

Julie Gaster
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Assistive Technology for Preschoolers with Disabilities

The Technology Related Assistance for Individuals with Disabilities Act (Tech Act) that was passed in 1988 allows classrooms to have funds which gives teachers and students access to assistive technology. Assistive technology can be defined “as any tool or device that a student with a disability uses to do a task that he or she could not otherwise do without it or any tool the student uses to do a task more easily, faster, or in a better way”(Reed & Lahn, 2005). It can be used for children with all types of disabilities and is available for all types of age ranges. It can be incorporated into the daily routine for classes with and without disabilities.

One population that can benefit from a variety of assistive technology tools is preschool students with special needs. This group consists of children that are 3 and 4-years old, these students are typically diagnosed as developmentally delayed since they are so young. Many children that are in these preschool classrooms have a variety of disabilities and teachers try many different strategies and high and low tech assistive technology devices in order to see how they can meet the students individual needs.

One device that can be used in a variety of activities is called a Big Mack, this device is made by a company called Ablenet. The Big Mack communicator allows you to quickly press a recording switch and program anything you want.

The Big Mack switch can be used in a small group setting for the student and also in a large group setting easily because it is so quick to program.

One activity that this can be used for is snack, if a preschooler can't verbally express what his or her wants or needs are you can program it to make a request for the student. Here is an example of how to prepare for an activity using the Big Mack, if the student is going to eat pretzels for snack that day, pre-program the switch to say, "more pretzel's please". Since other students in the class can make requests using language, the student using the Big Mack can press it and make his or her request also. The student will begin to understand that when you make a request, you can get what you need. A way to make the voice sound more natural is to record the request using the voice of another child in the class that can speak, instead of an adults voice. Another modification for a student that is a visual learner is to apply a piece of velcro to the top of the Big Mack, by doing this Boardmaker symbols can be put on and changed depending on the activity.

The biggest benefit from using a Big Mack is that it allows individuals to communicate. For a student that could not verbally say his or her wants and needs, it makes them able to. It makes student feel that they can be involved and included in all activities while at school. This low-tech device is very easy to use and is portable for a student. The top of the switch has a large activation surface so that students with fine motor and visual impairments can easily activate it. This is a very versatile and essential piece of equipment for a preschool classroom that had students with special needs.

Another device that is very motivating for preschoolers is Intellipics. An activity that can be done with Intellipics also involves using the Intellikeys board. Using both of these devices you can create an adapted book that can be modified for many different levels. In most school counties there are many adapted books available online for teachers to download and use. By using the computer to tell a story the students are automatically more motivated to learn. It also helps students that are visual learners because they can see what is happening in the story and see the pictures. The Intellikeys board allows students to scan across a number of pictures. Students that are auditory learners also can benefit from Intellipics because different sounds can be incorporated into each page and they will be able to hear what something in the story sounds like.

For this lesson, you would need to find a book that is already online and download it or you could make your own. For this example, the book, "The Mitten" by Jan Brett is used. First, download the file into the computer and print out the Intellikeys overlay, it is great if this can be laminated ahead of time so that the pictures don't get smudged by students fingers. Next model to the students how to press down on the picture in order to activate the board. Show students that when they press down on the picture that it does something on the screen. Pass the board around a small or large group so that each child can use it.

Many modifications can be made to this activity. For children that can isolate one finger the Intellikeys overlay would work really nicely. The children can learn how to sequence what is next in the story by pressing each picture in

order. It is also nice for receptive skills because the teacher could ask each student to identify and press a certain animal in order to identify it. Another modification for students that can't isolate their pointer finger is to not use the Intellikeys board and use a regular mouse. Put stickers on the two top buttons of the mouse, this will remind students where to put their fingers in order to activate the story. For students that have more difficulty with fine motor activities hook a Jelly Bean switch up to the Intellikeys board and let the student press the switch in order to activate the story. The wide activation switch will make it so if their whole hand hits the top it will activate the story. If a child has a vision impairment then the Intellikeys board can be sat on a students lap or put on a slant so that it can be viewed better.

By using Intellipics and Intellikeys in this way it will encourage and motivate preschoolers to want to use the computer because it is fun. It also increases and promotes early literacy skills such as sequencing stories, hearing the title and author of the book numerous times. All of these skills will help students be more interested in reading and become better readers as they get into kindergarten.

Another activity that "The Mitten" book can be used for involved the program Boardmaker. For this activity a "big" book copy of "The Mitten" is needed. Before the lesson, find and print out all of the animals from the story using Boardmaker. Have each of the pictures cut out and laminated before hand for durability. On each page of the book Velcro the same animal that is on the page in the upper left corner. As you read the book to a large group of students

have each student come up and pull the Boardmaker symbol picture off of the page and hold it. At the end of the story ask for each of the animals back so that the students have to identify their animal.

Using the large print book and allowing each student to get a close look of each animal by holding the picture will help students that have vision impairments. It will also help students that are auditory learners because they hear the teacher reading the page once, then they have to look at the Boardmaker picture again. Students that have a hard time sitting get the chance to stand up and move when they get to come up and get the Boardmaker symbol. This lesson could be done the same way in a small group, the students would get more opportunities to come and get the pictures and to identify them at the end of the story. This lesson is really good for identifying vocabulary from the book and sequencing the story using the Boardmaker symbols.

The use of assistive technology can vary in each activity in a preschool classroom with children that have disabilities. As described above, technology that is used can be low tech and high tech and for a variety of learner and disabilities. It is important when using assistive technology with preschoolers to make it fun and engaging so that students will be motivated to want to use it.

References

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