

Digital app helps to boost vocabulary of English learners in Napa preschools

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Padma Helton, a preschool teacher at Shearer Elementary School in Napa, leads three students in an exercise tracing letters during their 10 minutes of individual Ipad time.

In Napa County, where most children enrolled in state-subsidized preschool are native Spanish speakers, educators introduced an **app-based program** to build the vocabularies of their youngest learners, particularly English learners.

That was six years ago, and the growth in children's language skills in both English and Spanish since then prompted educators to offer the program free to all parents of preschoolers in Napa County regardless of income level, becoming the first county in the country to implement a **countywide digital early literacy program**.

Parents can download the app on their mobile phones, tablets or computers and have access to the digital library of books and games online and offline. This way children have access to the same materials at home and when they are attending preschool programs run by local school districts in Napa County. The connection between home and school helps to reinforce the vocabulary lessons taught in the classroom.

The program began as a pilot with 16 English learners and is based on an app called “[Footsteps2Brilliance](#),” which is a tool that teaches children vocabulary sounds, letters and words through interactive books, songs and games that are available in Spanish and English on the app. The app was developed through Footsteps2Brilliance, Inc., an early-learning technology company located in Washington D.C. Napa County provides the app free to anyone with a Napa County zip code through a partnership with [Napa Learns](#), an education nonprofit organization.

By touching a button on the screen, children can switch languages, trace letters, listen to the sound of specific words and record their own voices. Teachers and parents can also track how many words children are learning through the app.

Although Napa’s program started with English learners, the app is designed for all children – English learners and native English speakers – from preschool through 3rd grade.

As part of the program, the Napa County Office of Education measured the progress of its preschoolers using the Peabody Picture Vocabulary Test, which measures what experts in the field call English receptive language skills. That refers to words preschoolers can identify and understand from hearing. They also used the Expressive Vocabulary Test, which measures English expressive language – the words preschoolers use in conversation.

Since the program began, students have shown statistically significant improvements on both of these tests, but English learners showed the most progress. In the second year of the program, the percentage of words English learners could identify from hearing them increased from 43 percent to 79 percent. In the words they could use in conversation, the percentage for English learners increased from 30 percent to 70 percent, according to Lori Hill, Footsteps2Brilliance coordinator for Napa County.

The county is also conducting a [long-term study](#) that will track the language and literacy skills of all children from preschool to 3rd grade who participated in the digital early literacy program.

Since the initial launch of the pilot program in 2011, the Napa County Office of Education has expanded the program to all 24 preschools across its five districts. Through partnerships with Napa Valley Community Housing, the app is also available at no charge in family centers, health clinics, libraries and women’s shelters.

The program earned national recognition in 2015 from the U.S. Department of Education as the first countywide digital early literacy program in the country. The department cited it as a program

that is helping to close the achievement gap for Latino students and highlighted it as a “Bright Spot in Hispanic Education” during the 25th anniversary of the White House Initiative on Educational Excellence for Hispanics in 2015.

The initiative was established in 1990 under President H.W. Bush. Both Presidents Bill Clinton and George W. Bush continued the initiative, which was also renewed by executive order in 2010 under President Barack Obama. The Bright Spots in Hispanic Education online catalog that highlights programs and initiatives across the country was created under former executive director Alejandra Ceja. The Napa program, now in its fourth year of countywide implementation, is serving as a model to 10 other districts across California that are incorporating the Footsteps2Brilliance app.

Napa County educators launched the program to alleviate what they saw in their community as a persistent “word gap” that children in low-income families experience compared with those in more affluent families. In a 1995 study, University of Kansas researchers found that by age 3, children from low-income families heard 30 million fewer words than children from higher-income families.

Barbara Nemko, superintendent of the Napa County Office of Education, said introducing the app has helped to “level the playing field” for all preschoolers and to reach those students who were struggling with a limited vocabulary and most at risk of falling behind. Many English learners were entering preschool barely speaking either English or Spanish, Nemko said.

