A WHITE PAPER FROM

CENTER FOR DIGITAL EDUCATION

Bridging the Gap

How Digital Literacy Tools Help English Language Learners Succeed

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The number of English language learners (ELLs) in the U.S. has risen 10 percent in the last decade, representing about 4.5 million public K–12 students in 2011–12.[1] Overall, about 10 percent of U.S. students today are ELLs, but in some states, this number is much higher. In California, for example, almost a quarter of public school students are classified as ELLs.[2] Experts estimate that by 2025, 1 in 4 students in the U.S. will be an ELL.[3]

This growth trend presents a difficult challenge for school districts. ELLs need to be brought to grade level as quickly as possible, but often struggle in both special and mainstream classes, causing them to fall behind in key subjects.

The U.S. ELL Population

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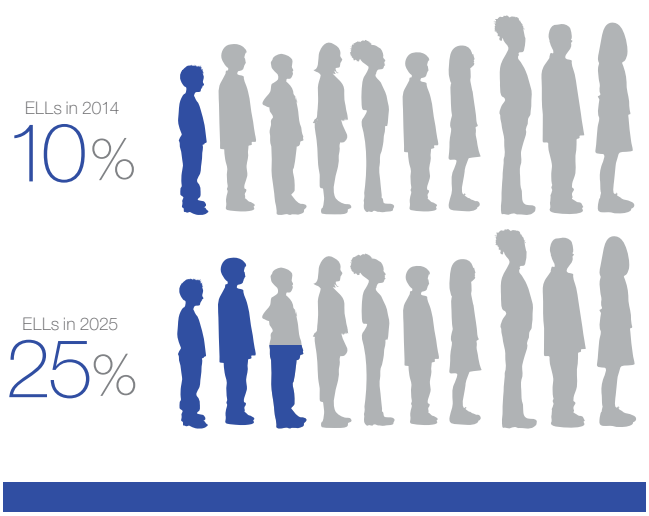

Increasingly, ELLs are entering public school at the secondary level, when intervention can be more difficult. Dropout rates are higher for ELLs, with potentially lifelong consequences, ranging from subsequent unemployment or underemployment to incarceration. Meanwhile, cash-crunched school districts lack resources to help, with a shortage of teachers trained to teach ELLs.

New tablet-based literacy programs provide one potential solution to help increase the chances of ELL success. Research shows these tools are helping students reach grade level in less than two years. What are the advantages of these programs over traditional ELL approaches? How can school districts use them to support their ELL students? This Center for Digital Education white paper explores the answers to these questions.

Scoping Out the ELL Situation in the U.S.

The rise in ELLs is affecting some regions of the U.S. more than others. Recent statistics show that of the eight states with the highest ELL percentages, seven are in the West (California, at 23.2 percent, has the most ELLs in the U.S — about 1.5 million students[4] — and Nevada has the highest percentage, at 31 percent[5]).

Other regions, such as the Midwest and Southeast, may not have high overall percentages of ELLs, but in recent years have witnessed dramatic increases. In Ohio, for example, the number of ELLs increased 11,000 percent between 1999 and 2009–10 (from 322 to 37,478).[6] South Carolina saw a jump of 926 percent (from 3,379 to 34,685) during the same time period.[7]

ELLs are also concentrated more heavily in urban areas of the U.S. than in rural areas. The U.S. Department of Education found that in 2011–12, ELLs comprised 16.7 percent of public school enrollment in big cities.[8] Overall, ELLs are more likely to live in poverty and to attend schools that are underperforming.[9] Most ELLs — 80 percent — speak Spanish as their first language. The other 20 percent of ELLs are divided among more than 400 different languages.[10]

These factors all contribute to an alarmingly high dropout rate in many states. Nationally, the graduation rate for students of limited English proficiency in 2011–12 was 59 percent, according to the U.S. Department of Education. In Arizona, only 24 percent of ELLs graduate; in Nevada, it's just 23 percent. California, the state with the most ELLs, graduates 62 percent — more than a third (38 percent) don't earn diplomas.[11]

Dropping out of school is correlated with a host of long-term negative outcomes — unemployment and poverty, as well as a higher likelihood of incarceration.[12] Additionally, long-term illiteracy leads to a lack of participation as U.S. citizens on many levels — social, cultural, political, and of course, economical.

Limitations of Traditional ELL Learning

Traditional ELL programs share common limitations. Teachers struggle to find meaningful texts geared to the age, interest and ability level of students — many are designed for children in younger grade levels, although they may still meet the aptitude of an older student. Texts may also contain allusions to U.S. culture and history with which recent immigrants may not be familiar, requiring more teacher scaffolding and previewing before reading — which is not always possible for busy teachers in often overcrowded classrooms. In addition, ELL students may need audio support to hear the correct pronunciation of English words during independent reading time, but this may not always be available.

