the Kurzweil Program with students on an almost daily basis.

*David Fortunato
Teacher
Chesapeake High School
Baltimore, MD*



It can be very useful for an administrator to spend some time thinking about the performance requirements of each position as it applies to assistive technology. The skills related to AT needed by people in each position often do not relate directly

to the level of overall responsibility for the child's instruction. For example, in some situations educational assistants need to know more about the technical operation of an assistive technology device than the special education teacher. That's because they may be more directly involved in the day-to-day operation of the device.

Figure 5: Information Needed By Various Educators

General education teacher	<ul style="list-style-type: none"> • Student's curriculum, goals, and objectives. • Ways student will use AT in functional life skills. • New AT skills the student is working on. • How to get help with the AT.
Instructional assistant	<ul style="list-style-type: none"> • Operation of specific hardware or software used by students in the classroom. • Specific activities and times when the student uses the AT. • Data collection strategies. • How to get help with the AT.
Special education teacher	<ul style="list-style-type: none"> • Long-term vision of AT use. • AT operation. • How to modify the program based on data. • Student's curriculum, goals and objectives and how AT will be used to achieve them.
Speech and language pathologist	<ul style="list-style-type: none"> • Student's current level of language function. • Student's curriculum, goals and objectives, and how AT will be used to improve language. • Operation of augmentative communication devices. • Speech and language assessment and data collection strategies. • Speech and language goal, and activity modification strategies based on data.
Occupational therapist	<ul style="list-style-type: none"> • Student's motor function and how it relates to AT use. • Adaptation of the environment to ensure access. • Adaptation and modification of the assistive technology when it is needed. • Seating and positioning for optimal AT use.
AT specialist	<ul style="list-style-type: none"> • Student's curriculum, goals and objectives, and how AT will be used to achieve them. • Operation of a wide range of AT. • Troubleshooting strategies for AT. • Resources for AT repair and maintenance. • AT assessment and data collection strategies. • AT program modification strategies based on evaluation of effectiveness data.
Technology coordinator	<ul style="list-style-type: none"> • How assistive technology interfaces with existing computer systems. • How assistive technology interfaces with local area networks. • How assistive technology interfaces with wide area networks. • Selection of software and hardware for general use that includes features that can meet the needs of children with disabilities (e.g., text to speech, screen enlargement). • Basic hardware and software troubleshooting skills that can be applied to assistive technology.

There are a few things that all team members involved in the education of children who use assistive technology need to know to make sure that the AT program is implemented. Effective assistive technology programs ensure that all educators involved in the education of students with disabilities know:

- The laws about the school's responsibility for assistive technology devices and services.
- The general definition of assistive technology devices and services.
- How to recognize when a student might need assistive technology.
- Who to contact to find out about assistive technology.

When Mary began her new position as principal, she knew that she wanted to let all of the staff know that she valued good instruction and engaged learners. To that end, she made it a point to drop into each classroom for just a few minutes each week. She varied the time and stayed just a few minutes. She knew she could only manage this for a few weeks, but wanted to set the tone early in the school year.

Because she wanted the special education teachers to feel they were an equal part of the school staff, she visited the special education classrooms as well. The Learning Resource Center seemed to be going well, there was a buzz of learning activity, and teachers and paraprofessionals were engaged in instructing or supporting the students in various ways. When she entered the classroom for students with severe physical and multiple disabilities, the students looked happy but they didn't appear engaged in any educational tasks. She greeted several of the students. Six of them were apparently not able to speak, but smiled and in some cases made a non-intelligible sound. When Mary asked the teacher about communicating with these students, the teacher's response was vague and not at all informative. Mary decided she needed more information. She called the special education director to ask for help. She learned that she was responsible for evaluating the special education teachers in her building and that there was an AT

specialist in the district who had assessed each of these students and helped to acquire voice output communication devices for them.

Mary met with the AT specialist and the special education teacher. Together, they reviewed the students' IEPs. The IEP for each of the students included specific goals for using their voice output communication devices. They also indicated that the speech and language pathologist (SLP) provided services to those students weekly.

Mary made it a point to stop by the classroom when the SLP was there. She noted that the SLP set up the devices, updated vocabulary, and set up opportunities for the students to practice using their devices. Mary invited the special education director, AT specialist, SLP, and teacher to a meeting where she expressed her concerns that the students were not getting a chance to communicate and that the IEPs were not being implemented. Together, they developed a plan to remediate the problems they had identified. Later, Mary asked the special education teacher to work with her to develop one professional development goal regarding the uses of assistive technology. This goal would be included as a part of the teacher's evaluation in the following year. As an informed administrator, Mary had the ability to change the situation. Her supervision activities helped mitigate this process.

- How to make a referral for assistive technology.
- How to determine whether the assistive technology, when provided, is making a difference.

Many of the items on this list relate to district processes. The specific things that administrators can do in their role as managers to develop and implement effective assistive technology processes were discussed in the chapter on management.

Administrators must have a different knowledge base than the educators they supervise and support. Rather than focusing on the needs of individual students, the administrator must focus on information that is both more general and more comprehensive, including:

- What AT is being used by all students under his or her administration.
- In what situations those students might be expected to use their AT.
- How to determine when AT is being used effectively.
- How the AT is expected to change the students' performance.
- In general what skills the staff members serving those students will need to know.
- Who in the district can provide training.
- Who in the district can trouble shoot problems with the AT.

It is this big picture information that is essential for the school administrator. In the preceding scenario an administrator found an unacceptable situation and used this information to change it.

Assessing Staff Performance in Relation to AT

There is specific evidence that can be helpful to administrators in determining if various staff members are fulfilling their roles in the provision of assistive technology devices and services.

During informal observation, an administrator can look for these signs that AT services are being provided:

1. Students who use AT are gaining skills in its operation or use and can demonstrate them.
2. Students who are supposed to use AT have it available to them in good working order at appropriate times.
3. AT is used for necessary tasks, so that the student using it is actively engaged in learning activities.
4. Personnel in the student's environments have the knowledge they need to keep the AT operational (set it up, trouble shoot and solve simple problems, and know who to contact for bigger problems).

During informal discussions an administrator can listen for:

1. Positive comments or appropriate questions about the AT from staff.
2. Knowledgeable discussion of the ways in which AT is helping the student meet goals and objectives, complete tasks, and make progress in the curriculum.
3. Awareness of the need to plan for effective transition to the next grade or school so that the AT will continue to be used.

Figure 6 provides a general needs assessment that can be used as is or modified to look more closely at the specific skills of staff members.

