Section 5

The Assistive Technology Assessment Process in the School Environment

2013

Overview of the Assistive Technology Assessment Process

Selecting and implementing AT requires more than a simple assessment to ensure a "match" between the student's abilities and the features of a device. The chosen AT must be useful in the student's environment to perform needed tasks. In order to make this type of recommendation, the student and his/her personal and professional supporters must collaboratively identify the needs and generate solutions that will facilitate the identified goals. The following process is designed to guide educational teams in a systematic consideration and determination of AT for individual students.

1. Initiation of the AT process

2. Identification of the team

3. Assessment for assistive technology

- a. Student
- b. Environment
- c. Tasks
- d. Tools

4. Discussion of AT systems and recommendations

5. Acquisition and implementation

6. Followup and ongoing assessment

Previous sections outlined the quality indicators for administrative support and professional development as well as the process for AT consideration. The following quality indicators provide suggested best practices regarding AT assessment.

Quality Indicators for Assessment of Assistive Technology Needs

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

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

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

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

Intent: Team membership is flexible and varies according to the knowledge and skills needed to address

student needs. The student and family are active team members. Various team members bring different information and strengths to the assessment process.

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

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

4. Assistive technology assessments, including needed trials, are completed within reasonable timelines.

Intent: Assessments are initiated in a timely fashion and completed within a time line that is reasonable as determined by the IEP team. The timeline complies with applicable state and agency requirements.

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

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

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

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

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

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

COMMON ERRORS

1. Procedures for conducting AT assessment are not defined, or are not customized to meet the student's needs.

2. A team approach to assessment is not utilized.

3. Individuals participating in an assessment do not have the skills necessary to conduct the assessment, and do not seek additional help.

4. Team members do not have adequate time to conduct assessment processes, including necessary trials with AT.

5. Communication between team members is not clear.

6. The student is not involved in the assessment process.

7. When the assessment is conducted by any team other than the student's IEP team, the needs of the student or expectations for the assessment are not communicated.

(The QIAT Consortium, 2012, pp. 3-4)

Step 1: Initiation of the AT Assessment Process

Referral to initiate the AT process is generally the result of concern by an educational professional and/or a parent or discussion within an existing team about a student's needs. This individual or team has noted an area of the student's educational program in which he/she is unable to participate due to his/her disability. The question being asked is:

> **"What is it that we expect the student to be able to do within the educational program that he/she isn't able to do because of his/her disability?"**

The answer to this question should be specific, based on concerns noted within the educational goals that have been established for the student. Areas that are often considered include:

handwriting	**spelling**
reading	**math**
written expression	**communication**
mobility	**recreation**
seating/positioning	**listening**
seeing	**self-care**

Regardless of whether this concern is identified in the IEP process, by an individual during instructional periods or as a part of another teaming practice (e.g., multi-factored evaluations, intervention assistance processes), a conscious initiation of the AT assessment and decision-making must take place. Failure to formally initiate the concern runs a serious risk that efforts will not be systematically directed and may be dismissed before they are resolved.

Any AT decision-making requires the efforts of a dynamic team approach. The selection of devices or equipment should never be based on the recommendations of a single team member. All persons who are involved with the student in the educational program should have input on the selections being made.

Step 2: AT Assessment Team

A variety of service delivery models are available for team decision-making. The educational model generally reflects the regulations that are defined in the IDEA. Within the model or approach that is utilized by a school district, collaboration is essential in processes for determining appropriate AT for a student.

> **In the collaborative model, it is assumed that no one person or profession has an adequate knowledge base or sufficient expertise to execute all the functions (assessment, planning, and intervention) associated with providing educational services for students.**
>
> **All team members are involved in planning and monitoring educational goals and procedures, although each team member's responsibility for the implementation may vary. Team members can be considered as sharing joint ownership and responsibility to intervention objectives.**
>
> (American Speech-Language-Hearing Association, 1991)

In the collaborative model, all members of the team should contribute their talents to make the process work. At various times during the process, the emphasis may be heavier on one member or another. Yet, when information is discussed, each member should be present so that a balance is created to focus on the purpose of the AT process.

