Accessible Educational Materials and Technologies in the IEP

By Diana Carl, M.A., Joy Zabala, Ed. D., and Joanne Karger, J.D., Ph. D.

Revised: April 2018

IDEAs that Work
Office of Special
Education Programs

Cite as: Carl, D., Zabala, J., & Karger, J. (2018). *Accessible educational materials and technologies in the IEP*. Wakefield, MA: National Center on Accessible Educational Materials. Retrieved [insert date] from http://aem.cast.org/about/publications/2018/aem-iep.html

Accessible Educational Materials and Technologies in the IEP

Questions often arise about how accessible educational materials (AEM) and accessible technologies might be included in individualized education programs (IEPs). This resource discusses proposed locations in the IEP where it may be appropriate to refer to a student's use of accessible materials and technologies.

What are AEM?

AEM are **print- and technology-based educational materials,** which include printed and electronic textbooks and related core materials that are designed or converted in a way that makes them usable across the widest range of individual variability regardless of format (print, digital, graphic, audio, video). Thus, the term "AEM" includes printed materials that have been converted into specialized formats as well as accessible digital materials and technologies.

Printed materials, such as textbooks, manuals, workbooks, paper assessments, and handouts, may be converted into specialized formats to make them accessible to learners with disabilities. The Individuals with Disabilities Education Act (IDEA) specifically focuses on the conversion of print instructional materials into specialized formats and the timely provision of specialized formats to students who need them. The four specialized formats under IDEA are braille, large print, audio, and digital text. The term "digital text" refers to instructional materials that were created in print and have been converted into the digital text format, which is delivered to the user via technology.

Technology-based educational materials are media-rich sources of course content that include both digital media and accessible technologies. If digital materials and technologies are designed from the start with accessibility in mind, they can be used by people with a wide range of abilities and disabilities. Digital materials may include software programs, websites, e-books, podcasts, and videos, which may contain text, audio, video, or graphics. Digital materials may also require physical interaction. Technologies include any hardware devices or software that provide learners with access to the content. In other words, technology-based materials can be both the learning materials and the systems that deliver them. Examples of technology-based delivery systems may include web-based applications, social media, simulation

programs, adaptive learning platforms, learning management systems, tablets, smartphones, and computer stations.

When the principles of Universal Design for Learning are incorporated into the development of technology-based materials, each user can interact with the materials and technology in ways that work best for that individual. Accessible technologies are either directly accessible (usable without assistive technology) or compatible with and made usable by assistive technologies. In the same way that ramps and elevators make buildings with stairs accessible, products that adhere to accessible design principles are usable by individuals with diverse abilities, needs, and preferences.

Why should AEM be included in the IEP?

The U.S. Department of Education has stated that timely access to appropriate and accessible instructional materials is an inherent component of the obligation of public education agencies to ensure a free appropriate public education (FAPE) to children with disabilities so that they can participate in the general education curriculum as specified in their IEPs (71 Fed. Reg. 46618). Given the strong connection between AEM, the provision of FAPE, and participation in the general education curriculum, it is important for IEP teams to consider each student's need for accessible materials and technologies and to specify what is needed in each student's IEP.

Two federal civil rights laws, Section 504 of the Rehabilitation Act of 1973 (Section 504) and Title II of the Americans with Disabilities Act (ADA), prohibit discrimination on the basis of disability. State education agencies (SEAs) and local education agencies (LEAs) have an obligation under Section 504 and the ADA to ensure an equal educational opportunity to students with disabilities. The timely provision of accessible materials and technologies to students with disabilities who need them enables these students to have an equal opportunity to learn the same knowledge and skills that all students are expected to learn.

When learners receive accessible materials and technologies in a timely manner, they are more likely to increase their independence, participation, and progress in the general curriculum. With information, resources, and technical assistance provided by the AEM Center and other national centers, best practices in both production and acquisition are expected to increase the availability and use of AEM and accessible technologies.

Where in the IEP Should AEM Be Included?

The IEP is the foundation of the student's educational program and serves as a roadmap to help teachers provide instruction. The IEP is both a document describing the services the student will receive and a process which enables the educators, parents, and students to work together to develop an individualized plan. There is no specific requirement in IDEA regarding the consideration of AEM or where it should be documented in the IEP. To promote clarity and consistency across IEP teams, it is beneficial for SEAs or LEAs to provide guidance on the consideration and placement of accessible materials and technologies in the IEP. To find out what guidance exists in different states, have a look at the [Digital Instructional Materials Acquisition Policies](#) (DMAPS) developed and maintained by the State Education Technology Directors Association (SETDA).

