

## For children with autism, iPads an attractive option

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**Feel me:** Children with autism can express their emotions by choosing an icon on an iPad screen.

Leann Henkel of Trinity, North Carolina, bought her son Blake an iPad for his 18th birthday on the first day the device was available. Blake, who has autism, is normally shy, but when he's using the iPad, people approach him and ask him about it.

"It's an opportunity to use his social skills," says Henkel. "When he has it with him, he's just the coolest person around."

For Blake and other children with autism, the iPad is more than just the latest gadget. Compared with other assistive technologies made for people with communication difficulties, the iPad is more portable, less expensive and less stigmatizing.

Parents and teachers report that the devices are making it easier for children with autism to keep track of daily activities, communicate their wants and needs, and act appropriately in social situations. At their core, touch-screen devices like the iPad and vSked seem to help people with autism communicate more effectively, say researchers at **Auburn University** in Alabama and the **University of California, Irvine**.

Besides helping children express themselves, new applications allow them to keep track of their schedules and learn socially appropriate behavior. For example, Henkel was able to customize scheduling applications by adding photos showing Blake doing the activity.

Using the application iEarnedThat, Blake can also keep track of tasks he's working on — such as showering by himself and using an "indoor voice," Henkel says — to earn a real-life reward.

Blake speaks in short phrases, but when he was less verbal, at 4 or 5 years of age, the iPad probably would have also helped him learn to communicate, Henkel adds.

Instead, he used the 'picture exchange communication system,' or PECS, an established method of communication that uses laminated paper cards showing different images. But it was time-consuming and costly to customize the system for him, Henkel says.

Henkel was sure that Blake would adjust quickly to the iPad because he had used iPhone applications to watch videos and play games.

Although a few small studies support the use of touch-screen devices in autism, much of the evidence is anecdotal<sup>1,2</sup>. Neither the iPad nor the iPhone has been rigorously tested in people with autism. Pending larger studies, many scientists are hesitant to advise parents and teachers to invest in the new technology.

"I don't doubt that for certain individuals, they are very attractive and useful devices, but I'm very reluctant to say that they might be this panacea that works for all individuals," says **Gregory Abowd**, professor of interactive computing at the Georgia Institute of Technology in Atlanta.

### Teacher's pet:

Last year, researchers at Auburn University worked with Birmingham-based **PUSH Product Design** to create a basic communication application for the iPad. In June, they tested it on four children with autism, ages 4 to 14.

PUSH designed the application to help the children, who have ten or fewer words in their spoken vocabulary, make requests during snack time. For example, the children selected icon symbols saying "I want," as well as the pictures for pretzels and other snacks. The children in the program already use PECS, and the researchers alternated weeks of PECS and iPad use.

"[The iPad application] didn't appear to detract from communication — it was as good as or better for students," says co-investigator **Margaret Flores**, assistant professor of education at Auburn University.

The students appear to communicate faster using the iPad because they can touch the icons, rather than trying to find the picture card illustrating what they want to say, Flores says.