Team members will change over time, but the student/family remains a constant. The entire process should strive to make the student/family an integral part of the system and empower them to make further decisions along the way. The educational team provides the resources and input on the environment and tasks that are needed for the student to reach new levels of achievement. The recommended team members will vary with each student, depending on the student's needs and abilities and the levels of technology being considered. A team facilitator or leader should be designated who will be responsible for coordinating activities, maintaining timelines, and ensuring that the process continues in a progressive manner. All team members should receive written notification of all team meetings. It is important to encourage members to be actively involved in the process.

The following is a list of potential team members and the roles they may play in the process.

The Student: The student is the only constant on the team. Whenever possible, the student should be an active participant in the decision-making process. The student's opinion should be sought and respected. The student is the one who will benefit from the technology, and who will or will not choose use it.

The Family: The parents or primary caregivers have the most knowledge about the student's everyday life, preferences, and means to deal with his/her disability. Making the family part of the team brings another perspective of the student's life that may not be seen by the educational staff. Varying degrees of active family involvement are understandable and acceptable in the team process.

Classroom Teachers: Classroom teachers are responsible for the student's entire educational programming. They have an understanding of the student's abilities and the opportunities for participation in the curriculum. Teachers are also responsible for implementing educational strategies so that educational, functional, and social goals can be achieved. Both special and general educators involved with the student should be on the team.

Instructional Assistants: Teaching assistants work with teachers to help implement the curriculum and make student learning possible. They are often the primary facilitators for use of AT with a student in the classroom. They may be able to provide insight on the daily routine and schedule for the student during the school day.

School Psychologist: The psychologist is able to provide information on the student's cognitive level of functioning and his/her specific learning styles.

Speech/Language Pathologist: Speech-language pathologists (SLP) can provide insight on the student's present modes of communication and potential for speech development, and suggest ways to maximize the student's communication ability throughout the day. They often can assist in developing vocabulary and design for augmentative communication systems.

Occupational Therapists: Occupational therapists (OT) provide information on the student's fine-motor skills. They frequently focus on functional use of the upper extremities and can be instrumental in addressing special access needs as well as seating and positioning. OTs may also provide information about the student's visual motor integration and sensory processing skill. Information about these areas might impact the visual positioning or display and the sensory features needed to maximize the student access of the AT.

Physical Therapists: Physical therapists (PT) are able to evaluate the seating and positioning issues and make recommendations for strategies that increase the student's access to the school environment and activities. They facilitate the student's comfort, proper development, and safety as well as mobility.

Orientation and Mobility Specialists: These individuals examine the ability of a student with visual impairment to maneuver the environment for safe and efficient travel.

Audiologists: An audiologist tests hearing and recommends assistive listening systems that enhance the student's listening skills.

School Nurse: The school nurse may have input on the medical needs and care of the student at school.

Family Physician: The physician addresses the medical issues and monitors medical complications. The physician is involved in the prescription of many seating, mobility, and augmentative communication devices, as well as funding procurement from third-party sources (e.g., Medicaid, health insurance).

Other Medical Personnel: Specialized medical personnel, such as orthopedic specialists or optometrists, may provide specific information related to the student's disability.

Low-Vision Specialist: These specialists provide a functional vision evaluation and information on optical aids that are appropriate.

Vocational Counselor/Case Manager: It is particularly important to involve the vocational counselors as the student is reaching the age when transition goals are to be established. They may provide insight and support on vocational options and skills.

School Administrators/Special Education Supervisors: Administrators have various job responsibilities that involve management of educational programs and fiscal issues. They may be instrumental in supporting the teaming process, scheduling meeting times, and allotting staff time for technical training. The more involved the school administrator is throughout the process, the greater the understanding of the student's needs will be when it is time to procure funding.

School Technology Contact: The school district technology staff may provide technical information and support as considerations are made. This staff may later be responsible for technical assistance to maintain the equipment.

Assistive Technology Specialist: An AT specialist may be able to serve as a resource for AT device options, vendors, loan programs, and technical training. A specialist may also be able to assist the team in identifying the student's abilities as they relate to the use of AT.

