



## Guiding Document for Assistive Technology Implementation

Implementation of the use of the AT device(s) is the next critical step in supporting student achievement. The teamwork that takes place during consideration and assessment and the collaborative planning to clearly describe the planned outcomes in the IEP all lead to implementing the use of the AT by the student. More than half of the following required services in IDEA involve implementation.

*Assistive technology service means any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device. The term includes:*

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

*(f) Training or technical assistance for professionals (including individuals providing education or rehabilitation services), employers, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of that child.* (emphasis added) (Authority: 20 U.S.C. 1401(2))

The Quality Indicators for Implementation of Assistive Technology guide teams to thoughtful development of implementation plans. A well thought out Implementation plan allows educators, students and families to understand what must happen for a student's successful AT use. Table 5.1 highlights the key elements of an implementation plan. The *Implementation of Assistive Technology Planner* with this content formatted for use can be found in Appendix C [[Link to Appendix C](#)] Using a form such as the Implementation Planner guides the team through the process.

1. The team uses assessment data to identify student needs and the task(s) to be completed.
2. The team develops an implementation plan that addresses the clearly identified task(s).
3. The plan includes a variety of strategies to accomplish the task(s).
4. The AT use is integrated into activities across environments.
5. Frequent opportunities to use the strategies are determined.
6. The expected change in performance is well defined and understood by all team members.
7. The team has identified potential changes in the implementation plan that may be needed in response to performance data.
8. Plans for collecting data regarding the expected change in performance are developed and included in the implementation plan.
9. Primary implementers are identified and understand their roles.
10. The plan includes opportunities for initial and ongoing training.
11. Training is provided for all team members, including the student.
12. The plan addresses management and maintenance of equipment and materials.

**Table 5.1** Key elements of an implementation plan

One of the most common errors in providing AT services is the failure to plan

adequately for implementation by assuming that everyone understands what needs to happen and their role in the implementation process. Another error occurs if only one member of the team develops the plan and tries to carry it out. That person may be thorough and knowledgeable, but all team members must have input and a role in implementation if a plan is to be comprehensive and effective.

The Quality Indicators address the many aspects of successful AT implementation. AT implementation involves people working together to support the student using AT to accomplish expected tasks that are necessary for active participation and progress in customary educational environments. The Quality Indicators for Assistive Technology Implementation provide the core components from which those responsible for implementing the AT can develop a thoughtful implementation plan.

**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 assistive technology will be used in specific educational settings, what will be done, and who will do it.

In order for teams to effectively support a student's use of AT, an action plan is collaboratively developed. The AT implementation plan may be developed within the context of an IEP meeting or may require a separate meeting. A written AT implementation plan may be a separate document, referenced in the IEP, or part of the IEP document itself. Participation in the planning from as many team members as

possible helps to ensure that it is comprehensive and collaborative. To ensure successful integration of AT into the curriculum and daily activities, the implementation plan includes input from the classroom teacher and other direct and related service providers. Individuals who are not typically members of the IEP team may have valuable input in the development of the implementation plan. These individuals might include paraprofessionals, instructional technology (IT) staff, and others who will play a role in making implementation work throughout the student's daily program.

To facilitate effective participation in the development of an AT implementation plan, information about AT devices and services may be shared prior to the planning meeting with any team members who are not knowledgeable about AT.

The plan is based on the student's IEP goals and is written in specific terms. To ensure effective progress a procedure for collecting and using data about the student's AT use is included in the plan. AT implementation plans include:

- The specific device(s) or strategies to be implemented,
- The relationship of AT use to IEP goal(s) and access to the curriculum,
- Action steps, including identification of:
  - **Skills** the student needs to acquire in order to use the device or strategies and who will teach new skills to the student,
  - **Specific times** and **ways** that the device/strategy will be used including how often and how long it will be used (e.g. daily during reading activity for 30 minutes or more),

- **Training** needed, person(s) who need training, person(s) who will provide training, when training will be provided, and what follow up will be needed,
- **Plans** for unexpected events that effect AT use,
- **Data** to be collected: its purpose, frequency, desired outcome, and relationship to IEP goals, and
- **Team meeting** schedule: When the team will meet to follow up, monitor progress, and develop subsequent steps.

