

The Need to Read

How new digital literacy solutions
can reduce high school dropout rates



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Introduction

Students today are entering into a more competitive workforce than ever before. A study conducted by Georgetown University found that 63 percent of all new job openings by 2018 will require workers to have at least some college education. Just 12 percent of jobs will be open to those without a high school diploma.¹ Yet education retention rates continue to be unacceptably low across the U.S. In some areas, such as Nevada and the District of Columbia, about 40 percent of freshmen students don't graduate.² And each year, three million high-schoolers drop out.³

Literacy is the foundation to a student's educational — and workforce — success, but it is also a challenge for many students in today's educational system. The National Assessment of Educational Progress (NAEP) found that 64 percent of eighth graders scored below proficient on NAEP reading assessments in 2013.⁴ About 20 percent of Americans 15 and older lack basic functional literacy skills, according to an assessment by the United Nations.⁵ Unfortunately, students who are unable to read at their grade level are at least twice as likely to drop out of school.⁶

To improve the futures of our students — and the economy — it is critical to improve literacy rates and student retention. But how? Too often, reading intervention programs require specialized staff or training and can be difficult to implement widely. However, new technology is emerging that makes literacy intervention in the classroom on a broad basis much more achievable. This Center for Digital Education (CDE) white paper discusses how you can bridge the reading gap, significantly improve literacy in your school or district with new online instructional solutions, and reduce student dropout rates.

The Lowdown on the Literacy Challenge

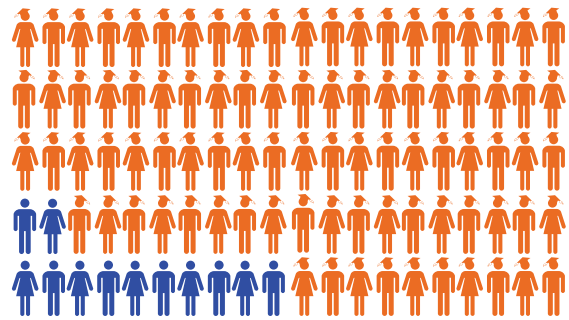
Mike is entering eighth grade at an overcrowded, underfunded public middle school. He is already dreading it, particularly the load of textbooks he will be assigned and expected to read. He finds the textbooks boring, full of charts he can't interpret and words he doesn't know. They don't seem to have anything to do with his real life, and he

The Real Problem with Student Retention



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can't imagine how they ever will. In addition, he's a digital native, has grown up with digital tools like his smartphone and tablet, and wishes he could use these at school. He has trouble paying attention, and already knows he won't pass his classes.

Mike is fictional, but typical of all too many students who, by middle or high school, are frustrated and feeling defeated within a traditional educational system, where they quickly take on an identity for themselves as failures who can't read.

The so-called "factory model" of education has been predominant in American public school districts for decades. It's a largely one-size-fits-all approach to instruction that teaches all students the same things at the same time, often in the same ways. Too often, this model leaves students with differing learning styles or challenges on the outside looking in.

Some students may have learning disabilities, speak English as a second language, come from disruptive or impoverished home environments with little access to reading materials, or have other needs that aren't met by a traditional curriculum. Some may simply learn at a different pace — either faster or slower than average. Some may need to move around and touch things in order to make intellectual connections: endless sitting in class and passive learning doesn't work for them. Some respond best to multimedia — visual stimulation — as opposed to printed texts. For these and other students, a traditional curriculum that isn't tailored to their individual needs can make it difficult to learn.

Districts have tried focusing attention on students in the primary grades as a way to improve literacy. However, studies have found that some students who are able to read at grade level in earlier grades may struggle when they get to middle and high school, where they must master more complicated texts, such as academic texts replete with charts, graphs and unfamiliar terms.⁷ Indeed, at the secondary level, many students continue to have difficulty with basic literacy. One study found that 25 percent couldn't identify the main idea in a passage or understand informational text.⁸

Another challenge is lack of engagement. Students who continually experience failure and who simply don't understand what is being taught become disengaged. A traditional curriculum with texts that don't connect

with their lives or their interests also contributes to a lack of motivation. And when students aren't motivated or engaged, they are much less likely to learn to read effectively.⁹ Disengaged students are also much more likely to drop out of school.¹⁰

How New Technology-Based Reading Solutions Can Help

Literacy experts know from decades of research what approaches and strategies best foster reading and writing, such as personalized lessons that enable achievement-based learning. The problem is these are often difficult to implement in the real world of overcrowded, under-resourced schools with teachers who haven't been trained in literacy techniques and a scarcity of literacy specialists available to step in. Using technology-based literacy tools can help bridge this gap. Digital reading curriculum delivered via

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mobile devices provides an interactive, personalized medium for reading that keeps students engaged and improves retention. Following are some additional ways technology-based literacy programs can help improve literacy.