Assistive Technology Providers: Vendors and distributors of AT equipment may assist in identifying specific features appropriate for a student. They may also provide demonstrations, training, or trial periods of some equipment. Vendors are also responsible for application for funding to Medicaid.

Rehabilitation Engineer: These individuals provide information on customization for access to AT devices and equipment. They also offer input regarding the features, computer interfaces, settings, and access methods available on AT hardware and software.

Team Decision-Making Strategies

1. Establish team meetings at a time that is convenient for all team members. Notify members in writing of the meeting.

- Date
- Time
- Location

2. Share roles and responsibilities during the meeting.

- **Facilitator:** Ensures that the meeting runs smoothly and efficiently, accomplishing the intended purpose.
- **Time Keeper:** Keeps the team moving so that discussion moves at a pace that ensures that all topic areas are covered in the allotted amount of time.
- **Recorder:** Writes down information, suggestions, and decisions that have been made by the team.

3. Present information in a written format where everyone can see it.

- Chalkboard
- Flip chart
- Over head projector

4. Use brainstorming rules.

- Write all ideas down
- Accept all suggestions
- Generate as many ideas as possible

5. Prioritize suggestions and develop an action plan.

- Summarize actions to be taken
- Assign roles and responsibilities

6. Reach a consensus

- Poll members
- Ask for support, even if they might have preferred another direction

7. Plan for the next meeting

- Summarize and establish action plan
- Define timeline and responsibilities of action plan
- Schedule the next meeting, date, time, location

(Gierach, 2009)

Step 3: Assessment for Assistive Technology

Any educational assessment process must begin with a data collection system that provides information on the student's identified needs. During an AT assessment, information about the Student, the Environments, and the Tasks, must be gathered and thoughtfully considered before an appropriate system of Tools can be proposed and acted upon. The SETT Framework, developed by Joy Zabala, 2005 is an organizational tool used by many teams as a foundation for gathering and organizing information for good decision-making.

The questions posed in the SETT Framework were developed as a guideline and a place to start. Teams may need to seek answers to other questions as the process proceeds. However, in most instances, the questions will relate to one of the areas of these guidelines.

Overview of SETT

The Student

- What does the student need to do?
- What are the student's current abilities?
- What are the student's special needs?

The Environments

- What is the instructional setting?
- What is the physical arrangement?
- What materials and equipment are currently available?
- What supports are available?
- What are the attitudes and expectations?
- What are the concerns?

The Tasks

- What tasks occur that enable student progress toward mastery of IEP goals?
- What are the tasks that allow the student to actively participate in daily life?
- What is everyone else doing?
- What are the critical elements of the activity/task?

The Tools

- What system of no-tech, low-tech, and high-tech tools should be considered to support the student in performing the tasks identified in these environments?
- What strategies might be used to increase student performance?
- How might these tools be tried out with the student in the customary environments in which they will be used?

(Zabala, 2005a)

Extending the SETT Framework

The Student

What does the student need to do?

The answer to this question may initially be a general response, such as "to write" or "to talk." While elaboration is desirable, later in the Tasks and Environments section, these issues will be explored more deeply. The goal at this time is to establish consensus on the purpose of the AT process.

What are the student's special needs and current abilities?

This question should generate conversation about the barriers that keep the student from doing whatever needs to be done. It should also focus on the student's "abilities." No matter how great the needs, everyone has abilities that can be built upon and enhanced.

Discussion should include all aspects of the student, providing a broad description of what we know and what we need to know. In this process, the team may review areas of:

- cognitive abilities
- motor abilities
- sensory abilities
- language abilities
- social/emotional abilities

The team should also determine if additional information on the student's abilities is necessary and designate a person to be responsible for obtaining this data. The assessment guides included at the end of this manual may assist team members in gathering specific information on the student's abilities in reference to the use of assistive technology.

The Environment

What is the instructional setting?
What is the physical arrangement?
Outline the environments in which the student functions along with the physical characteristics of this setting (e.g., the general ed. classroom for all subject-matter classes; special classroom with one-on-one instruction; cafeteria, playground).