Figure 6: AT Training Needs Assessment

Write numbers 1 through 5 by your five most critical needs, in order of importance.	
	Appropriately consider the need for assistive technology for all children with disabilities.
	Utilize informal assessment techniques (e.g., environmental inventory, interview, observation) to determine need for AT.
	Complete an evaluation of a child to determine if she/he could benefit from the use of AT.
	Utilize an effective team decision making process.
	Utilize appropriate funding sources for AT including write/ compile necessary documentation to support funding from third parties.
	Write IEP/IFSP goals/objectives as needed to describe the acquisition of AT skills.
	Arrange the environment for increased participation and communication for all children.
	Select materials that are universally accessible for all children.
	Determine for an individual child when the best intervention is to teach a new skill, teach a compensatory skill, use AT, or use a personal assistant.
	Determine appropriate use of AT as an accommodation or modification in order to participate in standardized testing, including district and state assessments.
	Identify and use low- to high-tech AT for difficulties with: <ul style="list-style-type: none"> • Computer access. • Physical aspects of writing. • Composing written material. • Communication. • Reading. • Math. • Studying/organizing information. • Recreation/leisure. • Seating/positioning. • Mobility. • Vision. • Hearing.
	Select appropriate vocabulary to promote communication.
	Identify important features of augmentative and alternative communication (AAC) devices and match student needs with features.
	Determine the best form of vocabulary representation (e.g., pictures, symbols, words).
	Organize vocabulary in a usable system.
	Determine functional mounting for AAC device or other AT.
	When appropriate, interface the AAC device with a computer, environmental control unit, or printer.
	Train communication partners.

Once educators have a picture of the kinds of assistive technology skills they should have, school administrators can help them develop those skills by including assistive technology in school improvement goals, individual professional development plans, and annual performance goals. A general education teacher in a second grade classroom might have a goal of learning how to use one or two specific pieces of software. A resource room teacher's goal might include learning to use a particular assistive technology assessment framework. A related service provider might focus on improving assistive technology training skills. Each professional development plan that includes assistive technology can be tailored to the particular job responsibilities and unique needs of the individual.

Another aspect of staff supervision is recruitment of new educational staff members. When administrators have examined each position with an eye to the assistive technology requirements of that position, they are better able to ask interview questions about the prospective employee's knowledge of instructional technology and AT. This is particularly useful when filling positions that require assistive technology skills. It also is extremely helpful in building a staff where members consider assistive technology to be an important component in the arsenal of tools and strategies they use to help children with disabilities in all aspects of education. And, it serves as an indicator to applicants that knowledge and skill in assistive technology is valuable and desirable.

Staff Evaluation

When administrators include assistive technology in their staff evaluations, educators see it as important. Inclusion of AT questions in the staff evaluation interview, when appropriate, can help set an expectation within the entire school that

educators will be as knowledgeable about their assistive technology responsibilities as they are about reading, math, motor skills, or behavior management. The fourth grade teacher who has a student who uses a voice output device might be asked how she integrates that student's device into daily instruction. The special education teacher who supports students with disabilities in an inclusive setting might be asked what resources she has provided and what specific steps she has taken to support the fourth grade teacher's use of assistive technology and help her identify how to incorporate the AT as effortlessly as possible. Just asking questions can make a difference.

RESOURCES

Several professional organizations have developed lists of assistive technology competencies for their members. These competency lists can be found in the following websites:

- Council for Exceptional Children: Standards for Technology Specialists – www.cec.sped.org/ps/perf_based_stds/knowledge_standards.html.
- International Society for Technology in Education: General Technology Competencies for Students, Teachers and Administrators – www.iste.org.
- American Occupational Therapy Association, Technology Competencies for Occupational Therapists – pediatrics.med.miami.edu/projectabc/Technology-CompetenciesforOccupationalTherapyPractitioners.html.

Providing Legal and Ethical Services

In this time of diminishing resources, it is becoming ever more challenging to provide legal and ethical services that comply with all requirements of the various laws governing education. IDEA includes a variety of procedural guidelines for services provided to children with disabilities. Each of these guidelines applies to assistive technology devices and services in the same way that it ap-

plies to specially designed instruction and other related services. School administrators can help the people they supervise to understand and comply with these requirements. There are timelines for assessment and provision of services, as well as documentation and privacy requirements. Each of these requirements comes into play when assistive technology devices and services are provided.

Monitoring the staff's success in providing all services listed in students' IEPs, including assistive technology, is an important aspect of the administrator's role. Failure to implement the IEP is one of the most common complaints about students' special education programs (Miller, 2003). The nature of the difficulty with assistive technology is that, to be effective, it must be used in meaningful tasks during customary activities. This requires that the classroom teacher and instructional assistant, if one is present, must be sufficiently skilled to help a student use AT on a daily basis. Assistive technology specialists, occupational therapists, or speech/language pathologists who are itinerant service providers cannot do this. They can provide needed training, make suggestions, and help problem solve and trouble shoot, but they cannot make available the daily opportunities for meaningful use. And, at the same time, they cannot force the classroom teacher to do so. Related service providers and teachers are essentially equals. Only an administrator can require the specific actions necessary to ensure the implementation of the IEP.

The classroom teacher is also the only person who can fully integrate the use of AT with the use of instructional strategies. For example, while students frequently struggle with multiple aspects of a task such as writing, technology alone rarely addresses all of the student's writing needs (Fennema-Jansen, 2001). Rather, students need instruction in specific writing skills combined with AT use to assist them with specific steps of the writing task.

Ensuring continuity from year to year is another important contribution of the supervisor. If the teacher is new, hasn't read the IEP, or is not very technology savvy, AT may not be used even though a student is skilled in using it and accustomed to having it available. Only administrators can ensure that tax dollars are not wasted when technology in which the district has already invested time and money is not used.

As Ray Grasso so clearly points out in the Foreword to this guide, only an administrator can set the example of embracing assistive technology as a valued tool for all students. Administrators can do this through formal staff evaluations and informal exchanges throughout the school year. They can set examples in discussions with parents as well as staff. An administrator's AT leadership can be both intentional and accidental. But, no matter how it is done, the behavior a school administrator models will be seen in the educators he or she supervises.

Resources for Conflict Resolution

It's no different to have conflict about what happened to the football team last week than it is to have conflict about assistive technology. Parents disagree. Staff members disagree. An effective administrator has a system for approaching conflict that applies to any situation that may arise.

Teams that are considering assistive technology should know what to do when conflict arises. Supervisors can help teams identify and practice strategies for resolving conflict. They also can set guidelines regarding who should be notified when conflict arises and when that notification should occur. When disagreements go beyond the difference of opinion state, supervisors can identify resources within the agency or even outside of

it that will help the team come to some sort of resolution.

There are a variety of ways that disagreements about assistive technology devices and services can be resolved. Here are a few:

Data-Based Assessment and Trial Periods

One excellent way to resolve conflict is to identify the specific role that assistive technology is to play in a particular student's life. Teams then collect initial data, identify the questions they want to answer, collect more data, and then review that data. In many cases, clearly identifying the questions, by itself, helps to resolve the conflict. When team members are not all working to answer the same questions, there is greater likelihood of conflict (Reed, Bowser, & Korsten, 2002).

