English Learners and Technology

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Challenges Confronting English Learners

English learners (ELs) constitute the most rapidly growing segment of the total pre-K–12 public school enrollment—growing 16 percent from 2003 to 2014 (National Center for Education Statistics, Common Core of Data, 2003–04 through 2013–14). Compare that to the general school population, which grew by only 3 percent during the same time period. Some states have experienced even higher rates because of the recent shift away from the traditional receiving states. New receiving states (South Carolina, Kentucky, Nevada, Delaware, and others) have experienced much higher rates, between 200–300 percent (Horsford & Sampson, 2013). Schools in these new receiving states are often unprepared for the influx of non-English speaking students and ill-equipped to provide services for ELs.

The maps below (Figure 1) illustrate recent changes: many states are experiencing a dramatic increase in the numbers of ELs (note the number of dark blue and blue counties with added EL students in the thousands). Meanwhile, the major immigration states (California, Arizona, Texas, Florida, New York, and Illinois) continue to serve the bulk of ELs, together accounting for nearly 70 percent of all elementary school children of immigrants in 2014 (National Center for Education Statistics, Common Core of Data, 2013–2014).

Figure 1: Immigrant Children in High and Low LEP Schools
Number of ELs, by County: SY 2011-12

Percentage of All Students who are ELs, by County: SY 2011-12

Most ELs are concentrated in a small number of schools. The Urban Institute’s 2007 report states nearly 70 percent of the nation’s ELs are enrolled in 10 percent of the nation’s schools. These schools are referred to as “high LEP,” where ELs make up more than 50 percent of enrollment. These schools have larger class sizes, higher levels of poverty, health problems, tardiness and absenteeism, greater reliance on unqualified teachers, and lower levels of parent participation. This is the repeating irony in American schools: students who need and deserve more actually receive less.

Not surprisingly, ELs lag behind their peers in most school subjects, since they have the additional task of learning a new language at the same time as they learn new content. Although this gap has narrowed somewhat over the years, it persists. The Nation’s Report Card illustrates this disparity in its report of reading scores for fourth-grade students on the 2015 NAEP (Figure 2).

Looking for the Solution

The Every Student Succeeds Act (ESSA) requires that schools measure students’ English proficiency one or more times annually and demonstrate consistent improvement on average state assessment scores (“Every Student Succeeds Act,” 2015). In contrast to the former No Child Left Behind Act (NCLB) (“No Child Left Behind Act of 2001”, 2002), which required 100 percent of students to be proficient in reading and math and to demonstrate adequate yearly progress for all students, the ESSA permits states to develop their own accountability systems that are customized based on student subgroups. Specifically, schools are allowed to decide how much weight to give each test and to determine appropriate consequences, if any, for underperformance. Further, accountability for EL student performance was moved into Title 1 which grants additional funding for EL services and allows schools the ability to phase in EL test results as a part of their new accountability requirements. Finally, additional grants now available under the ESSA allow states the ability to expand current educational opportunities or activities to encompass more topics, incorporate new technology, and improve learning conditions.
Ultimately, the original goals of the NCLB and the new intitivatives of the ESSA center on student success in core educational topics. The ESSA especially has identified the fact that not all students begin at the same point academically, nor do they grow at the same rate. Therefore, provisions and programs now exist to identify a students’ academic capacity and, hopefully, provide resources that will elevate them to at least the norm. Placing accountability on the states and individual schools now motivates these groups to seek the resources necessary to attain satisfactory passing rates on annual assessments.

To this end, a positive benefit of both the former NCLB and current ESSA has been the recent surge of reports identifying effective literacy instruction for ELs. However, helping ELs become literate in a second language is not straightforward due to a number of factors:

1. English learners vary considerably in their preparation for English literacy instruction. If ELs already read in their first language, the transition to English is much easier, since many literacy skills transfer across languages. A widely accepted belief is that one only needs to learn to read once. Unfortunately, some ELs are not literate in their first language, greatly complicating their efforts to become literate in English (NCLEA, 2007).

2. Literacy instruction alone, even if skillfully delivered, is not sufficient. English learners need a comprehensive oral language development program even as they develop literacy. Oral language instruction can happen (and often must) simultaneously with literacy instruction. This instruction should include comprehensible input, verbal interaction, contextualized language, reduction of anxiety, and active involvement (Herrell, 2000). An understanding of “academic talk” is necessary in order for an EL to make progress in learning the content taught (Kinsella, 2005).