What materials and equipment are currently available?
What supports are available?
Define the curriculum materials being used, adaptive techniques or equipment available to the class/student, and supports to the instructional program that currently exist (e.g., full-time aide with student; alternate curriculum materials used with the student; peer tutoring; classroom communication device used with all students; computer in classroom).

What are the attitudes and expectations?
Define the expectations that currently exist for the student in the educational setting. Determine if these expectations are realistic or enabling the student to perform at expected levels of independence.

What are the concerns?
Note concerns in the educational setting that should be addressed. Further observation may need to be made of the environment. In order to focus on AT tools that remove barriers, it is first necessary to address the environmental barriers that may exist.

The Tasks

What tasks occur that enable student progress toward mastery of goals?
The purpose of this step is to determine what opportunities are present that enable the student to move toward the goals and objectives included in the IEP. If the answer is "none," AT tools will not solve the problem! Students need to be given appropriate task opportunities as well as appropriate instructional strategies in order for AT to be useful.

What tasks lead to active participation in the educational environment?
What is everyone else doing?
One place to begin when considering the tasks is to identify "what everyone else is doing." Participation in the same activity does not always lead to the same results for all participants. Therefore, it is important to determine if there meaningful opportunities within the standard curriculum that can be accomplished by students with disabilities through supports and scaffolds.

What are the critical elements of the activity?
At this point, list the elements of the activity that the student should be expected to perform. Further task analysis may be recommended to more clearly identify the task skills needed.

(Zabala, 2005b)

The information that has been complied about the student, environments, and tasks should provide a clear picture of the educational expectations for the individual student and areas of need to be addressed.

The information from this part of the assessment process may be summarized on the SETT form Assessment Summary of Student Need for Assistive Technology below.

Assessment Summary of Student Need for Assistive Technology

Name _____ Date _____

Use this form to analyze data and define the student's specific need for assistive technology.

STUDENT _____ Area(s) of Need _____	
ENVIRONMENTS	TASKS
Specific Concerns/Needs: *What do we want the student to do?*	

(Assessment Summary of Student Need for Assistive Technology. Adapted from SETT Scaffold for Gathering Data [Zabala, 2005c].)

Data-Gathering Techniques

When developing a system for collecting information related to AT, keep in mind the SETT framework – collecting information on (a) the student's abilities, (b) the environments in which the student participates, and (c) the tasks he/she is expected to perform. A variety of methods may be utilized to obtain these data.

Observation: Observations in natural settings yield information on the student's abilities to participate in various activities. They also provide an opportunity to view the participation patterns of peers. Work samples enable comparisons between the student's performance and what is expected of others in the classroom.

Interaction: Interacting with the student may provide an opportunity to elicit behaviors that are otherwise not typically seen. Direct assessment involves an interactive process. When considering the AT needs of a student, engage the student in tasks similar to what is required in the classroom, creating opportunities for the student to try assistive modifications that might be beneficial. A variety of AT devices may need to be available for this assessment period.

Interviews: Asking specific questions of the student, family, or school personnel generates information specific to the needs, abilities, interests, and participation patterns of the student.

Record Review: Past history, medical, or specialized assessment information provides insight on the various aspects of the student.

Assistive Technology Assessment Guides

An Assistive Technology Assessment Guide is included in Appendix A of this resource guide. It should be considered only a "guide" to data gathering. The guide provides one approach to systematically enable the team to consider and gather needed information. Other methods of standardized or informal assessment may and should be included as deemed necessary.

Now that the team is satisfied that the student's needs and abilities, tasks, and environments have been clearly defined, consideration should proceed to assessment of tools that may be applicable to assist the student in attaining the expected educational goals. **The team must match the educational needs with features of AT tools**, strategies to be considered, and availability of equipment for trial periods. Two forms that may be useful for this purpose are the Assessment for Assistive Technology Tool System and the Assistive Technology Solution Continuum found on the following pages and in Appendix B.

Assessment for Assistive Technology Tool System

Name _____

Date: _____

Area of Need: _____

Specific Tasks: State in terms of what the student is expected to do	No-Low-High-Tech Tools Options/Solutions and Features	Availability for Trial Use	Results

The Tools

What system of no-tech, low-tech, and high-tech tools should be considered to support the student in performing the tasks identified in these environments?