ELL Graduation Rates

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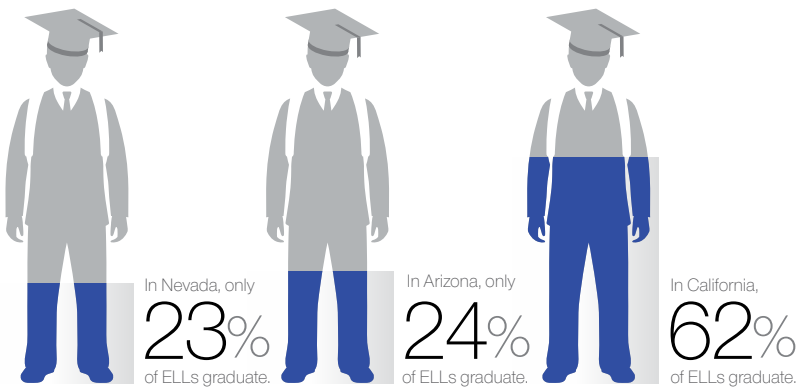

Personalized lessons adapted to a student's individual needs can be difficult for teachers to provide within a traditional classroom using a standard textbook and workbook. ELL student needs and abilities can vary widely, yet students may find themselves in mainstream classrooms where teachers do not have the expertise or time to address these unique needs through one-on-one assessment and instruction. Only 1 percent of U.S. public school teachers are ELL instructors, according to the U.S. Department of Education, meaning on average there is only one ELL specialist teacher available for every 150 ELL students.[13]

All of this comes at a time when many school districts must meet new, more rigorous Common Core State Standards that call for mastery of increasingly complex texts, and which soon will begin measuring this fluency and literacy on critical standardized tests, used as benchmarks for school progress. Districts may see overall test scores decline if ELL students fall further behind, but often will not have the funding or resources to improve ELL programs.

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Research shows that tablet-based literacy programs are helping students reach grade level in less than two years.

Delivering Success with Digital Literacy Programs

In contrast with traditional, paper-and-pencil methods, today's digital literacy programs make use of new interactive technologies — including touchscreen tablets, embedded video and text-to-speech — to help ELLs in the classroom. Here is an overview of key features in tablet- and computer-based programs and apps.

Technology-enhanced vocabulary acquisition

Learning vocabulary is key to mastering a language. Digital programs and apps can help ELLs acquire essential new words in ways that are more engaging and effective than traditional printed flashcards or worksheets. For example, students can play vocabulary-themed adventure games where they must learn new words to advance in the game. Or they can create their own comic strip characters or avatars and write dialogue for them, using prompts provided by the software. Some programs also make use of music, allowing students to learn words as parts of songs or rhythmic chants.

Words appear in contexts that are meaningful and engaging such as in a story, poem, song, article or even a joke, rather than isolated on a list. The student can click individual words or phrases to have them read aloud — either in English or translated into the student's native language in some programs — or click to see pictures or videos illustrating the word's meaning. Students are also able to record themselves pronouncing a word or set of words, then play back the recording to compare it to the correct pronunciation, practicing this process until they are confident of fluency.

Some apps allow students to write and publish their own mini-books and post these online in electronic journals. Younger students, or those with extremely limited reading skills, can engage in activities like digital phonics song charts or online letter formation exercises to help begin the process of language acquisition.

Instruction guided by multimedia

To reinforce proper pronunciation and fluency, students can use their device's text-to-speech capabilities to have blocks of text read aloud to them, highlighting each word as it is read so they can follow along. Students can also digitally annotate within the texts they read — highlighting in different colors, inserting notes or questions, and copying text for later review. Important concepts that are too complex for a short definition can be explored more deeply in videos. Similarly, historical figures, cultural terms or idiomatic phrases that are unfamiliar to ELLs can be explained with multimedia features like images, sounds and videos.

During whole-class lessons, texts and images can be displayed on interactive whiteboards for

sharing. Teachers can also easily send new material to students' digital devices for personalized or small-group instruction.

Writing exercises

Digital literacy programs with writing engines can provide exercises and immediate feedback for students, whether the writing is in the form of short passages or long essays. Students see example texts first in order to understand what the desired types of writing look like before composing their own work. Some programs have built-in feedback that critiques their work and helps them practice revising it before submitting a final draft to the teacher.

Digital programs may also offer other types of writing exercises like composing emails, creating song lyrics or writing short books to be published online.

Customization capabilities

Digital literacy programs can assist teachers with personalization and differentiation in the classroom by offering personalized tasks and leveled texts — material that is matched to a student's Lexile level (a measure of reading ability). A teacher can assign a common classroom text for the entire class to read and discuss, as well as additional texts or tasks to students that suit their reading levels. Some digital programs come with large libraries of scaffolded texts, both fiction and nonfiction, that have been written for various capabilities, ages and interests.

Teachers are also able to create their own customized activities, including word games, puzzles and quizzes that are personalized for students while including academic or content-area words they are likely to encounter in other courses.

Assessments and student data

Software-based adaptive quizzes and activities track and evaluate a student's strengths and weaknesses. This information is given to the instructor to help fine-tune a student's instruction. These formative assessments also help the teacher decide placement of students in appropriate small groups for more focused work.

Teacher resources

Some digital learning programs also provide teachers with lesson plans, discussion prompts, suggestions for scaffolding texts, activity recommendations, evaluation rubrics, planning calendars and other tools. For example, teachers can model reading fluency by reading aloud to students while viewing prompts available on their own mobile devices that suggest possible questions or talking points for their students, helping to deepen a student's engagement in and understanding of the material.