Adding Team Members with Expertise

Sometimes team members may disagree because they do not have enough information about the student, the technology they are considering, or the ways that the technology can be used. Adding a person to the team who has experience with the

assistive technology solution, or one who knows the child's curriculum, or one who understands the specifics of the child's disability can provide the needed information. In some cases the person may be an AT specialist, but in others it may be a person who is knowledgeable about the student's motor, cognitive, or language functioning.

Independent Educational Evaluation

Independent Educational Evaluations (IEEs) are included in IDEA as an option for parents when they disagree with a team decision. When an IEE is requested regarding assistive technology, administrators can help to identify evaluators who are qualified to complete the IEE at the district's expense.

While administrators may be able to help resolve conflict when it arises, a more proactive approach is to facilitate and support collaboration in environments where AT is used. Administrators as supervisors can work to ensure that all staff members have the knowledge and skills they need to provide assistive technology programs that are effective, ethical, legal, and cost efficient.



Suggested Actions for Administrators

1. Identify the AT knowledge needed by each staff member in order to fulfill his or her responsibilities to educate children with disabilities.
2. Review hiring practices to determine where AT fits into job announcements, job descriptions, application forms, and interview questions.
3. Review forms used during staff evaluations to determine where AT is appropriately addressed.
4. Determine how existing conflict management practices can be applied to AT issues.

CHAPTER
5

Program Development

Use this chapter to identify specific actions to effectively develop or improve assistive technology services in individual school buildings, school districts, and other educational agencies.

Program Development and AT Services				
	Always Evident	Usually Evident	Seldom Evident	Not Evident
I develop, implement, and monitor a long-range and system wide AT plan.				
I identify barriers to the effective delivery of AT services and develop plans to remove them.				
I use multiple methods to assess and evaluate appropriate uses of AT resources.				
I assess AT training needs for all staff.				
I ensure that AT is part of school wide professional development and encourage staff members to pursue AT training when appropriate.				
I conduct ongoing evaluation of AT services.				
I upgrade the AT inventory as needed.				
I integrate AT into strategic plans, technology plans, and other improvement plans and policies to align efforts and leverage resources.				

Change in education is never easy. Research into change that has been both effective and sustainable tells us that it can only be achieved when a concerned group of individuals struggles with tough decisions and arrives at potential solutions that reflect the current status of the school (Fullan, 2001). Because they need to be involved in the decision making process, administrators cannot tell staff members the specifics of what they need to do. Rather, administrators must make it possible for staff members to participate in the decision making, planning, and implementation of program development and improvement activities.

Developing, Implementing, and Monitoring an AT Improvement Plan

The development of a plan to improve AT services begins with the shared vision that was discussed in the chapter on leadership. The next step is to examine current practices to determine areas that need improvement. The School Profile of Assistive Technology Services (Figure 7) can be used to complete this self-assessment.

The self-assessment using the School Profile should be completed by a broad cross-section of the school staff so that a comprehensive picture of strengths and weaknesses is obtained. If only a few individuals complete the self-assessment it may present an incomplete or even inaccurate picture of the current services. For example, if only the AT specialists fill it out, it will not reflect the knowledge of the speech/language therapists throughout the district. If only elementary school staff fill it out, it will not reflect the knowledge and skills of the middle school staff.

Using the shared vision of what AT services should be and the results of the self-assessment,

an administrator can bring together a group of people who will serve as a planning committee. This small group of committed people will be the key to developing and implementing a plan for the shared vision. The AT planning committee should involve individuals with the authority and opportunity to make changes as well as those who have concern about the quality and availability of the existing services. Individuals to consider for this committee include the special education director, the technology coordinator, a building principal, a teacher, a therapist, and supervisors of special services such as vision or hearing services or occupational and physical therapy. If the agency has a department that offers staff development, someone from that department could be included. Using the results of the self-assessment, the planning committee can begin to plan to target areas of need to meet those needs in a variety of appropriate ways.

In addition to their specific job responsibilities, members of the group should be chosen for their connections to various groups within the school district. Making changes in complex organizations requires the ability to think globally but act locally (Wheatley, 1997). People on the AT planning committee should represent and/or interact with a wide variety of constituencies within the agency.

Gladwell (2002) found that it takes three types of people to create successful change: Connectors, Mavens, and Salesmen. The Connectors are people who are constantly bringing other people together and helping them see how they can help each other. The Mavens are those individuals with great stores of knowledge in their field. The Salesmen are those who can convince others that they “must” do something. The field of assistive technology has relied too heavily on Mavens. While their knowledge is certainly important, without Connectors and Salesmen, programs are less likely to experience successful and meaningful implementation and use.

Figure 7: School Profile of Assistive Technology Services

I. REFERRAL					
Components of Effective AT Service Delivery	<i>Highly Satisfactory</i> <i>Variations</i> <i>Needs Improvement</i>				
	5	4	3	2	1
A. School district provides training about AT, legal mandate, and what AT can do for students with disabilities.	All staff including regular educators are aware of AT and have received inservice training.	Most special and regular education staff members are aware of AT and have received inservice training.	Some special and regular education staff members are aware of AT and have received inservice training.	A few special education staff members are aware of AT and have received some inservice training.	Staff members have not received training about AT.
B. School district special education procedure manual or teacher handbook includes AT services and devices.	Procedure manual has clear, specific directions and procedures for providing AT services and devices.	Procedure manual has directions for providing AT services and devices.	Procedure manual has a few directions, but they are not sufficient.	Procedure manual mentions AT, but lacks directions.	There is no procedure manual, or it does not mention AT.
C. School district forms/ reports include places to request and describe AT.	All appropriate forms include clearly identifiable places to indicate and describe AT devices and/or services.	District forms include the words AT, but do not include space to describe AT devices and services.	Forms do not encourage mention of AT, but reports sometimes describe it.	School district forms do not mention AT and reports do not address it.	Staff are not encouraged or directed to consider AT.
D. District promotes parent input and inquires about AT and its use.	District uses procedures to respond in ways that value parental input and promote active parental participation.	District uses procedures that value parental inquiries and input, but does not encourage active participation in decision making activities.	Parent inquiries routed to staff members who send list of resources and suggestions governing further involvement.	Parent inquiries handled on a case-by-case basis at the discretion of staff member receiving call.	Parent inquiries, requests and input are not sought or acted upon.

(continued)

Figure 7: School Profile of Assistive Technology Services (cont'd.)