SEAs and LEAs can include specific language in sample forms that prompt IEP team members to discuss a student's need for AEM. In the absence of—or in addition to—such prompts, there are specific components of the IEP where it is appropriate to refer to a student's use of accessible materials and technologies. These include the following:

- Summary of Evaluation Results
- Present Levels of Academic Achievement and Functional Performance
- Special Factors
- Measurable Annual Goals
- Special Education and Related Services, Supplementary Aids and Services, Program Modifications, and Supports
- Participation in Statewide Assessments
- Postsecondary Goals and Transition Services

Summary of Evaluation Results

In developing the IEP, the IEP team must consider the results of a child's initial or most recent evaluation (20 U.S.C. § 1414(d)(3)(A)(iii); 34 C.F.R. § 300.324(a)(1)(iii)). Because the evaluation process is a critical, often first step in the development of the IEP, it is important for the evaluation team to consider the student's needs in relation to educational materials. For example, the evaluation should consider -

(1) If printed materials pose a barrier to the student's participation and progress in the general education curriculum, does the student need specialized formats of printed materials (braille, large print, audio, and/or digital text)?

(2) If digital materials pose a barrier to the student's participation and progress in the general education curriculum, does the student need accessible digital materials and technologies?

(3) Does the student need assistive technology (AT) to use a particular specialized format or to access digital materials and technology?

The table below presents some of the legal requirements related to evaluations as well as some suggestions for how AEM might be considered as part of the evaluation process**.**

Requirements in IDEA	AEM Considerations
In conducting an evaluation, the LEA must—	*Is printed text a barrier for the student?*
Assess students in all areas of suspected disability. 20 U.S.C. § 1414(b)(3)(B); 34 C.F.R. § 300.304(c)(4)	*Does the student have difficulty using technology-based materials?* *Does the student need AT to access specialized formats of print-based and/or technology-based materials?*
Use a variety of assessment tools and strategies 20 U.S.C. §§ 1414(b)(2)(A), (B); 34 C.F.R. §§ 300.304(b)(1), (2)	
Obtain information that may assist in determining the content of the IEP, including information related to enabling the student to be involved and progress in the general education curriculum. 20 U.S.C. § 1414(b)(2)(A)(ii); 34 C.F.R. § 300.304(b)(1)(ii)	

Example IEP Statement for Summary of Evaluation Results

Sean is a seventh-grade student who has been previously identified as having a learning disability. According to the most recent evaluation data reviewed by the team, Sean understands grade-level content but is unable to independently derive meaning from print-based materials. These data suggest that Sean may need a specialized format of printed materials and assistive technology.

Further evaluation data indicate that to participate and progress in the general education curriculum, Sean will require a digital text format of printed materials and accessible technology-based materials that enable him to see and hear the content at the same time. This feature, called "text-to-speech," provides him with audio-supported reading.

Present Levels of Academic Achievement and Functional Performance

IDEA requires that IEPs include a description of the child's present levels of academic achievement and functional performance, including how the student's disabilities impact involvement and progress in the general education curriculum. Present levels are critical in the development of an appropriate educational program and should include a focus on student strengths as well as needs. In relation to AEM, this statement should indicate how the student's disability-related needs affect the student's ability to access and derive meaning from the printed and digital materials that make up the general education curriculum.

National Center on Accessible Educational Materials

Requirements in IDEA

The IEP must—

- Describe the student's present levels of academic achievement and functional performance.
- Describe how the student's disability affects the student's involvement and progress in the general education curriculum.

20 U.S.C. § 1414(d)(1)(A)(i)(I); 34 C.F.R. § 300.320(-a)(1)

AEM Considerations

Is the student able to access and derive meaning from print-based and technology-based educational materials?

Is the student currently using AEM and AT to access the general education curriculum?

Example IEP Statement for Present Levels

Sean is a seventh-grade student who has a learning disability. He understands instructional content at grade level but is only able to read printed materials independently at the fourth-grade level. When using classroom computers and supported reading software with the text-to-speech feature, Sean successfully perceives and interacts with digital text formats of grade-level printed materials and other digital media materials across the content areas.