Phonics Instruction. Phonics and phonemic awareness are key features of successful reading instruction, especially for students in early grades, according to the National Reading Panel.¹¹ Many engaging, game-like educational software programs are now available that target these skills, allowing teachers to set students up one on one with software programs while they move about their classrooms; this frees teachers to interact directly with students on a rotating basis, while the rest of the class stays busy working with personalized software that can identify their weak areas and adapt instruction accordingly.

"Leveled" texts. Researchers have found that when students can choose what they want to read, their



FLUCKY/SHARESKI

“The engagement of students and teachers is not like anything else the students have been involved with. It gives an opportunity for the kids to be engaged in speaking and listening and reading, all at the same time.”

motivation to read increases.¹² Independent reading time can be spent on texts that students not only like and find interesting, but are at their particular reading level, so that they won't be overwhelmed. Some literacy software programs have extensive libraries of authentic, non-adapted texts chosen to appeal to students at a wide range of interest and ability levels.

Reading practice. Teens need time for sustained reading to improve their literacy skills and vocabularies.¹³ Practice, done independently as well as with the class, is a key element in becoming a successful reader. With literacy software, students can read in or out of class, and work on individualized exercises. Students can listen as their texts are read to them while also reading the words on the page. Some programs are equipped with foreign language translators that are especially helpful for English language learners.

Teacher modeling. If you want to be a good baseball hitter, you can study major-leaguers on TV — watching their stance and swing, perhaps in slow motion. But it's hard to develop reading abilities just by watching someone else read. Teachers need to be able to share with students the

kinds of thought processes and questions that go through their minds as they read.

The Reading Next report identifies teacher modeling as an important component of comprehension instruction. Studies have shown that readers who struggle benefit significantly from experiencing the way teachers think aloud as they read — not only from hearing their intonations and expressions, but also from learning about the thought processes successful readers undergo in order to decode and interpret text.¹⁴

Unfortunately, having teachers read out loud to students becomes less common in secondary grades. Software-based programs with text-to-speech capability or equipped with multimedia texts can “read” to students, replicating this teacher function but on a student's time (perhaps at home or on the school bus, for example). Some instructional programs also feature on-screen explanations (sometimes in video form) of learning techniques and strategies, much as a teacher might explain in class. These enforce a gradual-release model of learning, where first a student observes a teacher perform an action, then does this action with the whole class, then feels confident enough to tackle it independently.

Vocabulary instruction. Learning vocabulary is one of the keys to developing reading comprehension. Students need to know what specific words mean, but more importantly, how to infer the meanings of words from context, morphology or other clues.¹⁵ Some technology-based reading programs include exercises, games and text passages designed to help students do just this — understand the context the words appear in,

Real-World Reading Success Story

A large U.S. school district began piloting a tablet-based literacy program for its English as a second language (ESL) students in early 2013, using federal grant funding.

The district distributed tablets loaded with literacy software to nearly 500 students at middle and high schools throughout the district to use in school-based programs.

Students include 8th, 9th and 10th graders from schools with very high ESL populations and a high immigrant population, many living in poverty. "This is a group of students who — if we don't do something quickly — we lose them," says a district representative.¹⁶ "To give them a program like this, where they can customize their learning, as well as give them opportunities for speaking, listening and writing in English — it was easy for us to make that decision."

Before the teaching began, both teachers and students received training. Students were pulled out of classes for a one-day session to learn how to use their tablets and the new learning software. Some of the teachers involved in the pilot had no prior experience with touchscreen devices. Many of the veteran teachers also had to learn new ways of thinking about their teaching.

It wasn't easy for some teachers to give up the model they had used for years. Instead of relying on basal readers and textbooks, teachers turned to their tablets — which also provided individualized lessons for students, meaning the teachers had to relinquish some control.

However, says the district representative, "As they saw the positive results — as they saw their students reading better and speaking better — it became a little easier for them to understand the dynamics of the program."

Students in 8th, 9th and 10th grades used the devices in their developmental language arts programs 90 minutes every other day. The

program had an immediate impact. The students came to class early, were eager to be there and were engaged.

The new tablet-based literacy program is unlike previous computer-based reading and writing software the district has used, due to its peer and teacher participation features. Teachers can be involved — they can read books out loud with the class (projecting the digital text on a whiteboard) and work through other classroom activities using the tablets, such as vocabulary lessons and discussions, which sometimes involve student "polling" with real-time results showing up on the whiteboard.

"The engagement of students and teachers is not like anything else the students have been involved with," says the district representative. "It gives an opportunity for the kids to be engaged in speaking and listening and reading, all at the same time."