2. EVALUATION					
Components of Effective AT Service Delivery	<i>Highly Satisfactory</i> <i>Variations</i> <i>Needs Improvement</i>				
	5	4	3	2	1
A. Staff who provide evaluations are knowledgeable about the operation and application of a variety of AT devices.	Evaluation staff are trained on a variety of AT hardware and software, and the district provides for ongoing skill development.	Evaluation staff are trained on some aspects of AT and the district provides for some updates/skill training.	Evaluation staff have some training in AT and how to utilize it in evaluations.	Evaluation staff are not knowledgeable about AT.	Evaluation staff are not encouraged or directed to learn about AT.
B. Evaluation staff utilize accommodations during evaluations.	AT and other accommodations are routinely utilized as part of the evaluation process.	AT and other accommodations are sometimes utilized as a part of evaluations.	Evaluation staff have occasionally used AT as an accommodation.	AT and other accommodations are not utilized during evaluations.	Evaluation staff are opposed to using AT during evaluations.
C. Evaluation staff know when and where to refer a student for additional evaluation from persons with expertise in AT.	Referrals are used to supplement information gathered by staff. Referrals are timely and tailored to specific needs of the student.	Referrals are used to replace local evaluation in areas where evaluation staff have identified weaknesses.	Referrals are used inconsistently.	Referrals are occasionally made, but not tailored to individual needs.	Referrals are never made.

(continued)

Figure 7: School Profile of Assistive Technology Services (cont'd.)

3. EXTENDED ASSESSMENT					
Components of Effective AT Service Delivery	<i>Highly Satisfactory</i> <i>Variations</i> <i>Needs Improvement</i>				
	5	4	3	2	1
A. School district has an effective system to borrow AT for trial use.	District staff routinely obtain AT for trial use from loan libraries or other sources.	District staff often obtain AT for trial use from loan libraries or other sources.	District staff occasionally arrange AT trials.	District staff have arranged an AT trial in the past.	District staff do not obtain AT for trial use with students.
B. School district staff making decisions about AT use a clearly defined decision making process.	Team members are trained in, and effectively use, a clearly defined decision making process.	Team members are trained and are making progress in using a clearly defined process.	Most team members are trained and team sometimes uses organized process.	Some team members are trained, but team rarely uses an organized process.	Team members are not trained in, and do not use, a decision making process.
C. Parents are equal, valued participants in all aspects of AT decision making.	Parents are routinely included in information gathering, decision making, and planning for AT trials and use.	Parents are usually part of the AT decision making process.	Parents are sometimes part of the decision making process.	Parents are informed about decisions after they are made or are minimally involved.	Parents are not included in AT decision making.
D. District teams match student needs, abilities, environments, and tasks to appropriate cost effective tools.	District consistently provides funding, time, resources, and personnel to match student's needs and technology.	Teams have limited equipment resources to meet student needs, but provide services that support best possible use of time and equipment.	District supports teams with some AT equipment, resources, and training, but limits equipment and restricts time available for team activities.	District maintains an equipment/resource bank, but time limits team support leading to appropriate use.	District does not provide time and resource support to teams. No equipment bank.
E. When addressing AT needs, staff utilize a transdisciplinary assessment of students' needs.	Pertinent personnel conduct assessments jointly in natural environments. Discipline boundaries are minimized. Recommendations are collaborative and comprehensive.	Pertinent personnel conduct joint assessments. Comprehensive report(s) with recommendations limited to what is available in districts.	Interdisciplinary team assessment conducted by separate disciplines with reports and recommendations.	Assessment conducted by separate discipline(s) in pull out model. Separate report(s) and recommendations made.	District does not conduct assessment of AT need.

(continued)

Figure 7: School Profile of Assistive Technology Services (cont'd.)

4. PLAN DEVELOPMENT					
Components of Effective AT Service Delivery	<i>Highly Satisfactory</i> <i>Variations</i> <i>Needs Improvement</i>				
	5	4	3	2	1
A. District's IEPs, when appropriate, include AT devices and services as part of specially designed instruction, related services, or supplementary aids and services.	IEPs clearly include AT in ways that reflect its use. Consideration of AT is always evident.	IEPs usually include AT and/or reflect that AT was considered.	IEP includes place for AT consideration.	AT is sometimes written in, but no places clearly require it or indicate that AT was considered.	AT is not considered in development of IEPs.
B. School district assures that staff are trained in how to effectively write AT into IEPs when needed.	All staff have received training in writing AT into IEPs.	Most staff have received training in writing AT into IEPs.	Some staff have been trained writing AT into IEPs.	No specific training has been provided.	Staff do not appropriately include AT in IEPs.
C. IEP teams design and write integrated, transdisciplinary IEPs that incorporate AT in appropriate tasks.	Collaborative teams develop a single IEP that is continually implemented by team members with shared and well-defined responsibilities.	Parents and staff send objectives, staff cooperatively write child-centered IEPs. IEPs are implemented collaboratively.	Individual disciplines write IEP objectives then implement cooperatively as time permits.	Staff write IEP objectives as a team, but implement individually.	Individual staff members write IEP objectives based on what they see within their respective disciplines.
D. Planning for transition includes specific consideration of AT needs.	Effective, systematic transition planning is conducted that consistently includes AT when appropriate.	AT is frequently considered in transition planning.	AT is not generally included or considered in transition planning.	AT is rarely included or considered in transition planning.	AT is not part of, nor considered in transition planning.

(continued)

Figure 7: School Profile of Assistive Technology Services (cont'd.)

5. IMPLEMENTATION					
Components of Effective At Service Delivery	<i>Highly Satisfactory</i> <i>Variations</i> <i>Needs Improvement</i>				
	5	4	3	2	1
A. Clear responsibility for training, equipment maintenance, and operation is assigned to specific service providers.	Staff members know their responsibilities and work effectively together to train others, keep equipment working, and insure its appropriate utilization across environments.	Staff generally know their responsibilities. Equipment is operating and in use in most cases, and some training is provided.	One or two staff members are always viewed as being responsible for AT and little training of others is provided.	Some equipment is not working properly. Responsibility is vague and no training of others is provided.	Equipment is typically unused, underused, or not working due to confusion about roles and responsibilities.
B. School district budgets for the purchase of AT.	Assistive technology is a line item in the district budget with sufficient funding to acquire and maintain an array of devices for staff training and trial use, as well as use by specific students.	AT is a line item in the district budget that generally meets the need for items for specific students.	AT is a line item in the district budget, but does not meet the identified student's needs.	AT is not in the budget, but items are sometimes purchased when needed.	AT is never purchased by the district.
C. Staff involved in the provision of AT services have time to meet together.	Regular meeting times are scheduled for teams to discuss AT implementation.	Team members have some scheduled times to discuss AT.	Some team members meet, but not all can attend meetings.	Occasional meetings to discuss AT have occurred.	Staff do not have the time or opportunity to talk to each other about AT.
D. Identified consultant(s) in district or other source help personnel working with students using AT.	Uniformly understood district procedures support AT consultant or team, which provides training, resources, and troubleshooting.	Consultant or team is available on a regularly scheduled basis for AT activities: screening, evaluations, consultations, training, and follow-up.	Consultant or team has regular schedule for AT duties. Part time AT members called on as time permits.	AT consultant or team has limited time and administrative support for follow-up and dissemination of information to other district personnel.	District does not support training of AT consultant or team, or provide time for AT activities.
E. Service providers and parents monitor and adjust implementation to correspond to changing student needs and abilities.	All students followed closely by team (including parent) with AT support on a consistent basis.	Monitoring by team (including parent) on a consistent basis. AT consultant makes on-site visits as needed.	Monitoring and adjusting done by team, but parent is not normally involved.	Teacher monitors and adjusts without team support. No formal input from parent.	AT monitoring addressed annually at IEP review.

