

Accessible Teaching

4 ways to use technology to adapt your teaching strategies to meet special needs.

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“Students become more focused on the work process.”

WE HAVE COME A LONG way from the days when classroom instruction adhered to one inflexible model. Now we know that each child learns differently, so must we modify our teaching methods for each student. For students who must overcome basic processing obstacles, the imperative for personalized teaching is even more crucial. For them, it is particularly important that we adapt the ways in which teachers present information, students organize and assimilate information, and students demonstrate knowledge to the teacher.

By using technology to present content in ways that compensate for student weaknesses—whether physical, cognitive, or social/emotional—teachers are adapting their instruction so all students gain access to the content. Technology also enables students in greatest need of help to access strategies specific to their learning requirements. While school will never be an easy endeavor for such children, technology has eased their way and transformed education from an insurmountable undertaking to a new and exciting challenge.

1 On-Demand Video for Auditory Processing Deficits

Auditory processing deficits occur when students cannot process auditory information quickly or efficiently enough to meet the

demands of everyday communication and academic tasks. A student with an auditory processing deficit may have difficulty retaining information or concepts from newly introduced materials. On-demand streaming video can help compensate because students can access, pause, replay, and, in some cases, view captions at their own pace. Unitedstreaming, for example, offers an enormous library of educational streaming videos, which come with vocabulary lists, syllabi, and written scripts. Captioning is available on more than 400 videos. This is very useful for students with auditory processing difficulties, as it makes the written text available for further clarification and ease in taking notes. Students may pause the video to finish writing their notes and check spelling against the captioning.

Tip: Students can comprehend even more when their teachers give them a partially completed outline or graphic organizer. The student fills in the information while watching the video. Comprehension levels deepen as they become aware of the important points and can pause the video for review. Moreover, they can better focus on the key themes and ideas necessary for an overall grasp of the concept.

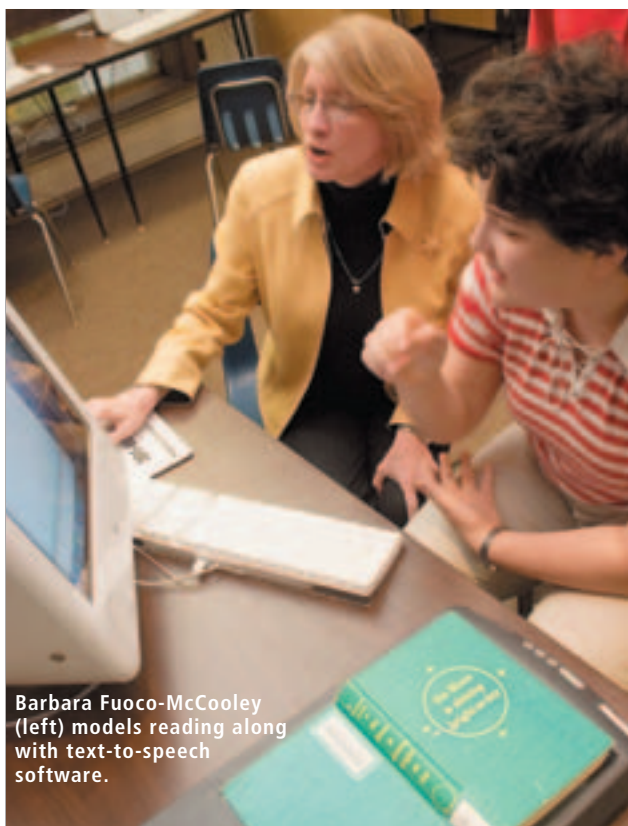
2 Text-to-Speech for Struggling Readers

Presenting materials verbally to children with dyslexia or other reading/decoding or comprehension difficulties allows them to learn without the frustration they encounter when trying to read alone. The Kurzweil Reader/Scanner and Freedom Scientific’s WYNN are two programs that provide students with Optical Character Recognition (OCR) software that can read the printed text aloud to them. Both allow students to scan textbook pages, use already scanned textbooks, or even have a Web page read aloud to them.