New reports and research summaries take into consideration these unique challenges to becoming literate in a second language. A synthesis of recommendations from these reports is listed below:

1. **Assess and monitor second language (L2) literacy.** Students should be assessed for reading problems, and progress should be carefully monitored (Graves, Gersten, & Haager, 2004; Haager, Gersten, & Graves, 2003; and Gersten et al., 2007).

2. **Provide explicit instruction.** (Graves, Gersten, & Haager, 2004; Haager, Gersten, & Graves, 2003; Martinez, 2011; Saunders, Goldenberg, & Marcelletti, 2013)

3. **Differentiate instruction.** (Baker et al., 2014; Richards-Tutor, Baker, Gersten, Baker, & Smith, 2015)

4. **Develop the same five basic reading abilities** (as identified by the National Reading Panel to be valuable for native speakers). (Shanahan & August, 2006; Education Alliance, 2007; Frances et al., 2006; Moughamian, Rivera, & Francis, 2009):
   a. Phonemic awareness—give systematic and explicit instruction.
   b. Phonics—provide early, explicit, and intensive instruction in order to build decoding skills.
   c. Vocabulary—apply research-based methods for both direct and indirect vocabulary instruction.
   d. Fluency—engage students frequently in oral reading to develop their reading fluency.
e. Comprehension—equip ELs with strategies and knowledge to comprehend and analyze both narrative and expository texts.

5. **Add important modifications** (to the five basic reading abilities) for ELs (Shanahan & August, 2006; Frances et al., 2006; Saunders et al., 2013):
   a. Build on background knowledge.
   b. Scaffold instruction to make it comprehensible.
   c. Develop oral language around content areas. English learners need significant opportunities to engage in structured academic talk.

6. **Provide opportunities to practice.** (Graves, Gersten, & Haager, 2004; Haager, Gersten, & Graves, 2003; Jensen, 2005; Frances et al., 2006; Linan-Thompson & Vaughn, 2007; Saunders et al., 2013)

These recommendations are based on effective instructional programs and are universally accepted, but the herculean effort required to implement them is often unacknowledged. A survey of teachers of ELs in California reveals some common difficulties. Teachers list among their top challenges (1) the wide range of abilities of students in their classroom, (2) insufficient instructional time, and (3) inadequate tools (Gandara, Maxwell-Holly, & Driscoll, 2005). Indeed, these challenges are quite real and are evidenced by current research. The range of reading ability in a typical classroom is estimated to be about ten years and is more diverse than at any time in history (Firmender, Reis, & Sweeny, 2013).

A lack of tools, including appropriate assessment materials, also compromises instruction. Teachers often indicate they do not have textbooks that make the material accessible. English learners use the same textbooks as English-speaking students, even though they often cannot understand them. Additionally, ELs are tested even if they do not understand the language of the test, making it impossible to determine if their low scores are due to language problems or to lack of academic skill. Only one report offers the following suggestion, seemingly as an afterthought:

“**Perhaps schools might use computer technology to support reading instruction.**”
—Educational Alliance, 2005

While computers will never replace teachers, they can certainly share their instructional load. Computer-delivered instruction that follows the recommendations for helping ELs develop literacy (as listed above) can significantly reduce the burdens placed on teachers and give ELs the opportunity to succeed academically, which they both need and deserve (Wild, 2009; White & Gillard, 2011; Cheung & Slavin, 2011). The pages that follow show how technology can assist teachers in this way, as demonstrated by the software program Imagine Language & Literacy.
Imagine Language & Literacy: Implementing the Recommendations

The following section reviews the six recommendations listed above for improving EL performance and illustrates the ways that Imagine Language & Literacy is an effective tool for meeting these recommendations.

**Recommendation #1: Assess and monitor L2 literacy**

The IES Practice Guide (Gersten et al., 2007) on Effective Language and Literacy Instruction for English Learners lists the recommendation to assess and monitor progress first and foremost. They cite a common fallacy: that a lack of oral proficiency in English prevents ELs from learning to read in English. Because of this misconception, screening an EL’s reading ability is frequently delayed. However, oral language measures (syntax, listening comprehension, and oral vocabulary test results) have little relationship to reading acquisition ability. On the other hand, early reading measures (assessing phonological processing, letter knowledge, and word and text reading) are an excellent way of predicting who might struggle with learning to read, even when administered to students who know little English.

The Practice Guide recommends that districts should collect “progress monitoring data,” or conduct assessments more than three times a year for ELs who are at risk for reading difficulties. Progress should be monitored more frequently for students with severe reading difficulties, but the guide acknowledges that testing frequency would depend on district resources.