(continued)

Figure 7: School Profile of Assistive Technology Services (cont'd.)

6. PERIODIC REVIEW					
Components of Effective AT Service Delivery	<i>Highly Satisfactory</i> <i>Variations</i> <i>Needs Improvement</i>				
	5	4	3	2	1
A. AT is part of the district's over all technology plan.	Assistive technology is always included in technology planning across the district.	Assistive technology is usually included in technology plans.	Assistive technology is included in only some buildings.	Assistive technology is only included in grants where its consideration is required.	Assistive technology is never included in planning for district technology needs.
B. Continuing education needs of staff are assessed and responded to by the district or other agency.	Need for new training in AT is regularly assessed and access to information arranged.	Need for training is assessed.	Need for training is responded to and supported when requested by staff.	Need for training is sometimes recognized.	Staff need for continued training in AT is not met.

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The School Profile was developed from the following sources:

- *Reed (1997) Wisconsin Assistive Technology Initiative.*
- *Bowser, G., & Reed, P., (1995). Education tech points. Journal of Special Education Technology, 7 (4), 325-338.*
- *Carl, D., Mataya, C., & Zabala, J., (1994). Assistive Technology Innovation Configuration Matrix.*
- *Hall, G.E., & Hord, S.M., (1987). Change in schools: Facilitating the process. Albany State University of New York Press.*

The AT planning committee uses information from the self-assessment and the shared vision as well as from the members' discussions that target the things that are most in need of improvement. Committee members work together to outline specific steps that will need to be undertaken and to address both training needs of individuals and actions that build district capacity.

Identifying and Removing Barriers

Successful school improvement efforts require a dual focus on increasing the individual service provider's capabilities and expanding the school district's or educational agency's capacity to provide the service (Garmston & Wellman, 1995). To develop successful assistive technology services in schools there must be a focus on increasing the capabilities of the teachers and other service providers to make available effective assistive technology services and a concurrent focus on specific changes that will expand the school district's capacity to provide those assistive technology services. Changing the agency's capacity is accomplished by looking at the system and how it functions in relation to assistive technology. Capacity building includes items such as:

- Developing written procedures that include AT and are widely disseminated to all staff.
- Providing specific directions for dealing with requests for AT.
- Developing forms to be used to request or provide AT devices and services.
- Providing guidelines for including AT in the IEP.
- Planning for the acquisition of needed AT for both trials and ongoing use.

An important step in program improvement is reviewing the existing policies and procedures to

determine where and how assistive technology is addressed. If there is a procedure manual or staff handbook, does it address assistive technology? An education agency can actually use its forms to guide individual staff members through a process that has been agreed upon for assistive technology. Forms should help educators know how to make a referral, how to conduct an evaluation, how to consider AT during the IEP meeting, etc. Districts that do not have forms will find that most staff members have no idea how to proceed when approached by a parent who feels that his or her child would benefit from assistive technology.

The way AT services advanced in our district was through the very active advisory committee that the building principals supported. The committee set its goal of getting all special education teachers trained in the Wisconsin Assistive Technology Initiative (WATI) AT assessment system to develop a basic fluency when discussing students' AT needs with parents.

That committee has brought to life the discussions of AT in the IEP meetings. While each of the school buildings within our district has an assistive technology contact person, the main impetus has come from this very active advisory committee. There are 24 current members representing occupational therapy, physical therapists, speech language pathology, early childhood, regular education, and special education teachers from all grade levels.

While there are no building principals on the committee, they receive the minutes from each meeting and items from the advisory committee are discussed at the administrative council and building principal's meetings. (After all, they allocate the money.) The AT advisory committee has met about five times each school year during the last several years.

*Fred Timm
Special Education Director
Stoughton School District
Stoughton, WI*



Another barrier to program improvement may be access to assistive technology. Because school districts are struggling with stricter budget limitations than ever before, efforts to make resources more available in other ways are important. A way to get used equipment into the hands of schools or families that need it is essential. A simple and inexpensive system to implement is the use of free classified ads that are published on a regular basis in the school newsletter or on the website. Anyone can advertise to sell, donate, or seek assistive technology.

RESOURCES

*Sample used AT equipment programs can be seen at:

- Illinois: <http://www.coalitionconnection.org/equipment/dme.cfm>.
- Iowa: <http://www.uiowa.edu/infotech/UERS.HTM>
- National: <http://www.disabilityresources.org/AT-USED.html>.
- New England: <http://www.neatmarketplace.org>.

To make software more available, programs in many states have organized bulk purchases of various software programs that are especially beneficial for students with disabilities. Software that is in demand and fits well into this type of program includes: word prediction, talking word processing, math software, software that adds symbols above printed words, concept mapping/outlining software, and software to scan and read text. By working with the vendors and other school districts, it is possible to put together orders for 100 or more copies of each software program, qualifying for significantly lower prices. Neighboring districts, education service agencies, or state education agencies can work together to make these large purchases possible. This is especially helpful to small districts or individual buildings that only need small amounts of any one software title and never qualify individually for the lower prices accorded big purchases.

Another way to increase access to assistive technology is to survey all buildings (or districts if several districts are collaborating) to create a database of the assistive technology that currently exists. Items that are in use and those that are not currently being used can be listed so that buildings or agencies can borrow items from each other, visit a site to see a device being used, or call a service provider for information about how they like a particular device, how easy it is to use, how often it needs repair, etc.

Making AT Part of Professional Development

Training is most effective when it is based on identified needs. As Figure 5 in the chapter on supervision demonstrated, each service provider has a different role in the provision of AT services. Therefore their training needs will vary. In addition, each person will bring different knowledge, skills, and interests to each position. The most effective staff development content is planned in response to assessed needs, is presented in a variety of modes, and matches the knowledge level of the participants (Wood, et. al., 1981). Training that relates to overall school improvement rather than personal professional needs also is more likely to be effective (Gall & Renchler, 1985). Joyce and Showers (1980) also found that content that is concrete and aimed at developing specific, usable skills is more effective than simply introducing new concepts. Learning that assistive technology can make a difference for students is not enough. Teachers also must learn how to select and use specific tools to address specific student needs.