“This 30 million word gap translates to children coming in with a deficit of two to three years, and the research shows that deficit stays with them through all of the 12 grades,” Nemko said. “And if we are ever going to achieve social equity, we have to give these children opportunities,” referring to many of the preschoolers who are learning to speak both Spanish and English at the same time.

Though the program now has the support of most preschool teachers in Napa County, Nemko said introducing technology into every classroom was not a popular idea in the beginning. “Everybody was not excited,” she said. But the more teachers used the app as part of class interaction, the more they saw results, she said. Now, Nemko said, her greatest reward is watching teachers’ faces light up when they listen to the kids and see what their students are capable of doing, she said.

On a recent Thursday morning, Padma Helton was leading a lively lesson using the app in her preschool classroom at Shearer Elementary School in the city of Napa. Inside, 12 preschoolers sat attentively on a colorful mat as she narrated the story, “Ollie the Owl.”

The digital story book was on display on a large flat screen behind her as she held an iPad and animated the story. Story time smoothly transitioned to a vocabulary-matching exercise as Helton selected individual “words of the day.”

“Ollie lives in a barn,” the automated digital voice said.

“Where does Ollie live?” Helton asked the class in an excited, high-pitched tone.

“Does Ollie live in a barn?,” she continued.

“Yes!” they shouted in unison.

“Do you live in a barn?,” Helton asked.

“No,” they shouted.

Helton, who has taught preschool for four years, said “it’s important to support and respect” the first language of her preschoolers because the ultimate goal is for them to learn in both languages.

“Our goal is that children receive as much vocabulary as possible, whether that is Spanish or English,” Helton said.

“Teacher Padma,” as the children refer to her, usually plays a song in Spanish first, and then she will single out a specific word on the app with the touch of a button. This is usually a word she wants the preschoolers to focus on for the day.

“So if it’s ‘Itsy Bitsy Spider,’ I touch spider and I break it down by syllable to them, SPI-DER, so we clap the words and we learn the words at the same time. It’s the power of memory. Every day I repeat things, because at this age repetition is important,” Helton said.

If her preschoolers already know the word in Spanish, which they often do, Helton said it’s easier to build that vocabulary in English. For example, all of her preschoolers know the word “araña,” which is the Spanish word for “spider.” They also know what an “araña” looks like. So when she introduced the “Itsy Bitsy Spider” rhyme in the classroom, she was able to reinforce the Spanish vocabulary and then introduce English.

Now that the app is in every preschool in the county, every preschool teacher is required to have a coaching plan outlining how they will implement the app alongside traditional classroom instruction. The county provides professional development coaches to train teachers. They work one-on-one with teachers and show them how to use the app and incorporate the technology in their classrooms.

The county office of education has also held more than 60 training sessions for parents. To date, 661 parents have attended the workshops, which usually take place at the beginning of the school year. A translator and a teaching coach are present at every meeting to guide parents through the process of using the app at home with their children. Nemko said because of the flexibility of the app, parents can listen to the story in Spanish first, know what it’s about, and then will be better able to discuss the stories with their children.

The goal of the workshops is to encourage parents to not only use the app to teach vocabulary, but also to promote interaction with their children, Nemko said. “Just because this can be done independently doesn’t mean we want them to put it on the table and say, ‘Go sit down and read that story.’ We want there to be that mother-child, father-child bonding experience so we show them that it is just like a book except so much better because your child can control it.”

Creating an atmosphere where there is interaction is key to helping a child learn new vocabulary words, said Mariel Kyger, a research analyst with Los Angeles Universal Preschool, or [LAUP](#), who specializes in language development. Kyger said reading to children, whether from a book or a digital app, helps them to form connections between the sounds they hear and the words on the page. However, the most important tool in acquiring a language is conversation, she said.

Kyger said though it can feel odd talking to a child who can’t reply in lengthy sentences, the exposure to words and the encouragement to respond to those words is an important skill to develop. “It’s building up their language centers so not only are they learning more words, they are also building a foundation for reading,” Kyger said. “The (word) gap is a big problem, but the solution is really simple: talk to kids, tell them about the world and ask them questions.”