Example:

*Shareen began using a portable e-book reader at the end of the last school year when the school purchased several and made them available to her classroom. Her teacher soon recognized that its use with text-to-speech significantly improved Shareen's understanding of complex text. Because of that, it was added to her IEP during AT consideration at her next IEP meeting. The team wrote a plan to ensure that the e-book reader would be available to her in science, language arts, and social studies. The plan identified who would acquire and load the digital content and when, where, and by whom the device would be charged and stored. After the first report card period the team realized that Shareen also needed to use the e-book reader in physical education when new games were introduced and printed rules were distributed. They met briefly to decide how to best meet that need and update their plan to address it.*

## Key Questions

- Who, in addition to IEP team members, needs to participate in the development of the implementation plan in order to address all areas critical to the student's progress?
- What additional information, if any, is needed to develop the plan?
- What specific things need to be included in the plan?

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

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

In order to integrate AT use into daily activities, everyone involved with the student needs to know the purpose of the device as well as when and how it can and will be used. AT is not a separate, add-on item that can be used only in isolated practice. Rather, it is a tool that allows a student to overcome or bypass some aspect of a disability to better learn new skills or more effectively demonstrate existing knowledge. It becomes a useful and effective tool when a student uses it regularly to complete meaningful tasks during typical activities. For example, a device may be expected to increase the student's productivity, participation, or independence. Using the device the student may demonstrate improved quality, quantity of work and/or personal satisfaction.

There are many services and arrangements to address when introducing a new AT device, including training, management, and maintenance. AT implementation addresses all of these in order for AT use to be effectively integrated into the student's daily activities across environments. When appropriate, the use of the AT device may be introduced in priority environments and be expanded across environments and activities in response to student success or needs.

Example:

*Mohammed was having difficulty meeting his written expression goals. Due to limited fine motor abilities his handwriting was slow, tedious, and difficult to read. Mohammed had learned to keyboard the previous year and the IEP team determined that a portable word processor might help him meet his writing goals. Following training by the occupational therapist (OT), the teacher and paraprofessional supported the use of the device in language arts class. Even though the initial plan was to last six weeks, he was so successful after four weeks that the team met and planned to expand the use of the tool to other classes. Teachers from social studies and science joined the team to ensure that they knew what was expected and how to integrate its use into their classes. The science teacher was especially concerned because he typically had students move from their desks to the lab tables. His concerns included the need for an electrical outlet, the danger of breaking the word processor when moving it, and its ability to withstand moisture and spills. The team was able to address his concerns by*

*sharing information and experiences from knowledge of the AT device and the use in language arts.*

#### Key Questions

- In what ways will the AT use relate to the course objectives, daily activities, and critical elements of the curriculum for this student?
- Is AT being functionally integrated in the environments where tasks for which it is needed occur?
- Are additional AT tools or strategies needed?

### **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 AT, and are expected to do so.

Classroom teachers have a critical role in determining the most effective times and activities for the student to use the AT in each unique environment. Other service providers may be responsible for training, physical setup, maintenance, repair, or other aspects of AT use. Each role is important and directly impacts the student's ability to use the AT. While one person may be assigned as the AT contact or coordinator for a student, all team members share a responsibility to monitor progress and communicate with each other regarding all aspects of implementation.



No one team member should be expected to provide all the supports needed by a student in all environments where AT might be needed. Each member of the team has the responsibility to provide support and guidance for the use of the AT when teaching or supervising the student. The role of each team member is included in the implementation plan. All team members understand that every role is critical to effective implementation and each member takes responsibility for fulfilling defined roles and tasks.

Team members are also expected to support each other. They can use a variety of strategies to do so, including team meetings, periodic email reminders, sharing of data, and progress monitoring. Frequent and regularly scheduled team updates are essential to keeping team members on track and accountable for supporting student achievement and independence.

During implementation, team members may find that they need more information, practice, and/or training in order to fulfill their roles. It is their responsibility to identify that need and access appropriate resources.

Administrators share in the responsibility for effective AT implementation. Essential aspects of administrative support include:

- ensuring that responsibility is shared,
- holding high expectations for each team member's participation,
- monitoring the performance, and
- providing needed resources (time, funds, etc.).

Example:

*As specified in Kelia's implementation plan, her teacher took responsibility for planning for opportunities during the day when Kelia would be expected to use a tablet computer with a word processing app to accomplish the writing tasks for which AT was needed. The resource specialist helped the teacher identify opportunities where Kelia could use the tablet and the paraprofessional arranged the materials and AT while Kelia was learning how to use it. The AT facilitator trained Kelia, her parents and her teachers how to use the AT and keep it working well.*

*The team decided that they needed to communicate via email weekly and meet monthly to review Kelia's progress, monitor their responsibilities, and determine needed changes. The administrator arranged duty schedules so that all team members were available at the designated time. The instructional technologist arranged for the implementation plan and data collection instruments to be placed on the network so that all team members could access them regardless of time and place.*

#### Key Questions

- How will responsibilities for AT be shared among team members?
- How will the AT implementation plan be made available to all team members?
- What strategies will the team members use to communicate success, challenges and the need for possible changes?
- How will each team member be held accountable for appropriately supporting the student's use of AT?