There are a variety of ways to provide effective professional development on assistive technology. They include:

- Written materials, manuals, and textbooks.
- Website exploration.
- Overview and introductory workshops or conferences.
- Specific workshops on assessing student need for assistive technology.
- Open labs and demonstrations conducted by district AT staff.
- Tutorials.
- Training on specific devices or software.
- Participation in a study group or learning community.

Research on the effectiveness of training shows it must include multiple sessions, spread over time, that take place in the school environment and are presented by trainers who have credibility with the participants (Butler, 1992). In addition to organized training sessions, staff development may include individuals or small groups seeking information independently and working to apply it in their context. During the past few years, more and more resources have become available on line. Figure 8 beginning on the next page offers a list of websites that focus on a variety of AT topics.

No matter how new information is acquired, one of the most important factors in effective program development and improvement is the involvement of the immediate supervisor. The supervisor must be involved in planning and follow up to encourage the use of new information and hold the staff members accountable for applying the new learning. The immediate supervisor's role is to guide the individual to identify what he or she wants to learn from the training and then to follow up to see how the new information is being applied.

Ongoing technical assistance or coaching is another important aspect of professional development. It is the one-on-one help that can make a difference between a person giving up in frustration and moving forward. It must be available in person, over the telephone, and in writing via newsletters or prepared materials sent out in response to a question. The first step in providing technical assistance is to create a highly visible source of information and help. People need to know where to seek assistance when they need it.

While early adopters of assistive technology typically called vendors for technical assistance, later adopters of an innovation are not as likely to do so. Service providers within the school district need to know who to call for help and when and where they can connect with them. In addition to being available and accessible the person, providing technical assistance within the district or building can be proactive. They can offer problem solving forums both in person and online, in open labs, and at other designated times and places for people to come with their questions.

Another aspect of professional development that deserves mention is collegial support. Service providers and administrators need access to other professionals who are facing and meeting the same challenges. Collegial support comes from the opportunity to discuss with other professionals what one is attempting, what seems to be working, and what doesn't seem to be working, as well as the opportunity to reflect on why this is so. It includes a resource to call when something isn't working, or when everything works perfectly and that success needs to be shared! In that way, it goes beyond technical assistance.



Figure 8: Assistive Technology Resources on the Internet



ADVOCACY AND FUNDING

<http://www.nls.org/booklets.htm>

Neighborhood Legal Services, Inc., has written a series of booklets on legal issues related to assistive technology. A single copy of each of them is available at no cost.

<http://www.nls.org/conf2003/court-decisions-update.htm>

This website includes a summary of Medicaid cases related to assistive technology that have come through the courts.

AT AND SPECIAL EDUCATION LAWS

<http://atto.buffalo.edu/registered/ATBasics/Foundation/Laws/index.php>

This section of the Assistive Technology Training On Line website contains an overview the laws on civil rights, special education, and assistive technology in chronological order.

AT AND TRANSITION

<http://www.edtechpoints.org>

The Education Tech Points website includes a free manual to download. *Hey! Can I Try That?* is designed to be used with teens and preteens to help them think about tasks that are difficult and how AT could help them. Its purpose is to promote self-determination.

<http://www.isd194.k12.mn.us/se/tech.shtml>

This website operated by Lakeville School District in Minnesota has a wealth of information including an AT Transition Planning Checklist. Scroll down the page until you get to “forms” and choose “Transition Planning Checklist.”

<http://www.wati.org/atandtransition/htm>

The Wisconsin Assistive Technology Initiative has a transition packet that can be downloaded. It contains a series of forms to guide the assembly of information necessary to support an AT user as he or she transitions to adult services. It includes assessment tools and planning sheets.

<http://www.washington.edu/doi/>

The Disabilities, Opportunities, Internetworking, and Technology website from the University of Washington includes a wide variety of information targeted for individuals with disabilities in college and careers. It includes an extensive collection of publications and videotapes concerning access to electronic and information technology.

(continued)

Figure 8: Assistive Technology Resources on the Internet (cont'd.)**AT ASSESSMENT**

<http://www.gpat.org>.

The Georgia Project for Assistive Technology has many excellent resources on its website, including a full set of assessment forms. Choose "Forms" from the navigation menu on the left side of the screen, then choose any of the assessment protocols.

<http://www.wati.org>

The Wisconsin Assistive Technology Initiative website provides free copies of the WATI AT Assessment forms that can be downloaded as well as a wealth of information on assistive technology and assistive technology assessments. Forms are available in both English and Spanish.

<http://edsrc.uky.edu/www/ukatii/toolkit/index.html>

The University of Kentucky AT project has developed the UKAT Toolkit, a set of forms and directions for AT assessment.

AT BASIC INFORMATION

<http://atto.buffalo.edu/registered/ATBasics.php>

This portion of the Assistive Technology Training On Line website has excellent beginning information, including an introduction to assistive technology, technology for special populations, and adapting computers.

<http://www.closingthegap.com>

The Closing the Gap website offers excellent forums on a variety of topics related to assistive technology. It also has a searchable data base, but there is an annual fee to access it. Information about subscribing to the *Closing the Gap* newsletter is provided on the website.

<http://www.nasponline.org/publications/cq262assisttech.html>

The National Association of School Psychologists has a short explanation of AT that is very helpful. It includes a list of questions that should be asked during a functional evaluation of the need for AT.

<http://www.qiat.org>

The website of the Quality Indicators for Assistive Technology offers a wealth of information in its resources section as well as access to the QIAT Listserv. The Listserv is an excellent forum to keep current with new developments in AT and the latest websites and other resources.

<http://www.wati.org/resourceguide.htm>

WATI has a free 24-page booklet explaining assistive technology that can be downloaded and copied. It is designed for general education staff.

(continued)

Figure 8: Assistive Technology Resources on the Internet (cont'd.)**AT CONSIDERATION**

<http://www.gpat.org>.

The Georgia Project for Assistive Technology has many excellent resources on its website, including an assistive technology resource guide that provides a continuum of solutions from standard tools to assistive technology. It also includes potential modifications and accommodations for a variety of tasks. Choose "Forms" from the navigation menu on the left side of the screen, then choose "AT Resource Guide." It will automatically be downloaded to your computer.

<http://prekese.dadeschools.net/primetime.htm>

This website contains a wealth of information and useful tools. It was developed by the Miami-Dade County Public Schools in Florida. Click on "Resources" in the navigation menu on the left. Then choose "Pre-K ESE Assistive Technology Implementation Plan." This form will guide your team through an excellent discussion that will help you determine if AT is needed and facilitate the development of an implementation plan. It is designed for young children with disabilities.

<http://www.texasat.net/trgmod.htm>

This website, which was created by the Texas Assistive Technology Network, has excellent training modules that can be downloaded, including one on Considering AT in the IEP Process. It includes PowerPoint slides and other useful training materials.