Teachers can see students' daily writing and send comments back to them. This type of instantaneous feedback is more helpful than collecting papers, grading them and returning them days later.

The literacy program includes many novels aimed at different reading levels. Teachers like students being able to read longer texts, rather than the "chunked" short material in their basal readers and textbooks. It helped students develop the endurance they needed in order to become successful readers.

Another key feature: personalization. The program tracks a constant stream of data based on student answers to questions. If students keep getting an answer wrong, the program won't advance them, but makes sure a student understands a lesson before progressing.

The district wants to have a full year of implementation piloting completed before expanding the program further, but teachers are already eager to begin the school year with the tablet program. "The teachers are saying, 'Can we hurry up and start? I don't want to do anything else but this,'" says the district representative.

as well as provide definitions, morphological analysis and images of words.

Frequent writing practice. Literacy involves not just reading, but writing as well. Teachers don't always have time to read long passages written by their students or to mark up every mistake. Software-based writing programs, however, can let a student practice writing repeatedly, using machine scoring to help guide a student until he or she has revised a writing sample for a teacher's review.

Formative assessment. Formative assessment — or continuous feedback — is critical during the learning process, so teachers can see where students are struggling and intervene while the lesson is still fresh. Software-based literacy programs can constantly monitor students' work and report findings to teachers in easy-to-read dashboards. This helps teachers provide more targeted or personalized instruction. Many software-based literacy programs use formative assessment to recommend specific instruction to different students.

Interactive lessons. Mobile devices such as tablets equipped with literacy software enable teachers and students to move more freely around the room. What's on the student's or teacher's screen can be projected on a whiteboard for all to see. Teachers can use quick-response polls or questions sent digitally to some or all students during class discussions to keep the class engaged, and to gather data to adapt instruction. All of these are engaging steps that keep students attentive.

Personalized learning. According to the Nation's Report Card concerning fourth-grade reading: "In a class of students, few if any teachers can find even five minutes of time in a day to devote to reading with each student."¹⁷ This makes it difficult for teachers to provide personal attention to each student's needs. Targeted or differentiated instruction is often provided in software-based learning programs through personalized study plans that diagnose knowledge gaps and provide remediation. Assignments are individualized, with the program keeping track of how a student has performed on previous lessons in order to place him or her at the most appropriate level of exercise to maximize learning.

Working with other students. Collaborating with other students, either in pairs or small groups, is another key to successful, engaging learning. Technology-based reading



Digital reading curriculum delivered via mobile devices provides an interactive, personalized medium for reading that keeps students engaged and improves retention.

programs can be used by students to work in this fashion, especially when students have mobile technology that they can take with them to learning centers within a classroom. Students can meet in small groups for group reading, discussions or other types of projects, using their devices as resources.

The Benefits to Retention and Beyond

Some digital learning solutions have been proven to raise reading levels two grades in one year. And research has found that students who read more frequently tend to have higher levels of education achievement than students who rarely read.¹⁸ These students are more likely to find school motivating, rewarding and engaging. They are less likely to drop out and more likely to go to college, as well as to become lifelong learners.

But there are benefits to using technology-based learning programs that go beyond retention rates. The Common Core State Standards, approved by 45 states and the District of Columbia, and now beginning to be implemented in school districts, have a variety of literacy goals. Students are expected to read more informational

and non-fiction texts in all core classes, not just English. They must learn to understand more difficult, complex texts. Students will also be expected to read at grade level.

Early implementation of Common Core assessments has shown that students are finding the material more challenging. The state of New York, for example, found that fewer of its students in grades three through eight were considered proficient in English language arts under the Common Core standards than under its previous standard testing — dropping from 55.1 percent proficient in 2012 to only 31.1 percent for 2012-13.¹⁹

As reading and writing standards become more rigorous, it becomes even more imperative for districts to find learning solutions that can help students meet these goals without becoming discouraged and disengaged. Technology-based learning programs, in conjunction with teachers who are trained to use them, can help overburdened public school systems meet these challenges. Software-based reading programs

often include embedded tools that support students in reading, with prompts that further explain concepts and guide students in reviewing material until it is mastered. Performance-based tasks — such as writing challenges and other text-based assignments — allow for a more nuanced, sophisticated measuring of reading comprehension that goes beyond multiple-choice exams.

Conclusion: Bridging the Reading Gap

Technology-based learning and literacy programs provide a way for school districts to raise literacy levels for students, using computers or mobile devices as coaching tools and teaching aides. They are not meant to replace a full-time teacher or literacy specialist, but to help provide additional personalized services to students. Teachers can use these cost-effective tools to engage and motivate students to find enjoyment — and achieve proficiency — in reading and writing in order to close the literacy gap in our society and graduate prepared students that move on to college or the workforce.

Endnotes

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