Engagement

Recent studies have shown that tablets in particular have the ability to increase student engagement and learning. For example, a study of British secondary schools from 2011–13 found that one-to-one tablet learning produced not only greater engagement by students but also by teachers and parents, and was found to improve student motivation.[14] Another study of Maine kindergartners in 2012 found that tablets improved literacy among students, with educators reporting high levels of student motivation and engagement.[15]

Student Success

Studies indicate tablet-based digital literacy programs can be quite effective in the instruction of ELLs. For example, a small, urban district in Texas used a digital curriculum with ninth-grade ELLs and saw significant improvement, from just 37 percent of students passing initial assessments to 62 percent by the end of the program not only passing, but scoring at least 80 percent.[16]

Digital Literacy Program in Action

Starting in fall 2013, language arts teacher Krysten Robinson began using an all-digital English Language Arts (ELA) curriculum with a class of 17 struggling seventh-grade readers — including three ELLs — at Dr. Augustine Ramirez Intermediate School in the Corona-Norco Unified School District in southern California.[17] The intervention class was taught in two back-to-back 45-minute periods each school day, so students received 90 minutes of instruction using a tablet-based ELA program of instruction.

At the beginning of the school year, students were tested for proficiency, with most coming in around a fourth-grade level. By the end of the school year, Robinson's students finished at an overall 6.5 level — sixth grade, fifth month — representing more than a two-year jump in proficiency in just nine months.

From the beginning, engagement was high, says Robinson, who also teaches traditional ELA courses. "It was super exciting for the students," says Robinson. "They kept saying, 'This is so great! We're not using paper!' That carried on for some time — that eagerness and engagement." Compared to a traditional ELA class, Robinson believes, "The engagement is really high with the [digital curriculum] because it's different and because it is so interactive."

The ELL students benefited from the video and audio components of the program, as well as its built-in scaffolding, says Robinson, including tools to gain vocabulary comprehension.

Using a digital program also made it easier for Robinson to differentiate and target her instruction for the ELLs. In a traditional ELA class with mainstreamed ELLs, this can be tough to achieve, she says. "I have to tailor my curriculum and instruction so the English learners are as successful as the other students in the class. That is really difficult."

The tablet-based program she used, however, has formative assessment tools to help determine at which pace a student needs to work. The program then provides individualized learning activities and leveled readers for the students.

"If the kids do well with certain things, it will push them forward, and if they don't, it will backtrack a little," says Robinson. "It is very specific to the individual learner, which is extremely beneficial for ELLs."

The software also told Robinson which students had similar needs, helping her better set up small group instruction. "It made it very easy to notice which kids were lacking vocabulary and which kids were doing really well," Robinson says. "Programs like this make it a lot easier for the teacher to identify needs, and students are getting what they need in a more engaging and targeted way."

ELLs were able to use the text-to-speech and translation options to help master the text, says Robinson, "Giving them that option is really important." Another component that her students found helpful was the modeling of reading fluency, either from the audio within the program or by Robinson reading text aloud. Additionally, activities such as text notation could be completed individually or Robinson could send annotated slides to all the students to view on their tablets or via interactive whiteboard in the classroom.

The program that Robinson's class used followed the same routine each day, starting with 15 minutes of independent reading and transitioning to modeled classroom reading and discussion, as well as small group activities. While the literacy program was scripted for teachers, says Robinson, it also allowed her to deviate from the script if she chose to introduce other learning strategies, videos or

lesson materials. This became especially important when some students grew less engaged as summer break approached; Robinson had the freedom to include videos to help reignite their interest.

Students were able to pick their own independent reading selections from hundreds of leveled texts included in the program. Robinson especially appreciated the many nonfiction selections targeted to her students' interests.

"I thought it was going to be torture, making kids that don't like reading to read for 15 minutes every day, but actually it wasn't," says Robinson. "The kids thought it was so cool that they could choose their own titles." Students also shared their reading choices with classmates, raising the general excitement. Given the emphasis in the Common Core State Standards on nonfiction, says Robinson, it was good to have a resource for nonfiction texts that students enjoyed. She appreciated that lessons were aligned with Common Core.

The ease of access to student data has helped Robinson in conferences with parents, enabling her to pull up concrete numbers for a particular student rather than having to rely on general impressions. "For years, we were trying to teach intervention classes with no systematic approach. We had no way to monitor the progress students were making. Now we have that critical data."

Robinson says the digital literacy program she is using is "one of the coolest things I've seen in 16 years of teaching. I definitely think that it makes it easier for teachers to teach ELLs with this program and students are more engaged because it is paced at their level."

Conclusion

It is more critical than ever for school districts to meet the needs of ELLs now and into the future. By making use of technology-based solutions, such as digital literacy tools and curricula, districts can provide much-needed assistance to teachers. These engaging, interactive platforms improve student learning and help teachers provide personalized instruction. Digital literacy programs don't replace teachers, but can be key to helping ELLs achieve fluency in English — and success in school and beyond.

Endnotes

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