The tools aspect of the assessment process is where many teams want to start. However, without a clear understanding of the student, environments, and tasks, the process will not effectively generate the answers to the question posed here.

Additional data may have to be obtained to make a precise determination of applicable tools. Available AT is ever changing and advancing. No one person who can know everything about every possible AT device and/or service. If team members feel they have exhausted their knowledge base and resources to make specific tool selections, they may have to seek input from other agencies or persons who have experience in the area of AT being considered.

Keeping the required features of a system in mind, the team may find it helpful to brainstorm options that will assist the student in achieving the desired level of performance. This list should be recorded on a wall chart or board where it is clearly visible to all team members. Next, the list may be categorized, beginning with the simplest, least intrusive suggestions, and advancing to high-tech alternatives. A sample continuum chart is shown below.

Alternatives for Handwriting Difficulties	**Alternatives for Verbal Communication**
Regular pencil or pen Pencil grip, larger size Portable word processor Computer with keyguard Wrist/arm support Enlarged keyboard Voice recognition software	Manual signs Photograph cards Picture symbol boards Voice output with single message Voice output with multiple levels and overlays Voice output with dynamic display
Alternatives for Vision Difficulties/Reading	**Alternatives for Reading Difficulties**
Peer reading of materials Highlighting key words Audio books Speaking spell check device Talking word processing program Text with picture supports	Text enlargement on copy machine Word cards written in larger form Use of this markers for text Peer reading Audio-recorded text materials Talking word processing Screen reading software

The following chart may be used to develop a continuum of solutions of no-tech, low-tech, and high-tech AT options.

Assistive Technology Solution Continuum

Student _____

Date: _____

1. Identify the area of student needs (e.g., handwriting, speech, reading) and generate a continuum of AT options, including no-tech, low-tech, and high-tech. Begin with the simplest, least intrusive solutions.

2. Discuss the suggested solutions and make conclusions on the effectiveness of this solution.

Alternatives for:	Conclusions

When developing a continuum of AT solutions, consider the activity and the task requirements, and make decisions for each situation that will provide the most appropriate means of student participation without changing the critical elements of the activity.

What strategies might be used to increase student performance?
No-tech strategies, including modifications and adaptations to the educational program, should also be considered as part of the tools assessment. Team members must be careful not to be so caught up in the high-tech devices that they forget the obvious strategies that will provide the student with increased learning opportunities. For example, a student who has difficulty writing quickly enough to take notes may benefit from guided notes to limit the amount of text he needs to write. This is a low-tech solution rather than providing him with sophisticated note-taking software. Such strategies may be considered in addition to AT devices or individually to eliminate current barriers.

Assistive technology decision-making is a match between the student's abilities, needs, and expectations and features that facilitate input and processing. The team must keep in mind that this may include both devices and services. A system of tools must work in combination to assist a student in moving forward.

How might these tools be tried out with the student in the environments in which they will be used?
The team may decide on a trial period in which certain AT devices and strategies are implemented.
The team should consider what options are accessible for trial periods. The tools that are systematically and programmatically available to all students should be explored first. Can these tools be used by the student and, if so, what additional accommodations are needed for the student to participate in the required tasks? What features may be added to these existing technologies? If these tools are not effective for the student it may be necessary to trial additional tools not readily available in the school.

OCALI has an extensive loan library of AT equipment. These devices can be checked out online from the OCALI Lending Library: www.ocali.org/project/lending_library

For every trial period, the team should determine the training needed by staff and families, the timeframe for a fair trial, and the criteria for collecting data to be used in determining success. In this process, it is important that all team members understand the criteria, as discussed below.

Step 4: Discussion of AT Systems and Recommendations

As the assessment portion of the AT process progresses, the team must begin to focus on which solutions will enable the student to complete identified tasks.