- 4. Persons supporting the student provide opportunities for the student to use a variety of strategies-including assistive technology-and 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 AT, other supports, or modifications to the curriculum, task or environment.

No single AT device or strategy is effective and efficient for every setting or task.

The opportunity to use a variety of tools and strategies enables the student to develop the strategic skills needed to understand what option best matches each task and environment. For example, a student who uses a portable word processor may also use a pencil for short answers, a computer while in the lab, and, occasionally, may dictate to a scribe. In addition, that same student may need extra time for longer assignments, the use of a study carrel at the side of the classroom for difficult writing tasks, or a handheld electronic thesaurus for some creative writing assignments.

Educators teach strategic decision making and independence to students by providing opportunities for them to explore a variety of devices and strategies and guiding them to make effective selections. Strategies for completing tasks may include minor changes to the way that the task is completed such as more time, reductions in the length of the assignment, or a change in learning environment where the task is completed.

Example:

*Bonita uses a complex dynamic display augmentative and alternative communication (AAC) device for communication and productivity but needs other tools and strategies in specific environments and activities. She uses a waterproof picture board at the swimming pool and a marker and dry erase board for brief messages to family members. She frequently uses the communication strategies of pointing, eye gaze and vocalization, especially at meal times.*

#### Key Questions

- What tools and strategies will be available for the student to use?
- How will the environment be structured so that the student has opportunities to use a variety of strategies, including AT?
- How will the team determine which AT tools the student will use for specific tasks?
- How will the student be taught to independently choose an appropriate AT tool or strategy for a specific setting or activity?

#### 5. Training for the student, family and staff are an integral part of implementation.

**Intent:** Determination of the training needs of the student, staff, and family is based on how the AT will be used in each unique environment. Training and technical assistance are planned and implemented as ongoing processes based on current and changing needs.

Training and technical assistance is an ongoing process based on current and

changing student, staff and family needs, guided by how, when, and where the AT will be used. The team identifies individuals who need to receive training and how much training each will require based on their background knowledge and specific responsibilities during implementation. Finally, the team makes plans for how the training will be phased in or layered for each team member, so the student's progress is not held back due to lack of skill or knowledge on the part of team members.

The team addresses the provider of the training, the scheduling of the training, the length of training (both initial and follow up), the location, and the content. A part of ongoing training may be the use of technical assistance. The team identifies how each team member will get answers to questions, get assistance with problem solving and obtain additional training. The effectiveness and efficiency of the training is measured so that improvements can be made where needed.

Example:

*Due to Michael's illegible handwriting the IEP team determined that he needed to use a portable word processor in English, Social Studies, and Science. His special education resource teacher was the only person on the team with knowledge in the use and implementation of portable word processors. The team decided that the resource teacher would train the student and the three core class teachers in device use and implementation in a one-hour after school training. The initial training was to take place within two weeks of the IEP start date. Staff members would ask questions via email and request additional training if needed. Michael would receive training during three study hall periods and then teach*

*his parents how the device is used. His parents would contact the resource teacher if they had further questions. Michael would receive answers to questions, problem solving advice, and additional training, if needed, during study hall. Training consisted of device basics and device and training resources. The team identified data collection plans and how effectiveness of the AT implementation will be measured.*

#### Key Questions

- Who needs to receive training and how much training will they need?
- When and where will the training occur?
- What will the training cover?
- How will follow-up, need for technical assistance, and effectiveness of training be addressed?

**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.

Implementation actually begins with assessment. During an assessment of AT needs, the team determines the task that the student needs to be able to do and the student's current level of performance. Initial assessment data are used to plan for

implementation of AT use and serve as the baseline or starting point for measuring student progress and improved ability to complete the identified tasks. Assessment data may include the student's ability to use the AT device and the benefits of the device's use for improving performance.

Data collected during the AT implementation phase provides information to the team about whether the plan is working as anticipated and whether the AT device is providing the student with the expected benefits. Implementation data provides the evidence about the effectiveness of the strategy or tool. Some students make more progress than the team initially anticipated while other students fail to make the expected progress. In either case, the plan for AT use is adjusted with a focus on increasing the student's ability to perform the identified tasks.