Note to the IEP Team:

The present levels statement provides information about a student's current levels of academic achievement and functional performance. It is important to be specific in describing competencies and areas of difficulty. This information, in turn, is used as the basis for developing measurable annual goals in the IEP. If the student is currently using AEM and/or AT, be specific in describing how they support the student's competencies and access to the content.

Special Factors

IDEA requires that IEP teams consider several "special factors" in the development, review, and revision of IEPs. Three of these special factors are specifically important to the issue of AEM:

(1) For blind students and students with other visual impairments, the team must provide for instruction in braille and the use of braille unless the team determines, after an evaluation of the student's reading and writing skills, needs, and appropriate reading and writing media (including an evaluation of the student's future needs for instruction in braille or the use of braille), that such instruction or use is not appropriate for the student.
(2) For all students, the team must consider communication needs, including, but not limited to, students who are deaf or hard of hearing.
(3) For all students, the team must consider whether the student needs AT devices or services.

These special factors emphasize the importance of AEM as part of the right to FAPE. If students with visual impairments have difficulty perceiving and using standard print materials, they may need braille and instruction in the use of braille to provide access to educational materials. As part of the communication special factor, the needs of all students with disabilities must be considered, not just those who are deaf or hard of hearing. Since communication includes both visually and aurally presented information, the need for accessible educational materials should be considered as part of this factor. In considering if students need AT, IEP teams must determine if AT is necessary to help the student access the curriculum. Even when technology-based materials are developed with universal design principles, AT will be needed for some students.

National Center on Accessible Educational Materials

Requirements in IDEA

The IEP team must consider—

- *Braille instruction and use* for students who are blind or visually impaired, unless the team determines, after an evaluation of the student's reading and writing skills, needs, and appropriate reading and writing media (including an evaluation of the student's future needs for instruction in braille or the use of braille), that such instruction or use is not appropriate for the student.
- *Communication needs of the student*, and in the case of a student who is deaf or hard of hearing, consider the child's language and communication needs
- *Need for AT devices and services*

20 U.S.C. §§ 1414(d)(3)(B)(iii), (iv), (v); 34 C.F.R. §§ 300.324(a)(2)(iii), (iv), (v)

AEM Considerations

Does the student need instruction in braille or use of braille in relation to AEM?

Does the student need AEM to perceive and interact with written or aurally presented information?

Does the student need AT to perceive and interact with specialized formats of printed materials or technology-based digital media?

Example IEP Statement for Special Factors

Sean understands educational content at grade level but is unable to read independently with sufficient accuracy and

materials provided in a digital format to access the general curriculum. He will need a tablet and/or other computer with text-to-speech and word prediction capabilities to perceive and interact with digital text formats of grade-level printed materials and digital media used across content areas.

Note to IEP Team:

A [Dear Colleague Letter](#) (DCL) and a [Frequently Asked Questions](#) (FAQ) document, issued jointly by the Department of Education and the Office for Civil Rights of the Department of Justice, discussed "Effective Communication for Students with Hearing, Vision, or Speech Disabilities in Public Elementary and Secondary Schools." Three federal statutes (IDEA, Section 504, and Title II of the ADA) address the obligations of public schools related to effective communication. IDEA and Section 504 provide the right to FAPE while Title II specifies that communication with students with disabilities must be as effective as communication with students without disabilities. Both areas should be considered in determining a school district's obligation related to oral and written communication for students with disabilities. Moreover, the need for AEM should be considered as part of the IDEA special factor related to communication.

SEAs and LEAs might also consider explicitly adding a student's need for AEM as a sixth factor for IEP teams to consider. The IEP form might include a specific prompt for the consideration of AEM (e.g., "Does the student require one or more specialized formats—braille, large print, audio, and/or digital text—of print materials and/or accessible digital media and technology to increase independence, participation and progress in the general curriculum?").

Regardless of whether the team ultimately determines that the student needs AEM, it is wise to include a discussion of the deliberations in the IEP document. Future IEP teams will need that information to understand how determinations were made. During consideration, the primary focus of the IEP team should be on determining whether or not the student needs AEM and should not be limited to determining if a student's situation satisfies eligibility requirements for sources of materials.