With the data gathered, the team has a clear picture of the student's needs and abilities, as well as the tasks required in different activities. Then the team can begin to formulate views on AT options that may be considered for the student. During this phase of the process, the team must:

- define the features that need to be added to the student's tool system
- specify a continuum of no-tech, low-tech, and high-tech solutions and strategies
- make recommendations for acquisition and implementation

Criteria for Selection
There are several questions for the team to address as they consider possible solutions. These involve the device, the manufacturer/vendor, and the student.

Device:

1. Is the design appropriate to meet the student's needs/abilities?
2. Will the device stand up to portability and durability requirements?
3. What is the reliability of the device?
4. Does the device have expansion or upgrade capabilities?
5. Will the device place restrictions on the student's other areas of functioning?
6. Is software support available?
7. Does the device have academic relevance?
8. Is repair easily accessible?
9. Is operation and programming easy to do?
10. Is the device compatible with other existing adaptive technologies?

Manufacturer/Vendor:

1. Is the device reasonably priced?
2. Is training and technical support available?
3. Are loaners/rentals available during repair?
4. Is there an adequate warranty?

Student:

1. Are operational demands minimal?
2. Do the technological capabilities match the student's needs/abilities?
3. Is the student satisfied with the device?
4. Are the parents satisfied with the device?
5. Will the technology prepare the student to meet future needs?
6. Does the device allow for independent use?
7. Is the system compatible with other technologies in the home/community?

A team consensus on all AT recommendations should be obtained. If the process has progressed efficiently to this point, no team participant should have to respond, "I don't know enough to make that decision." Everyone should understand the needs of the student and the applications of the suggested technologies, and feel comfortable in making a recommendation decision. The team may utilize the information that has been summarized in the assessment process. This will keep the team focused on the results of the assessment,

which specified the student's abilities and educational needs, as well as the generation and trial use of AT tool options. The team should keep in mind that modifications, strategies, and services are as important to the decision-making process as the technology equipment that is being recommended. All recommendations should be recorded, including a brief sentence on how the AT will enable the student to more successfully participate in the educational program.

Step 5: Acquisition and Implementation

Essentially, the implementation process is well underway before this step is reached. As assessment and trial periods have been taking place, the team has been establishing new strategies and techniques for increasing the student's participation in the educational program. Specific plans must be outlined to facilitate ongoing implementation, including acquisition of personal devices and inclusion of the goals in the IEP.

The team must determine the plan and actions that are necessary to obtain the AT devices that have been recommended. A written action plan may also be needed to detail the responsibilities of each person. Without group memory in the form of a written plan, important details are easily forgotten or overlooked.

1. Identify source of equipment and costs
    a. Locate vendor or manufacturer
    b. Obtain a price quote in writing
2. Identify possible funding sources
    a. Refer to the funding section to determine appropriate sources
    b. Determine person(s) who will seek funding sources
3. Order equipment
4. Plan for training as needed
5. Set up equipment
6. Establish technical support system

The selected AT devices and services needed for successful implementation must be recorded in the student's IEP. Further information on including AT in the IEP may be found in Section 7.

Note: In an effort to assist schools in saving funds and providing learning supports for all students, Ohio schools may purchase selected assistive AT software and hardware at discounted pricing through the OCALI Assistive Technology State Discount Program: www.ocali.org/project/at_state_discount

Quality Indicators for Assistive Technology Implementation

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

educational environments.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

COMMON ERRORS

1. Implementation is expected to be smooth and effective without addressing specific components in a plan. Team members assume that everyone understands what needs to happen and knows what to do.

2. Plans for implementation are created and carried out by one IEP team member.

3. The team focuses on device acquisition and does not discuss implementation.

4. An implementation plan is developed that is incompatible with the instructional environments.

5. No one takes responsibility for the care and maintenance of AT devices and so they are not available or in working order when needed.

6. Contingency plans for dealing with broken or lost devices are not made in advance.

   (The QIAT Consortium, 2012, pp. 7-8)

Step 6: Follow Up and Ongoing Assessment

The first weeks after the AT equipment has been obtained is generally the time when the majority of questions arise. This is the time to work out the "bugs" and make changes that will increase the confidence level of the team, the student, and the family. Training of staff and families may also occur at this time. As questions arise, they should be documented so they can be addressed at the next team meeting.