Tip: By using a bimodal approach (simultaneous highlighting of the text as it is spoken), WYNN helps readers connect the printed word to its spoken equivalent. The Kurzweil Reader/Scanner can be used as a pacing program for students, having them read at the rate set by the computer program. The student can use the computer-generated voice as a model for timing or mute the voice and read along with the highlighted words and phrases. This activity can increase reading speed with repeated practice.

3 Inspiration for Organizational Problems

Using Inspiration software can significantly aid students with writing difficulties rooted in weak



Barbara Fuoco-McCooley (left) models reading along with text-to-speech software.

organizational skills. The user-friendly graphic organizers in Inspiration help students learn study strategies, and also help them develop and organize their thinking skills. Students needing a visual approach to learning can use a flow map for sequencing stories, a double bubble or Venn diagram for comparisons, or other strategies.

Tip: One advantage of using Inspiration is that, with a click of the mouse, the graphic organizer becomes an outline. Both versions can be printed for the more visual student to use as a study guide. Students are more likely to complete the graphic-organizer bubbles than an outline and use it for studying because the icons, pictures, and the ability to use voice-to-text software to plug in their ideas make learning more engaging, interesting, and comprehensible. Looking at the task in a new way

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allows students to break the cycle of failure they may have previously experienced when trying to learn.

4 Multisensory Interactivity for ADD/ADHD

The student with attention difficulties such as ADD/ADHD has a hard time staying focused and benefits from a fresh approach. Using a multisensory approach can help them concentrate by giving them more ways to access the material, facilitating collaboration, and putting immediate results on display.

One technology that facilitates a multisensory approach is the SMART Board interactive whiteboard. Just about any application can be used on the SMART Board, which connects the classroom display board to a computer and printer. Students can see and interact with a PowerPoint presentation, a Web page, or a math problem displayed on the larger board. Using the SMART Board when demonstrating a new math task gives teachers the opportunity to print a copy of the

steps in the process of the math formula just presented. To keep the lesson moving, the teacher can jump between formats such as color graphics, animations, or even streaming video. With a simple click of the mouse, the teacher can move backward to previous steps to review any missed information.

The SMART Board becomes a focal point of the classroom by drawing students' attention toward the activities being demonstrated by fellow students or the teacher. Overwhelmingly, students react positively toward the technology and enjoy seeing their collaborative work printed from the board. Students become more focused on the work process and appreciate the interactive play between what happens in the classroom and the corresponding changes they see on the screen.

Tip: Integrating physical experiences with SMART Board demonstrations makes learning memorable and taps into multiple intelligences. Tom Whitcomb, a math teacher at Purnell School in Pottersville, N.J., uses a multisensory approach to polynomials. "The SMART Board allows me to import templates for 'point of axis' to the board, which turns my SMART Board into a giant point of axis for graphing algebraic equations," says Whitcomb. "Once we graph them on the SMART Board, we print them out." The students then experience the concept physically, he says, by standing as the points of intersection on a graph they have laid out on the floor. <

Related Resources

Freedom Scientific: Learning Systems Group: WYNN and TestTalker

www.freedomscientific.com/lsg
 WYNN software turns printed text into spoken words. TestTalker prepares students for taking tests, completing worksheets, and studying new material.

Innovative Designs for Educational Achievement, LLC

www.innovative-educational-solutions.com
 I.D.E.A. Solutions develops, facilitates, and enhances communication, coordination, socialization, and rate of learning in clients from preschool children to teens and even older adults.

Inspiration Software, Inc.

www.inspiration.com
 Compatible with most voice-to-text programs, Inspiration helps build thinking skills and

organize writing by integrating diagramming and outlining environments. Grade 6 and up.

Kurzweil Educational Systems

www.kurzweilededu.com
 The Kurzweil Reader/Scanner, with a built-in dictionary, allows a computer to scan printed materials or access Web content and read them aloud in visually highlighted output.

SMART Technologies Inc.: SMART Board Interactive Whiteboards

www2.smarttech.com/st/en-US/Products/SMART+Boards
 SMART Board interactive whiteboards allow collaborative classroom activities to be displayed and interacted with on a large screen.

unitedstreaming

www.unitedstreaming.com
 This Web-based subscription service from Discovery Education delivers more than 2,000 core-curriculum, standards-based videos, lesson plans, teacher resources, and student activities on demand.