AT FORMS

<http://atto.buffalo.edu/registered/ATBasics/Foundation/schooldistricts/forms.php>

The Assistive Technology Training Online site offers forms from three sources that can guide AT assessment and decision making.

<http://www.boston.k12.ma.us/teach/technology/emmanuel.asp>

The staff at the Access Center for Boston Public Schools has developed the Student Access Map (SAM), a dynamic, user-friendly tool designed to assist educators in aligning instructional supports with student needs.

AT SERVICES

<http://www.otap-oregon.org/Publications.cfm>

The sample operating guidelines on this website are designed to be used as templates by education agencies wishing to develop assistive technology programs that provide consistent, effective, and legal assistive technology services. Section one includes guidance for teams that can be included in district handbooks or procedure manuals. Section two includes sample forms that may be used to implement the model.

<http://www.qiat.org>

The Quality Indicators for Assistive Technology services website contains a wealth of information. Two of the most important items are the Quality Indicators themselves and the QIAT Self-Evaluation Matrix. These two tools provide an excellent picture of what assistive technology services should be—regardless of size, location, or wealth of a school district. The self-evaluation matrix is a valuable tool for getting a sense of what a specific district may need to focus on to improve its services.

<http://education.state.mn.us/content/005769.pdf>

This URL will lead you to the *Minnesota Assistive Technology Manual* in a PDF format. It includes many useful tools, including directions for AT consideration, guidelines for including AT in the IEP, and numerous forms and checklists.

(continued)

Figure 8: Assistive Technology Resources on the Internet (cont'd.)**AT TOOLS**

<http://www.abledata.com>

Abledata contains information on thousands of AT products. It is sponsored by the National Institute on Disability and Rehabilitation Research, U.S. Department of Education. It is a good place to find information on both current and discontinued products.

<http://www.abilityhub.com>

This website offers information about adaptive equipment and alternative ways to access a computer. It is a searchable site that can reduce the time it takes to locate a potential tool. (AbilityHub.com is created and maintained by Mr. Dan J. Gilman.)

<http://prekese.dadeschools.net/primetime.htm>

For a handy list of AT tools with pictures and resources, go to this website, which was developed by the Miami-Dade County Public Schools in Florida. Click on "Device Gallery" in the navigation menu on the left. Each item in the Device Gallery has a link to more information. Note the items listed were selected because they would be appropriate for young children with disabilities.

http://www.bcps.k12.md.us/boardmaker/adapted_library.asp

This website, which was created by the AT Team at Baltimore City Public Schools, has symbols and boards that can be used to adapt 723 children's books. Titles are arranged alphabetically and there is a search engine. You must have BoardMaker to utilize these boards and symbols.

AT TRAINING

<http://www.glc.k12.ga.us/trc/>

The Teacher Resource Center portion of the Georgia Learning Center website offers useful information on integrating technology into the classroom. Select "Teacher Resource Center," then use search engines to investigate various topics, including exceptional children and technology integration.

<http://www.gpat.org>

The Georgia Project for Assistive Technology has more than 100 video clips that show children using assistive technology. These were developed in a collaborative effort with Valdosta State University.

<http://www.lburkhart.com>

This website by Linda Burkhart has a focus on integrating technology in education and contains many excellent examples and suggestions.

(continued)

Figure 8: Assistive Technology Resources on the Internet (cont'd.)**AT TUTORIALS**

<http://atto.buffalo.edu/registered/Tutorials.php>

This section of the Assistive Technology Training On Line website contains tutorials on reading and writing tools (Clicker 4, Co:Writer 4000, IntelliKeys, IntelliTalk II Part I and 2, Overlay Maker, Microsoft Word, and Write:OutLoud); tools for visually impaired (JAWS for Windows, BrailleNote, and ZoomText Xtra); and tools for creating talking books (Clicker 4, HyperStudio 4, and PowerPoint). There also are links to many other websites that offer tutorials.

<http://www.aea6.k12.ia.us/att/tutorials.html>

This section of the Iowa Area Education Agency 267 website contains tutorials on BoardMaker, Co:Writer 4000, Inspiration, Scan n Read 1.06 (Mac), Scan n Read 7, and Write:OutLoud 3.0

http://www.setbc.org/setbc/library/library_home.html

The website of the Special Education Technology Center in British Columbia has many excellent resources, including an overview of technology for individuals with vision impairments, supports for learning the writing process, and supports for augmentative communication users.

AUGMENTATIVE COMMUNICATION

<http://atto.buffalo.edu/registered/ATBasics/Populations/aac/index.php>

This section of the Assistive Technology Training On Line website contains an overview of augmentative and alternative communication and is an excellent starting place to begin learning about it.

<http://aac.unl.edu/yaack>

This excellent website was developed by Ruth Ballinger as a project for her Master's Degree in special education. It is a great place to get a good overview of augmentative and alternative communication. YAACK stands for AAC connecting Young Kids. It has three main sections: Getting Started, Choosing and System, and Teaching Tips.

<http://www.aacintervention.com>

This is the place to get great tips on augmentative and alternative communication. Bookmark it and check back regularly. It has many practical ideas, including a Tip of the Month. It is operated by Julie Maro and Caroline Musselwhite, and it is a delight.

INCLUDING AT IN THE IEP

<http://www.nde.state.ne.us/SPED/iepproj/factors/assist.html>

This section of the Nebraska Department of Education website includes the legal definitions of AT, a step-by-step process for including it in the IEP, and several examples of IEP goals for AT use.

<http://www.nls.org/atiep.htm>

This document from the Minnesota Disability Law Center provides a thought provoking overview of the process of including AT in the IEP process as well as several examples of goals.

<http://www.orclish.org>

This website from ORCLISH, Ohio's statewide technical assistance project directed by the Ohio Department of Education, has a very helpful manual. Select "Assistive Technology" on the front page and then select "Noteworthy Resources." On that page, among many other useful resources, is an Assistive Technology Manual. Select that and then choose the chapter on Writing AT in the IEP.

(continued)

Figure 8: Assistive Technology Resources on the Internet (cont'd.)**RESEARCH ABOUT AT**

<http://jset.unlv.edu>

The *Journal of Special Education Technology*, the journal of the Technology and Media Division of the Council for Exceptional Children, is one of the best resources available on research about AT use. The editors are at the University of Nevada Las Vegas, so it is housed on their website. Past issues are available free at this site.

<http://natri.uky.edu>

The National Assistive Technology Research Institute is currently researching the use of assistive technology. This website offers an opportunity to participate as well as learn what they are learning.

It comes not from the “experts” in the district, but from the peers who have struggled to learn the new information. Collegial support that comes from an identified learning community is what keeps people going when the going gets tough. Todis & Walker (1993) found that time to meet and talk is critical in the successful implementation of assistive technology. Any structure that connects service providers with common interests or similar situations can be utilized to promote collegial support and encourage people to help others.