When assessing ELs, teachers should present two or three practice items before the actual test administration. They should model the task for the child and provide corrective feedback, giving ELs the opportunity to understand what the task requires of them. Ideally, these instructions should be given in the language the student knows best.

Although the benefits of following this recommendation are obvious, assessing and monitoring progress is a labor-intensive and expensive task. Nevertheless, it might be more feasible if managed by computer. A computer-delivered test can be just as friendly (or more so) than a hand-administered test. Students tend to prefer computer-delivered assessments, and there is an actual tendency to do better on a computer-delivered test than on the same test, delivered manually (Abedi, 2009). Computer tests can be administered without requiring teacher delivery and have the additional advantage of providing immediate results.

Imagine Language & Literacy’s assessment is used primarily to gather information for placing students inside the various curriculum strands (vocabulary, conversation, literacy, etc.). Because the courseware addresses a broad range of skills in both literacy and oral language development, the test must be adaptive—otherwise, the test would be unbearably long. Items are selected dynamically based on students’ responses with the goal of determining the appropriate level of difficulty for each student to begin in the courseware.

While most of the test is in English (since it measures English language ability and literacy), each sub-test includes a sample item presented in the student’s first language, and students receive feedback to their responses to the sample items, so the task is clear. During the actual test, students receive no feedback or translation in their first language. Performance results are available immediately, and teachers can see where the student has been placed within each curriculum strand. Concepts are retaught if students do not master them (Figure 3).
Student progress is readily monitored via the scored activities included within a lesson and reported on the individual report. Instruction is adjusted automatically based on student progress, requiring no teacher intervention. For example, if students are unable to master vocabulary words in a lesson, they may need to be retaught.

The logic that allows the computer to assemble the needed activities is illustrated in the flowchart above. The red rectangles represent assessment activities, in which a student’s knowledge of a set of basic vocabulary words is measured. If the student gets less than 80 percent of the words correct, the words are retaught (see R1, the first reteaching lesson). If the score for the words is still below 80 percent, they are re-taught again, using different activities (see R2, the second reteaching lesson). If the words are failed again, then they are retaught one last time (see REOS), at the end of the strand (in this case the vocabulary strand). These decisions take place behind the scenes, and the program selects the appropriate instructional activity based on the student’s success (or lack of success). In this way, assessment immediately informs and modifies instruction.

**Recommendation #2: Provide explicit instruction**

Explicit instruction refers to “task-specific, teacher-led instruction that overtly demonstrates how to complete a task.” (Linan-Thompson & Vaughn, 2007). The task might be a basic, discrete skill, or it might be higher-order reading skill—it doesn’t matter; both can and should be taught explicitly. Elements of explicit teaching include the following:

1. Setting and describing learning goals
2. Demonstrating or modeling how to complete a task
3. Assessing students’ understanding as well as their ability to complete the task on their own (Tikunoff, 1983).
For ELs, explicit teaching provides clear, specific, and easy-to-follow procedures which facilitate learning a new skill or strategy. It has a very important additional benefit: when skills are taught explicitly, ELs also learn the language associated with them (Baker et al., 2014; Richards-Tutor, Baker, Gersten, Baker, & Smith, 2015).

For ELs who are at risk for reading difficulties, we cannot make assumptions about what they already know. As Dr. Torgesen pointed out in an interview for the Florida Reading Quarterly, “we cannot assume that they will be able to figure out our complex alphabetic writing system on their own. We must carefully teach them everything they need to know to become good readers, and that requires systematic and explicit instruction” (Stanley, 2004).

The following are some useful guidelines for explicit instruction (Hall, 2002; Richards-Tutor et al., 2015):

1. **Be explicit about big ideas.** Find a middle ground between no objectives and endless objectives.
2. **Make strategies conspicuous.** All students, but particularly diverse learners, benefit from having important strategies made clear and conspicuous.
3. **Provide mediated scaffolding.** The scaffolding that supports learning should be adjusted as the abilities of the learner change; in other words, the scaffolding is dynamic or responsive to student progress.
4. **Require that students respond frequently.** The more active students are in their learning, the greater their success.
5. **Give immediate feedback for both correct and incorrect responses.**

When ELs are in the beginning stages of learning to decode English texts, explicit instruction allows them to acquire phonemic awareness and decoding skills at about the same rate as monolingual English speakers (Linan-Thompson & Vaughn, 2007).

In the early literacy strand of Imagine Language & Literacy, each reading word is clearly and explicitly taught. Sight words, for example, are spelled, spoken, and used in a context-rich sentence (Figure 5).

**Figure 5: Note This**

The sight word, *friends*, is spoken, spelled, and translated into the student’s first language.

