



*Assistive and Instructional Technology
Supporting Learners with Disabilities*

ASSISTIVE TECHNOLOGY SUPPORTS FOR EARLY LITERACY AND NUMERACY

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Assistive technology (AT) supports can help children acquire skills and knowledge as they participate in the “general curriculum” (IDEA, 2004). The general curriculum for preschool children with disabilities is determined to be the daily routines and activities taking place in the early childhood classroom. Although children grow and develop they become interested in early literacy and math activities and enjoy interacting with new tools and related materials in their homes and early childhood classrooms. AT supports are available to help them participate in these new activities.

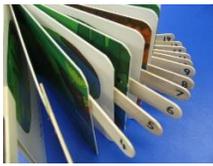
Early Literacy

Children explore literacy in many ways. Reading stories on a parent’s lap introduces books as a source of enjoyment and builds language, vocabulary and real world contexts. Rhyming and using silly words bring phonological awareness along with increased attentiveness to printed letters and words and the sounds they make. AT supports in this area help children hear and attend information and independently show what they understand. A variety of accessible book formats (board books, audio and digital books), FM systems, audio tools for narration and creating and reading stories help expand a child’s abilities.

Early literacy also includes drawing—a precursor to writing. Drawings become more representational and then support early writing attempts to form letters, and eventually words. There are several AT tools that support children in early drawing, writing and creating. (See Creative Play for more AT tools)

Reading Supports: Books come in all shapes and sizes to meet the unique interests and needs of young children. Look for cardboard books, big books and those with sounds and textures. There are many ways to adapt books to customize them and to make them easier to use. Book holders, page separators/fluffers, and the use of story symbols and props help children to

understand and re-tell stories they hear. Use these same supports to develop vocabulary and language through fingerplays, songs, rhymes and movement activities. AT supports can help a child choose a book, turn the pages, hear a story by turning pages, joining in by saying the repetitive storyline, hearing their voice, and touching words to find out what they “say”. The tools below are some examples. In addition apps offer a variety of early literacy activities from talking ebooks to tracing letters in “Letter School”.



Page turners



BookWorm



GoTalk One



Toobaloo



AnyBook

Writing Supports: Provide a variety of writing tools from finger crayons (hold them, don't put them on fingers!), to short/wide markers and crayons to pencils with grips. Offer materials to manipulate and create letters and numbers, various papers and surfaces, and drawing supports such as easels, clip boards and slant boards to make it easier. Using creative drawing and cutting tools, magnet letters and tracing activities as part of the early literacy experience.



Stetro grips



Slant Board



Benbow scissors



Tongs

Early Math

There are many ways to promote a child's awareness and competence in mathematics.

Everyday activities such as counting the children in the circle, giving a pretzel to each child at a

table, putting all the green bears in one pile and red bears in another and clapping together in rhythm, all help to learn about math. There are AT supports that can help all children participate and learn from these activities. Apps offer alternate counting and building activities.



Counters



Measurement Tools



Sorters



Peg boards

Games

Playing games is a way for children to interact with each other, learn more about symbols and objects, to follow rules, keep active, and negotiate with one another and to have fun! Simple games include peek-a-boo, pat-a-cake and “catch me”. Others provide fun ways to learn to follow directions through imitation and then to make up active games with flexible rules. Role playing games are a favorite as children develop complex understandings of the world. AT supports are available to ensure all children participate in games.



Wii games



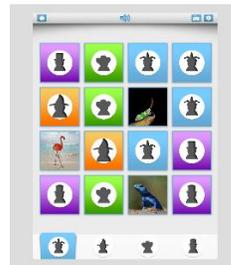
Switch games

Apps and Physical Games

There are many physical games that children enjoy playing as well as early card and board games. Many are designed with accessible features that make them universally designed. Velcro makes it easy to catch a ball and simply touching a card to see if it's a "match" is fun for everyone!



Catch 'N Stick Mitts



BitsBoard Match Up