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iPads for Access, Independence, and Achievement

By Victoria Bricker

Technology enables young deaf learners to take charge of their own learning and to succeed.

Zane, one of my ninth grade students, was having difficulty. He was a bright student who desired more than anything to fit in with his peers. When he was 2 years old, he became deaf from meningitis. He received a cochlear implant and his mom began working with therapists to teach Zane to hear and talk. I first met him when he was in fifth grade. With technology, Zane's hearing loss had been reduced to 40 dB, and our school district was providing him with a 504 plan that included preferential seating, teacher checks for understanding, captioned media, and use of an FM system.

I admired Zane. He tried hard and he excelled in his classes, partly as a result of being empowered by his parents' confidence that he would succeed in whatever he put his mind to. Throughout his elementary years, I worked with his teachers to ensure he had auditory access and was keeping up with class instruction. In sixth grade, Zane refused to use the FM system. Not wanting to be different from his classmates, he expressed dislike of having to cart the microphone from class to class. His parents supported his decision, and Zane rose to the challenge. He made good grades though it took extra focus and concentration. Zane had the drive and the desire to be independent and to do things on his own. I continued to admire him and his hard work.

When he entered high school, Zane enrolled in honors courses for all of his classes.

Photos courtesy of Victoria Bricker



Above and right: Photo of Zane in 2013; Zane and family friends relax at Island Rocks Beach in 2013.



The high school, a historic building with beautiful wooden floors, high ceilings, and tall windows, has architectural beauty but poor acoustics. After a month of classes, Zane, his parents, his teachers, his counselor, an assistant principal, and I discussed Zane's accommodations at a 504 meeting. We decided that Zane would be entitled to sit where he could hear the best, to ask clarifying questions to check for understanding, and to have all media captioned in the classroom. At the same time, his teachers would be required to repeat relevant student comments, to face the class when speaking, and to not speak while writing on the board.

After the first grading period, Zane was doing well in all of his classes except Algebra. In Algebra, he received a C. By this time, I knew that normally math was easy for Zane; something was awry. His family called a meeting to discuss Zane's needs in Algebra class. During the meeting, Zane stated that he was having difficulty hearing and understanding the instructor. I suggested giving the FM system another try—perhaps only in Algebra class? Zane was adamant in his refusal, and his parents supported this

decision.

As we sat in the meeting, I reviewed his class notes. The notes showed that he was doing a fine job of copying the equations from the board, but the critical details about how to apply the equations were missing. Clearly Zane was missing key spoken instruction. He needed to watch the teacher while she spoke. This presented a potential problem as he acquires information through lipreading and he wasn't able to watch the teacher speak and write down instructions at the same time. When he was at home Zane had the equations, but he couldn't remember what the teacher had said—partly because he simply had not heard it.

At the meeting, Zane was given the option to meet with the math teacher outside of class. His parents and I, feeling this was not enough, began to explore other options. I recalled how in college I had used a handheld mini cassette recorder in lecture classes, but that seemed so outdated in today's technology. I met with the high school technology team to look at recording programs we could install on Zane's student-issued laptop. We found a



Above and right: Tobina, pictured here and with classmate Zyrique, is now able to independently complete classwork using an iPad.

recording and note-taking program that looked promising and had it installed. However, when after a week I checked with Zane, he reported that he could not use the program effectively. He was not proficient at typing so he was not able to type notes in real time, and the recorded audio did not match the text. Hand writing equations on

paper and then trying to match them to the recording on the laptop after class was time-consuming and frustrating—and ultimately not successful.

It may not have been back to square one, but it sure felt like it. Then a week later Zane’s mom called me. “An iPad!” she said. She had found something called SoundNote, an iPad app by David Estes (2014). Estes, describing SoundNote, noted that it allows students to type and draw while recording audio. “Just tap a word and SoundNote will jump right to that point in the audio,” he explained. This sounded like a great idea, but it was 2012 and only 10 special education teachers had school-issued iPads. I was one of those staff members since I was participating in a pilot program to discover if this technology would even be useful in the school setting. I found the iPad to be a great educational device and could see the potential for students. Could we convince the school district to provide Zane with an iPad?

Our request, perhaps not surprisingly, was immediately turned down. It was too expensive, the Exceptional Children Department said. iPads had not yet proven to be a tool our school district would adopt for student use; further, schools just didn’t buy computer devices for individual students. “We need data,” I told Zane’s mom, “and a trial session.”

The school agreed. Zane has a wonderful grandmother who loaned him her iPad for a few weeks. Zane began using SoundNote, which allowed him to write equations and record the lecture in real time. To study, Zane would plug a patch cord directly from the iPad into his cochlear implant and touch an

equation, and the teacher’s lecture would pick up exactly at that spot. For the first time, Zane had access to the teacher’s lecture; he could learn independently with a tap of his finger.

A few weeks passed. When it was time for his Algebra unit test, Zane had the tool he needed to achieve. He scored an A. We met with school officials to demonstrate Zane’s improved educational outcome using the iPad with the SoundNote app. Zane spoke to the administrators, explaining how the iPad had provided him with access to his class and independence in his school work. He no longer had to rely on the teacher outside of class or on his classmates to get information. He could now handle his learning himself. Zane was nervous speaking in front of the administrators, but he demonstrated how he could write equations on the screen and play back the teachers’ recorded lecture. He showed how he could move the recording to any part of the teacher’s explanation with just the touch of his finger.