Ongoing Evaluation of AT Devices and Services

Program improvement only takes place in schools that evidence two critical characteristics: a norm of collegiality and a norm of continuous improvement (Little, 1982). School administrators can create these contexts. The School Profile of AT Services (Figure 7) or the self-assessment matrices from the Quality Indicators of Assistive Technology Services, which are available from the website <http://www.qiat.org>, can be used for ongoing

evaluation. Both of these tools are useful for identifying progress and areas of continued need.

Ongoing evaluation of AT devices and services should include frequent reviews of the inventory of assistive technology devices that the agency has available. There should be a system for noting new advances in assistive technology and planning for purchase of the devices that may be needed for the population of children with disabilities who are served by the agency. Program development efforts like this require the assignment of staff members to track the technology inventory (supervision), identify funding sources for their purchase (management), and develop a vision of the needs of students (leadership).

RESOURCES

*<http://www.ncrel.org/sdrs/areas/issues/methods/technlgy/te700.htm>

This website gives multiple examples of school improvement activities and goals. See, for example, the perspective of a school district in Illinois that took a comprehensive approach to assistive technology program development.

Integrating AT into Other Agency Plans

Assistive technology can fit into many different areas, including both plans and grant applications. Once the vision of AT services is in place and the AT planning committee has developed a plan to move toward that vision, administrators can look for ways to integrate it into new and existing plans. For example, the building and district technology plan is an excellent place to include assistive technology. Often this opens the door to obtaining state and federal technology grants that can include some funding for AT through computer hardware and software with universal access features such as text to speech or voice recognition. These features benefit many students, but are often identified as assistive technology.

AT also can fit into overall school improvement plans. Any time it is integrated into agency wide activities, the likelihood of success increases. The more that implementers of plans are directly involved in the planning and decision making process, the greater the likelihood of success.

I think the most important component of AT from an administrator's standpoint is to establish a systematic process for evaluating the need. The whole evaluation process should be completed with direct administrative input, support, and endorsement. I have designated a group of staff members who are assigned as a resource to each requested AT evaluation. These people go to AT training regularly to stay up to date.

We also have a technology acquisition every fall where teachers can request hardware, software, updated programs, and peripherals for their classrooms. A team composed of me, the district technology director, and AT team members review the requests for appropriateness, compatibility with district systems, and duplication.

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Director of Pupil Services
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Suggested Actions for Administrators

1. Create a planning committee to identify program needs for AT.
2. Develop, implement, and monitor a plan to improve AT services.
3. Identify and respond to staff training needs.
4. Create a system to regularly evaluate AT services.

An Administrator's Self-Assessment

This guide has suggested multiple strategies that school administrators can use to ensure effective, legal, ethical, and cost effective assistive technology programs. Strategies for effective leadership and vision setting have been identified. We have offered help in identifying topics to be addressed in operating guidelines and strategies for resource and personnel management and addressed supervision and program development and improvement activities.

You have already completed the first step in creating change by reading this guide. The next step is to complete the Administrative Self-Assessment included on the following pages. Administrators can use this self-assessment tool as a guide in leading, managing, supervising, and improving assistive technology programs in a wide range of educational settings.

Just as the people who educate children with disabilities can't do it alone, neither can school administrators. Administrators who want to examine and improve the assistive technology devices and services they provide to students with disabilities will need support systems and colleagues with similar interests and experiences. In addition to other administrators, there may be a variety of state and regional programs designed to support efforts to improve AT services.

Instructional leadership begins with a vision of quality educational services. Effective school administrators develop an assistive technology vision jointly with educators, parents, students, and other community stakeholders. Then they use management, supervision, and program improvement strategies to set a course of action that helps everyone move toward that vision.

"The leader becomes a context setter, the designer of a learning experience—not an authority figure with solutions."

(Pascale, Millemann & Gioja 2000, p.9)

Administrative Self-Assessment for Assistive Technology Services

Developed by Gayl Bowser and Penny Reed

◉ Leadership and AT Services ◉				
	Always Evident	Usually Evident	Seldom Evident	Not Evident
I know what AT is and how it can benefit students with disabilities.				
I know the legal requirements to provide AT for people with disabilities and the implications for my program.				
I facilitate the shared development by all stakeholders, including students and families, in developing a vision for AT use and widely communicate that vision.				
I identify, communicate, model, and enforce social, legal, and ethical practices to promote responsible use of AT.				
I support faculty and staff in using AT to improve the education of students with disabilities.				
I publicly acknowledge the importance of AT and highlight student achievements that result from its use.				
I advocate on regional and state levels for policies, programs, and funding opportunities that support implementation of the district AT plan.				

Administrative Self-Assessment for Assistive Technology Services

Management and AT Services				
	Always Evident	Usually Evident	Seldom Evident	Not Evident
I develop, implement, and monitor policies and written operating guidelines to ensure legal, ethical, and cost effective AT services.				
I ensure that written guidelines include processes for AT consideration during the IEP meeting, AT assessment, and for finding sources of AT for trial use.				
I ensure equity of access to AT devices and services.				
I ensure that all appropriate employees know how to respond to a parent's request for AT.				
I require that staff use data to make AT decisions.				
I allocate funds and human resources to the implementation of AT services.				
I make time available for staff to plan for implementation of AT services.				
I ensure that AT services are provided in a cost effective and efficient manner.				

Administrative Self-Assessment for Assistive Technology Services

Supervision and AT Services				
	Always Evident	Usually Evident	Seldom Evident	Not Evident
I assess staff knowledge, skills, and performance in using AT.				
I recruit professionals with AT skills when hiring new staff.				
I ensure that all staff, including general education teachers, have the necessary level of understanding of AT to fulfill their role in the provision of AT services.				
I address AT as part of staff evaluation and supervision.				
I use staff assessment results to make informed decisions about personnel assignments, responsibilities, and needs for training.				
I ensure that all staff members who serve a child with a disability implement an IEP that includes AT in a legal and ethical manner.				
I foster a school environment that has a low level of conflict and I assist in conflict resolution when AT issues arise.				
I facilitate and support collaboration in AT-enriched environments to improve learning for students with disabilities.				

Administrative Self-Assessment for Assistive Technology Services

Program Development and AT Services				
	Always Evident	Usually Evident	Seldom Evident	Not Evident
I develop, implement, and monitor a long-range, and system wide AT plan.				
I identify barriers to the effective delivery of AT services and develop plans to remove them.				
I use multiple methods to assess and evaluate appropriate uses of AT resources.				
I assess AT training needs for all staff.				
I ensure that AT is part of school wide professional development and encourage staff members to pursue AT training when appropriate.				
I conduct ongoing evaluation of AT services.				
I upgrade the AT inventory as needed.				
I implement procedures to drive continuous improvement of AT systems and to support AT replacement cycles.				
I integrate AT into strategic plans, technology plans, and other improvement plans and policies to align efforts and leverage resources.				

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