Assistive technology (AT) implementation pertains to the ways that AT devices and services, as included in the individualized education program (IEP) are delivered and integrated into the student's educational program. The indicators for AT implementation guide the team in working together to support the student using AT to accomplish expected tasks necessary for active participation and progress in customary environments. This document offers suggestions for issues that might be discussed at an individual team level and at an agency level to create systems that help to support AT implementation. It includes specific suggestions for addressing each Implementation indicator.

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.

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 can help 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, parents, related service providers and others who will play a role making implementation work throughout the student's daily program.

To facilitate effective participation in the development of an AT implementation plan, information about AT tools and devices 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 strategy(ies) 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, for 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; 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;
○ Team meeting schedule: When the team will meet to follow up, monitor progress, and develop subsequent steps.

The following is an example of an implementation plan:

Shareen began using a portable digital 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 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 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 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.

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<td>How can an AT implementation plan be developed collaboratively?</td>
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<td>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?</td>
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<td>What additional information, if any, is needed to develop the AT implementation plan?</td>
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<td>What environments should be addressed in the plan?</td>
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<td>What needs to be done and who will be responsible?</td>
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<td>Who will review the success of the implementation plan?</td>
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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.

   In order to integrate AT use into daily activities, everyone involved with the student needs to know the purpose of the device and 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 student satisfaction.

There are many aspects to address when introducing and new AT tool. Examples include teaching the skills necessary for technology use, programming the software/device, scanning documents, troubleshooting technical problems, etc. 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.

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. The IEP team determined that a portable word processor might help him meet his writing goals. He began using it in his language arts class where the teacher and paraprofessional supported the use of the device after brief training was provided by the OT. Even though the initial plan was to last six weeks, he was so successful after four weeks that the team met to plan 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 support 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 by moving it, and its ability to withstand moisture and spills. The team was able to address his concerns by sharing information and experiences from the use in language arts and knowledge of the device.

Key Questions for Teams

- 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 used in the environments where tasks for which it is needed occur?
- Are additional tools or strategies needed?

3. Persons supporting the student across all environments in which the AT 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.

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: 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.

Administrative support is essential to AT implementation. Administrators can
- ensure that responsibility is shared.
- hold high expectations for each team member’s participation
- monitor the performance.
- provide needed resources (time, funds, etc.)

Example:

As specified in Kelia’s implementation plan, Kelia’s teacher took responsibility for planning for opportunities in the day when Kelia would be expected to use her AT to accomplish the writing tasks for which the AT was needed. The resource specialist helped the teacher identify opportunities and the classroom assistant arranged the materials and technology while Kelia was learning to do this herself. 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 met monthly to review Kelia’s progress, monitoring of their responsibilities, and determining 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.

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<td>How will the implementation plan be made available to all team members?</td>
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<td>What strategies will the team members use to communicate success, challenges and the need for possible changes?</td>
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<td>How will each team member be held accountable for appropriately supporting the student?</td>
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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 assistive technology, 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/or environment. For example, a student who uses a portable word processor may also use a pencil for short answers, a computer in the lab, and, upon occasion, may dictate to a scribe. Educators teach strategic decision making and independence to students by providing opportunities for them to explore a variety of strategies and guiding them to make effective selections. Strategies may include the student’s natural abilities, modifications to the task or environment, use of AT or other supports.

**Example:**

_Bonita uses a complex dynamic display speech generating device for communication and productivity but needs other tools and strategies in specific environments and activities. She uses a waterproof low tech board at the swimming pool and a marker and dry erase board for brief messages to family members. She makes frequent use of the communication strategies of pointing, eye gaze and vocalization._

**Key Questions for Teams**

- What tools and strategies will be available for the student to use to overcome barriers
- How will the environment be structured so that the student has opportunities to use a variety of strategies, including AT?
- How will the teacher encourage the student to use a variety of appropriate tools and strategies?
- How will the team determine which tools the student will use for specific tasks?
- How will the student be taught to choose an appropriate tool or strategy for a specific setting or activity?
- How will the student’s independence in tool selection and use be developed?

5. **Learning opportunities 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 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.
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 be trained 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 who will do the training, how the training will occur, the length of training (both initial and follow up), when it will take place, 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. In all cases, 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 would use a portable word processor in English, Social Studies and Science. His special education resource teacher was the only person on the team with extensive background 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 be taught 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 would consist of device basics, device and training resources, identifying phase and implementation plans, and identifying how effectiveness of the AT implementation will be measured.

| **Key Questions for Teams** |

- Who needs to be trained and how much training will they need?
- Who is the contact person to ensure that the training plan is completed?
- When/where will the training occur? What are the timelines for starting and completion?
- What will the training cover?
- How will follow-up and on-going training be addressed?
- How will effectiveness of the training be measured?

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.

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. Assessment is the first phase of Implementation.

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 program of 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, planning or a more clearly defined purpose for device use. When data is reviewed as scheduled, the team is able to adjust the implementation to ensure that the use of AT is effectively supporting student achievement.

Example:

*When Dillon’s team met to review his use of his augmentative communication device, there were differences of opinions about how things were going. While he demonstrated increases in communication in some settings, he was dependent on others to recognize when the device would be the best way to communicate and program the necessary vocabulary. The support team realized that they needed to address his ability to functionally use the device, decide when to use it and to use it independently with many communication partners. They made adjustments in the implementation plan to reflect these additional needs.*

**Key Questions for Teams**

- 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 reviewed 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.

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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 equipment 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 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 case manager or 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 a device is damaged or lost?
- What system will be used for back-up when a 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. Software or devices may need to be upgraded. Additional software 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 information technology (IT) system.

Finally, the IEP addresses whether AT devices will be used at home as well as at school. If the IEP team determines that it is educationally necessary at home in order to provide a free and appropriate public education (FAPE), the implementation plan will address the specific arrangements. If the district owns the AT device, specific responsibilities are identified for sending the device home. The team may develop a list of expectations and agreements about devices that are 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 and maintenance.

Example:

When Kelly got her new portable word processor, she completed many assignments in the resource room with support from her teacher and an instructional assistant. 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 for Teams

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