Zane’s math teacher spoke, too, noting how much Zane had improved on homework assignments and quizzes and remarking that the improvement had occurred in such a short amount of time. After some deliberation and hesitancy, the decision was made: our school system would pilot a program for children with cochlear implants to have iPads in their classes. I was thrilled! Zane had opened the door for other deaf children to have the user-friendly technology we had been looking for; all of our deaf students would have iPads.



Our Classrooms Today

As an itinerant teacher of the deaf and hard of hearing, I work primarily with mainstreamed students ages 3-21, and I have seen technology open up possibilities that we never before dreamed these students might have. The iPad, with its array of technology, is now available for educational use in my school district. This device and its technology have enabled not only deaf students but also deaf students with disabilities to experience more independence and educational success.

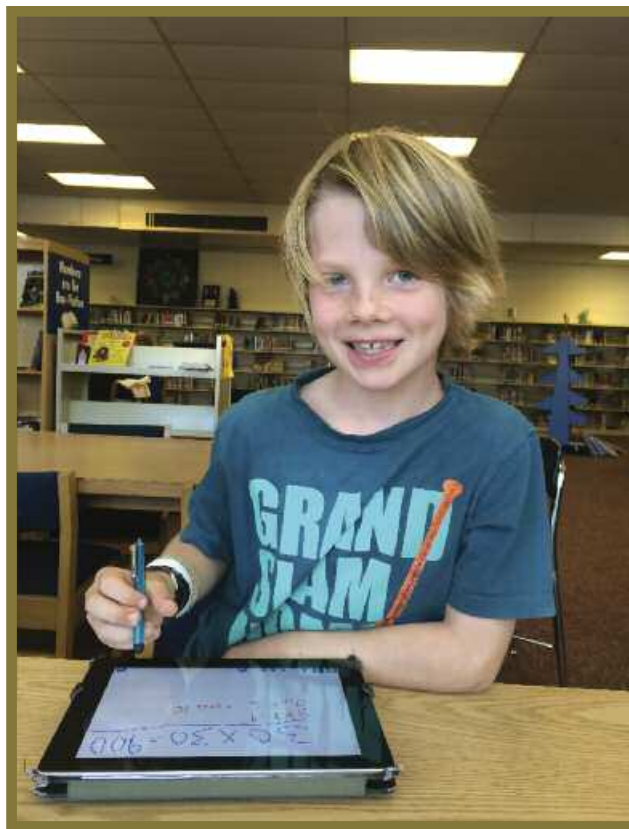
Tobina, for example, an 11-year-old girl who is deaf and has cerebral palsy with a language delay and physical motor challenges, was formerly dependent on others to assist her with access to learning and navigating educational tools. Reading books was difficult; it took effort to turn pages and she would drop the book, lose her place, tire out, and become extremely frustrated. The iPad has been invaluable for her as it allows her to download and read books on screen, turning pages with a simple swipe. In addition, a “Raz kids” app saves quiz data and allows Tobina’s educational team to track and monitor her independent reading comprehension. When Tobina encounters an unknown word in text, she uses a dictionary app—or a picture dictionary app—to discover the word’s meaning. A spelling app enables her to test when she is ready and allows her teacher to grade and to save the results. For math, she can use virtual counters, including an abacus app. Like Zane, Tobina can plug her cochlear implant into her iPad audio and work in the class alongside her peers without disturbing others. When she completes her assignment, she can e-mail her work to her teacher.

Access = Difference = Improvement

Access to instruction is key to students’ success. Deaf and hard of hearing students who gain skills to become independent learners are better prepared to pursue higher-level education with confidence and to have independence in the work place environment (Anderson, 2014). As an itinerant educator, I work with students’ teachers and parents—and teamwork is essential. We share ideas to benefit students along their journey of learning.

Since I am in a small school system—Asheville City Schools in Asheville, North Carolina—I work with 25 deaf and hard of hearing students who have Individualized Education Programs or 504 plans. Providing iPads to deaf and hard of hearing students in order for them to access curriculum and to foster academic independence started as a search to help a struggling ninth grade student. It was a journey that included the students’ parents, our school system, and, perhaps most of all, the student himself. This endeavor led to discovering how iPads can be used in the classroom and was instrumental in making iPads an important part of our toolkit for engaging deaf and hard of hearing students in our school system.

Today’s deaf and hard of hearing students are pioneers, showing adults what they can do independently when given the



Above: Winslow learned how to write with a stylus in order to use the SoundNote iPad app.

technology that provides them with access to learning. With high expectations from their parents and teachers and today’s technology in place for meaningful educational use, these students will be ready for college and careers.

Winslow, a deaf fourth grader who received a cochlear implant last summer, has become our most recent student to receive an iPad. He arrived at our school in November and has been practicing ever since. I know Winslow, Tobina, Zane, and other deaf and hard of hearing students will be equipped to go out into the world with greater knowledge and capabilities to be successful and independent thanks to all the people who work with, teach, and nurture them and who believe in their success—and thanks to the access provided by technology.

References

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