A follow up meeting should be scheduled after initial implementation. At this time, the entire team should be prepared to discuss and document data-collection results. Specifically, team members should use the data to address the following:

- successful solutions and activities that have occurred
- solutions that did not work, with a discussion of "why"
- possible problems and necessary changes

AT assessment is an ongoing process. When changes in the student's abilities and/or educational needs are noted, data should be collected and steps should be taken to determine what additional information is needed or which changes to the implementation of AT should be considered. Maintaining the equipment in operational order is important. The team should establish a plan designating the procedures to be followed if technical issues occur. Local troubleshooting is desirable if possible. A specialized service provider or technology coordinator from the school district may be able to locate and correct problems.

Information on warranty and service contacts should be maintained. This includes the results of service or technical support that has been provided over time. The Assistive Technology Technical Support Data form on the following page may be used to record equipment information.

Assistive Technology Technical Support Data

Student Name: _____

Equipment Name: _____

Serial Number: _____

Purchase Date: _____

Manufacturer: _____

Address: _____

_____

Telephone: _____

Vendor: _____

Address: _____

_____

Telephone: _____

Purchased By: _____

Warranty Information: (*maintain copy of original invoice)

_____

Technical Support: _____

Telephone: _____

Training Received:

Date:	Provided By:	Provided To:

Person/Agency Responsible for Maintenance and Repair:

_____

Service Record

Date	Problem	Result

Quality Indicators for Evaluation of the Effectiveness of Assistive Technology

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

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

Intent: Each team member is accountable for ensuring that the data collection process determined by the team is implemented. Individual roles in the collection and review of the data are assigned by the team. Data collection, evaluation, and interpretation are led by persons with relevant training and knowledge. It can be appropriate for different individual team members to conduct these tasks.

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

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

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

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

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

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

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

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

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

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

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

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

COMMON ERRORS

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

(The QIAT Consortium, 2012, pp. 9-10)

Transitions

Transitions occur frequently in schools – each time a new school year begins, a student changes classes or teachers, new staff is added, the student enters a new building, and so on. When AT is necessary for a student to achieve in the educational setting, transitions should be carefully planned. In particular, the records that have been kept on the student are critical for new staff to review as they will enable them to understand the abilities of the student, expectations in the educational program, and ways that the AT facilitates expected student participation. In turn, incoming staff should examine the environment and tasks that are required in the new setting. In short, collaboration between "old" and "new" must take place.

Issues that should be addressed during transitions include those that have been identified in the SETT framework:

The Student: Assess current abilities, special needs.

The Environments: Examine the transitioning environments and identify the instructional settings and physical arrangements; identify concerns to be addressed.

The Tasks: Examine the task requirements in the new setting and how they may vary from current expectations.

The Tools: Describe the AT systems that are being utilized and how they enable the student to meet the educational requirements. Determine the training that is necessary for the new staff. Provide information on technical support that is available.

The AT process is ongoing!!!

Quality Indicators for Assistive Technology Transition

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

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

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

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

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

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

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

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

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

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

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

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

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

COMMON ERRORS

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

(The QIAT Consortium, 2012, pp. 11-12)

Planning for the Future

The educational process must prepare students for their future, with the inclusion of AT if needed. For many students, utilization of AT is a lifetime need. Therefore, goals that are established should reflect the student's future vocational and/or daily living needs. Increased independence is desirable. Educators must not wait for the "next team" to plan for the future and consider what skills the student must gain to reach his/her potential. The final question must always be: What is the student able to achieve with this AT that will facilitate attainment of future aspirations?

Summary

In this section the AT assessment process was reviewed. Steps of the process included initiation of the assessment, identifying the assessment team, implementing the SETT framework, identifying AT systems and making recommendations, acquisition and implementation of AT, and finally followup and follow-along to ensure continued effective use of the AT. The importance of utilizing a team approach for AT assessment throughout each phase of the assessment process was emphasized. It was noted that the selection of devices or equipment should never be based on the recommendations of a single team member. The section ended with a brief discussion about the importance of transition planning when AT is used to support student performance.

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Resources

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