Measurable Annual Goals

IDEA also requires that IEPs include measurable annual goals, including academic and functional goals, designed to enable the student to be involved and make progress in the general education curriculum. IEP goals lay the foundation for a student's educational program and provide a roadmap for their teacher(s). It is, therefore, important for the IEP to describe how the student's use of AEM will support reaching these goals and enable the student to be involved and progress in the general education curriculum.

Requirements in IDEA

The IEP must—

- State measurable annual goals, including academic and functional goals.
- Describe how the goals will meet the student's disability-related needs in order to enable the student to be involved and progress in the general curriculum.

20 U.S.C. § 1414(d)(1)(A)(i)(II); 34 C.F.R. § 300.320(a)(2)

AEM Considerations

For which goals will AEM be needed to support achievement of IEP goals and progress in the general education curriculum?

Example IEP Statement for Measurable Annual Goals

By May 2018, when using a digital text format of the seventh-grade social studies textbook and other materials, Sean will identify examples of sequential, comparative, and causal presentations of information in text with 80% accuracy.

Special Education and Related Services, Supplementary Aids and Services, Program Modifications, and Supports

The requirement that the IEP include a statement of the special education and related services, supplementary aids and services, program modifications, and supports for school personnel provides another opportunity to specify the particular AEM that a student will use to be involved and progress in the general education curriculum. This part of the IEP also specifies the accommodations, assistive technology (AT), and other supports and services that are necessary to assist the student's use of the specialized formats of print materials and technology-based learning materials.

Requirements in IDEA

The IEP must—

- State the special education and related services and supplementary aids and services, based on peer-reviewed research to the extent practicable, to be provided to the child, or on behalf of the child, and
- State the program modifications or supports for school personnel that will be provided for the child:
  - To advance appropriately toward attaining the annual goals,
  - To be involved and progress in the general education curriculum,
  - To be educated and participate with students with and without disabilities.

20 U.S.C. § 1414(d)(1)(A)(i)(IV); 34 C.F.R. § 300.320(a)(4)

AEM Considerations

How can AEM help the student be involved and progress in the general education curriculum?

Is AEM needed as a part of special education and related services?

What supports will help the student use AEM?

Who will help the student use AEM?

What training related to AEM and technology will be needed for the student, educators, and/or family.

Example IEP Statement for Special Education and Related Services, Supplementary Aids and Services, Program Modifications, and Supports

- Sean will use a tablet computer and/or other device that provides simultaneous visual and auditory output to support perception of and interaction with digital text formats of grade-level printed materials and technology-based materials across content areas.
- Sean will receive training in how to use the digital text format and technology for participation and achievement.
- Sean's teachers and parents will receive training to support his use of the materials and technology.
- Sean will require headphones and preferential seating in a quiet area of the classroom when he is reading with text-to-speech.

Note to IEP Team:

For a student to be able to use accessible materials and technology for effective educational participation and achievement, the team should determine the types of supports that are needed. Supports typically fall into the following categories:

- What features of the technology may be needed for the student to use the materials effectively?
- What training for the student, educators, and family may be needed?
- What instructional strategies may be needed?
- What support services may be needed?
- What accommodations and/or modifications may be needed?

Participation in Statewide Assessments

Under IDEA, all students with disabilities must be included in general state and district-wide assessments with appropriate accommodations or alternate assessments as specified in their IEPs (20 U.S.C. § 1412(a)(16); 34 C.F.R. § 300.160(a)). Best practice suggests that assessment accommodations align with the accommodations and supports that a student receives during classroom instruction. There is a danger that overly restrictive assessment policies may have an adverse impact on instructional decisions made by IEP teams, including the provision of AEM and other accommodations. It is, therefore, important for IEP teams to be cognizant of the

relationship between assessment accommodations and student use of AEM in the classroom to ensure consistency across settings.

Requirements in IDEA

The IEP must—

- Include a statement of individual, appropriate accommodations that are necessary to measure the academic achievement and functional performance of the child on state and district-wide assessments.
- If the team determines that the student needs to take an alternate assessment, state why the student cannot participate in the regular assessment and why the particular alternate assessment selected is appropriate.

20 U.S.C. § 1414(d)(1)(A)(i)(VI); 34 C.F.R. § 300.320(a)(6)

AEM Considerations

What accommodations are needed in state and district-wide assessments for a student who uses AEM and AT?

