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3 Tech Tools That Boost Early Literacy

These forward-thinking districts are using software and mobile devices to help close the achievement gap before it's too late.

By Greg Thompson | 11/19/14

It's not written in stone, but educators agree that third grade represents a milestone in the race to establish literacy. As the saying goes, students are "learning to read" through third grade, and "reading to learn" after that. Realistically, the foundations of literacy are built well before children even enter the classroom. According to Rick Miller, superintendent of the Santa Ana Unified School District (CA), "Literacy probably starts from the womb. From the time my kids and grandkids were born, they had print awareness and heard adults reading aloud, all of which develops literacy skills and demonstrates that literacy is often connected to families." Early-grade teachers acknowledge that it's not easy to bridge the gap between students who have been exposed to lots of reading and those who haven't, but the good news is that technology can help.

Reading Before Kindergarten
Barbara G. Nemko, the superintendent of Napa County Schools, does her best to give kids a running start on literacy with the early learning platform Footsteps 2 Brilliance. The system, which can be used on computers, smartphones and tablets, includes libraries of interactive books that can "read themselves" to children in English or Spanish. "They teach the 1,000 most important Dolch words," explained Nemko. "And they are animated and musical. When a preschool child taps the screen, something happens. A ball may bounce, shapes may whirl or ants may crawl — and that's accompanied by music."

The appealing presentation motivates children to "hear the stories again and again," Nemko said, "because they want to interact with them. As the words are being said aloud, they are highlighted in red so children can make the visual and sound correspondence."

Parents and students can toggle between English and Spanish, which may also help parents for whom English is a second language. "Many parents [in Northern California's Napa County] are not literate in English, so children are not read to," said Nemko. "And being read to is one of the primary ways we get children to read. We're trying to close the achievement gap before they get to kindergarten."

Achieving "reading readiness" in preschool involves knowing vocabulary, understanding the basic structure of language and attaining oral comprehension. "Those are all precursors to reading, because when you teach children to read, you are teaching them to decode written words," said Nemko. "But if you don't know what the words mean, you're not reading. It would be like if I put a book in German in front of you. You might be able to decode the words and say something out loud, but you wouldn't know what they meant."

Keeping it Fun in Transitional Kindergarten
Along with parental involvement and preschool, transitional kindergarten (TK) has been a big help in building reading readiness in a controlled environment. Martha McCoy teaches a new TK program at Calistoga Elementary School in the Calistoga Joint Unified School District in Napa Valley, CA. The program is designed primarily for transitional students with birthdays between September 2 and December 2. These younger students essentially have two years of kindergarten, and they benefit from a charitable project called Napa Learns, a philanthropic organization whose mission is to close the achievement gap in the Napa Valley by investing in technology.

McCoy explained, "Napa Learns is retired technology execs who are now in the wine industry, and who have a passion for education. They had been investing a lot into the high school level, but based on research on grade-based learning, they realized that the brain was most active, laying down those foundational synapses for developing language, between 3 and 5 years old."

According to McCoy, the pilot TK program was initially a month-long program using iPads in a preschool environment with parental involvement. "When I participated in the pilot program," she said, "it took me just two days of watching how the kids interacted with the devices, the rich presentation around them, and what was possible with it, and I did a complete turn-around. It wasn't about delivery of content; it was about what kind of learning experience the kids could have through those devices. They had this rich interaction with English language that could be customized to what they needed for their learning."

Instead of passively watching a screen, students made use of the tablet's dynamic, interactive interface. "I could not believe how tenacious students were," enthused McCoy. "They would try and try again. They didn't need to have anybody's approval about what they were doing. They would just persevere. They were doing things I never thought that age group could possibly do. The touchscreen interface makes it so kids can do so much more than they can with just paper and pencil in terms of expressing themselves and exploring and practicing."

Visitors to McCoy's classroom see students using iPads to practice handwriting (with their fin-

gers or with a stylus) and learning numbers and letters with auditory support. "Students will practice their letters many times if they can change the color or make it glow or turn it into a tiger tail," said McCoy. "There are fun ways to keep those students practicing their letters and guide them, which is difficult to do as a teacher going around a classroom. These apps won't let them make a mistake. They can't go on if they're not forming their letters correctly. That was a nice surprise that the handwriting was actually better."

Using technology can also increase engagement in something as old school as "story time." Nemko pointed out that "many of our teachers will project the story onto a wall or the screen and read it with the kids the first time as a whole group." It's similar to any lesson in reading readiness, "it's just that it's digital," said Nemko, "which makes it more interesting to kids. A book does not interact with you. You can hit that cow in the traditional book as much as you want, and it isn't going to moo. But our cow is going to moo and maybe shake his head and stomp his feet, so it's fun."

Differentiating Instruction
"In a perfect world, third graders are reading to learn," said Robert Raney, a third grade teacher at Centennial Elementary School in Loveland, CO. "However, even if students are fairly proficient at reading, they may still be struggling with comprehension — and comprehension is a critical step to literacy."

Raney's students use Raz-Kids interactive e-books, primarily on school computers, to improve reading comprehension. "The software allows them to progress at their own pace, and they can only move on to the next reading lesson if they pass a Raz-Kids quiz," said Raney, a 20-year veteran in Colorado's Thompson School District. "The stories can also be heard, which helps students who do better with auditory learning."

Another early literacy booster that uses differentiated online instruction is Achieve 3000, a system that Nemko said allows students to take current events and make them into a story. With Achieve 3000, "every kid could be reading that story on his or her own level," said Nemko. "So if I'm the teacher with a class of all different reading levels, I can introduce the topic and have a discussion. Children can read it in a way that is comprehensible to them because it's on their reading level, and we can still answer all the questions together."

Best Practices Makes Perfect
While children seem to react almost instinctively to touchscreen interactivity, how receptive are teachers to these new technologies? "Some are ready to go and others say, 'No way you can't make me,'" said Santa Ana's Rick Miller with a chuckle. "Our approach was always voluntary. If teachers thought it fit their students, then great, use it. If it did not, then don't."

Miller's pragmatic philosophy extends to the equipment end, where he maintains a device-agnostic approach to early literacy technology. "Other districts will say I'm Apple or PC, but we don't want to get into that debate," he said. "We can get all the functionality on lower-end devices. Oftentimes, Android devices will do everything you need. Our choice was the iPod touch, and that was about a $200 investment. Contrast that with another major district that

looked at iPads, and it's a huge cost difference… As long as we get the excellent outcomes, why would we care how we did it? As long as our kids can read by the end of third grade, why would we care how they got there?"

Boosting literacy through technology is still a relatively young pursuit, and Nemko pointed out that while tablets seem ubiquitous now, the iPad only came out in 2010. Outcomes data may be anemic, but early anecdotal results are favorable. "When we started the first pilot in 2011, we had 16 kids, and their comprehension as tested by the application started at about 12 percent and went to about 73 percent in four weeks," said Nemko. "It was astonishing."

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