If the student is not making the expected progress, it is not necessarily an indication that the AT device should be changed or modified. A thoughtful analysis of implementation data may show that changes are needed in training, schedule, planning, or the specificity of the defined purpose for AT use. When data are reviewed as scheduled, the team is able to adjust the implementation to ensure that the use of AT is effectively supporting student achievement.

Example:

*Following Dillon's AT assessment, which focused on his use of an AAC devices, his team identified the tasks he would need to be able to do and his current levels of performance on those tasks. They developed an implementation plan to ensure that the device would be used as intended.*

*When his team met the next quarter to review progress, they were surprised to find that while he demonstrated increases in communication in some settings, he had not made the expected progress across all environments. The team realized that the implementation plan they had developed did not address his ability to functionally use the device, decide when to use it, and to use it independently across communication partners and environments. Further analysis revealed that he was dependent on staff to provide his device and did not always have the vocabulary necessary to participate in different activities.*

*The team responded to this data by adjusting his implementation plan. They worked with Dillon to develop a list of factors that would guide him in identifying for himself when he needed his device and when the activity provided ways for him to respond without his device. They developed an overlay that allowed him to communicate his needs in each environment. Staff agreed to identify in advance new vocabulary required for activities and assigned responsibility to program the vocabulary so that it would be available. In addition, the team appointed someone to meet with Dillon twice a month to discuss any obstacles he was experiencing in his device use and make any further adjustments in his implementation plan.*

#### Key Questions

- What did the AT assessment data reveal about the student's current performance on the identified task(s)?
- What kind of performance data will show whether the student's use of AT is



making the expected difference?

- Who will collect implementation data?
- When and how often should the data be analyzed and the plan adjusted?
- How will the implementation plan be adjusted in response to the data about the

student's performance?

**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.

Management and maintenance of AT devices is assigned to an individual or individuals who are available to the student and the educational team on a regular basis. This individual is responsible for doing regular checks to make sure the device is working properly and functioning as expected. A "back-up" person is identified in the event that the individual with primary responsibility is not available. Those responsible for management and maintenance of equipment are clearly identified in the written AT implementation plan.

Addressing management and maintenance of equipment ensures that implementation will run as smoothly as possible. Planning for management and maintenance answers questions such as:

- Who is the primary contact for management and maintenance of equipment?
- Who is responsible for ensuring that the AT is maintained?
- What is the contingency plan if a team member changes jobs or moves?
- Who will pay for needed materials such as batteries, ink cartridges, and paper?
- What is the contingency plan if an AT device is damaged or lost?
- What back-up will be used when an AT device is unavailable?
- What additional information and resources are needed?

Changes in the student's program may result in a need for changes in tools or strategies. Applications, software or devices may need to be upgraded. Additional AT may be needed after transitions from semester to semester, teacher to teacher, or school to school. For example, the student may need additional access to the school's server that requires coordination between the student's team and those who manage the IT system.

Difficulties can arise when responsibility for the care and maintenance of the AT device has not been clearly assigned, the AT may not be available or working when it is needed. Contingency plans for dealing with broken or lost equipment need to be made

in advance. If contingency plans are not made, a student may be without the use of an AT device that is written into the IEP. This leaves the education agency out of compliance with the law and the student without the needed tool. These problems are much less likely to occur if all team members are involved in planning from the beginning and understand their individual responsibilities.

If the IEP team has determined that AT is educationally necessary at home in order to provide FAPE, the implementation plan will address the specific arrangements. If the district owns the AT device, specific responsibilities are identified for sending the AT home. The team may develop a list of expectations and agreements about AT that is used by the student at home. If the family and child own the AT device, the agreement will define the district's obligation and responsibility for management, maintenance, or replacement if necessary.

Example:

*When Kelly got her new portable word processor, she completed many assignments in the resource room with support from her teacher and a paraprofessional. When she had learned how to operate the device, she began to take it with her to an English composition class. Quarterly reports indicated that Kelly was not turning in her assignments. In response, the team talked with Kelly and discovered that they had not planned for Kelly to print and turn in assignments when she was working in her general education classrooms. They discussed several options and determined the best solution was to attach an extra printer cable to a computer in each of Kelly's general education classes.*

*Before Kelly left the room, she could print what she wrote and turn it in at the same time as other students. After this adjustment, Kelly consistently turned in her assignments.*

#### Key Questions

- What regular management and maintenance tasks are required for the AT device?
- Who will be responsible for AT device management and maintenance?
- What does each person need to know about how the AT will be managed and maintained (e.g., steps to take if the AT device is not operating correctly, person responsible for charging the AT device every night)?
- Who has the financial responsibility for AT equipment repairs and supplies?