How do these accommodations relate to the AEM and AT that the student uses in the classroom for daily instruction?

Example IEP Statement for Participation in Statewide Assessments

Consistent with the accommodations that Sean is using in the classroom, he will receive the following accommodations on statewide assessments:

- Read-aloud: Simultaneous visual and auditory access to text through the independent use of text-to-speech for all allowable parts of the assessment
- Scribe: Text input through independent use of word prediction software for all allowable parts of the assessment

Note to IEP Team:

When selecting the assessment accommodations that will be provided to a student, it is important for IEP teams to review accommodations frequently used in the classroom that enable the student to demonstrate and express knowledge on a daily basis. Although all classroom accommodations may not be allowable in statewide assessments, assessment accommodations should, to the greatest extent possible, mirror accommodations frequently used in the classroom.

Because so much rests on the outcomes of large-scale assessments there may be a tendency in some places to restrict the accommodations used during instruction to the accommodations that are allowable in large-scale assessments. Such limitations can constrain a student's opportunity to learn, develop greater independence, and show what they know and are able to do.

Postsecondary Goals and Transition Services

The transition planning process that begins when a student turns 16 (or earlier, if determined appropriate by their IEP team or required by state law), allows the IEP team to develop measurable postsecondary goals and transition services to be included in the student's IEP. The Summary of Performance (SOP) provides the student with a summary of his or her academic achievement and functional performance and includes recommendations as to how the student can be assisted in meeting their postsecondary goals.

It is important to consider AEM during the transition planning process. When students with disabilities exit special education, they are no longer entitled to services under IDEA. As a result, they have to be able to advocate on their own behalf in other settings, including postsecondary education and the workplace. At the postsecondary level, students with disabilities must be able to communicate information about the nature of their disability in order to request particular aids or services. Therefore, as part of the transition planning process, the team should make it a priority to help the student understand his or her own disability in relation to the need for AEM and supporting technology.

Requirements in IDEA

The IEP must include a statement of—

- Appropriate, measurable postsecondary goals based on age appropriate transition assessments
- Transition services (including courses of study) needed to assist the student in reaching their goals

20 U.S.C. § 1414(d)(1)(A)(i)(VIII); 34 C.F.R. § 300.320(b)

The LEA must develop a Summary of Performance (SOP) of the student's academic achievement and functional performance, including recommendations on how to assist the student in meeting postsecondary goals.

20 U.S.C. § 1414(c)(5)(B)(ii); 34 C.F.R. § 300.305(e)(3)

AEM Considerations

What opportunities and supports will be provided for the student to develop self-determination skills needed to advocate for his or her own needs in relation to AEM?

What supports will be provided to help the student plan for the use of AEM and related technology in postsecondary environments?

Example IEP Statement for Transition Planning Goals

- Sean will learn to advocate on his own behalf in determining when he needs to use a specific specialized format and what technology works best for him in different contexts with different materials.
- Sean will build the self-determination skills needed to advocate for his needs in postsecondary environments by leading discussions during IEP development.

Note to IEP Team:

It is critical to build students' self-determination skills so that they can advocate for their own needs throughout their lives. AEM and technology-based materials need to be explicitly included in the transition planning process. Without this direct focus and the student's ability to advocate effectively, there is a good possibility that the use of accessible materials will be overlooked in postsecondary environments.

For an example of the importance of self-determination skills and independence for students related to their use of AEM, see the video series [Meet Juna: Leveling the Playing Field with AIM](). Explore the story of Juna Gjata, a student who has a visual impairment that prevents her from reading standard print materials and learn how she— with the help of supportive teachers, assistive technology, and accessible educational materials—has been able to excel academically. In the segment [Paving the Way to Harvard,]() observe how Juna's team supported the building of her independence and self-determination over time so that she was well prepared for college.

Conclusion

There is no specific requirement regarding the exact location where the use of AEM and related technology are to be included in an IEP. However, when AEM is explicitly incorporated into a student's IEP, the likelihood is increased that the student's use of AEM will become an effective and integrated part of the learning process in K-12 and beyond. This resource has highlighted several components in the IEP in which it might be appropriate to refer to a student's use of AEM. Clarity and consistency are enhanced when SEAs and LEAs provide guidance to IEP teams on the various ways in which student use of AEM can be included in an IEP document.