The student hears and sees the sight word in a sentence and on a page taken from the decodable book.
Notice that students are required to be active throughout this activity: they drag the letters to spell the word (receiving feedback immediately as to correctness), and they then click on the green button to create an audio recording of the word. After studying the sight words in the activity shown above, students will play two games—an automaticity game designed to build recognition speed, and another that measures their recognition accuracy (an assessment) prior to reading the decodable story.

More complex skills, such as answering an inferential question about a story, are also taught explicitly, relying on insights developed by Raphael (2006).

**Figure 6: Answering Inferential Questions**

A student (left) tries to answer inferential questions, but is confused. Alex, an Imagine Language & Literacy character, demonstrates the strategy: “When you answer an inferential question,” she explains, “you must do two things: look in the book and use your head.”

Alex demonstrates how to answer the question: (1) find the page in the story that talks about the “teacher,” then (2) Alex “uses her brain,” relying on her own background experience: she gives gifts to people for their birthday or when she is saying good-bye to someone she likes. Students then answer additional reading questions, with Alex at their side, guiding and providing feedback.

**Recommendation #3: Differentiate instruction**

When a teacher differentiates instruction, she tailors it to fit the learners’ needs: she reacts responsively to individuals. She recognizes students’ varying background knowledge, readiness, language, preferences in learning, and interests, and she responds accordingly (Hall, 2002).
The purpose of differentiation is to take the students where they are and move them forward in the learning process. It is a powerful tool, but one that teachers struggle to use as they face a classroom full of learners—typically spanning five years in reading ability (as mentioned above).

Differentiation is rooted in educational theory and research many years old. It is grounded in the work of Vygotsky (1978), who developed the notion of “the zone of proximal development” (ZPD). This is the range where the best learning takes place, the place slightly ahead of the student’s current level of mastery where the student is able to profit from instruction as opposed to being either bored or overwhelmed. Researchers believe that in classrooms where students are performing at about 80 percent accuracy, they learn more and feel better about themselves and the subject they are studying (Tomlinson, 2000; R. S. Martínez, Harris, & McClain, 2014).

Assessment can aid differentiation when it is used for more than just merely measuring instruction. It can identify a student’s ZPD and, when the assessment is computer-delivered, it can then identify appropriate curriculum.

Imagine Language & Literacy differentiates students’ instruction in at least four ways:

1. The placement test determines separate starting points in vocabulary instruction, literacy instruction, and oral language development.
2. The Imagine Language & Literacy program itself regulates or sequences instruction based on students’ performance. If, for example, a student has mastered a set of vocabulary words three lessons in a row, the program will accelerate instruction, streamlining activities. On the other hand, if a student is not mastering a concept, the program will reteach it.
3. The student can receive first-language support that is strategically withdrawn as they become more familiar with each activity.
4. Students receive informative feedback tailored to their responses.

This ability to differentiate instruction is important to schools with ELs, as their classrooms include learners with diverse experiences and abilities.

Silly Animals is a vocabulary activity that teaches verbs and adjectives (Tier 1 words or BICS), and provides instructive feedback for both the correct and incorrect responses. Note the engaging interaction involved in identifying the correct meaning for each English word (Figure 7).

Figure 7: Differentiating Feedback in Silly Animals

The student is invited to click on two things that are hot. In #1, the student moves the drink down to the empty box. The incorrect feedback audio is, “In this picture the drink is cold.” The student then clicks on the bubble in #2 and again there is a similar response: “In this picture the bubble is round.” Finally, in #3 the student picks both examples of “hot.” When the correct object is placed in the empty box, they receive the positive feedback: “You got it! The stove is hot.” At the end of 3 or 4 words, the student can select an animal and move it around a scene.
Another way to view how Imagine Language & Literacy differentiates instruction is by observing a conversation between Imagine Language & Literacy and an imaginary student named Miguel (Figure 8).

Figure 8: Differentiated Instruction for Miguel

- Assigns a test for Miguel, providing sample items in his first language with feedback, and the rest in English.
- Based on Miguel’s answers, adaptively selects the most informative questions.
- Selects Miguel’s diet of instruction—assigns starting points in each strand based on his responses to the adaptive pre-test.
- Clarifies tasks (if cognitively demanding) using his first language.
- “That’s wrong.” Explains in Miguel’s first language how to find the right answer (If he answers incorrectly again, the program will show him the right answer.)
- Adjusts Miguel’s pace based on his performance:
  - Normal
  - Normal + re-teach
  - Accelerated
- Summarizes Miguel’s performance in a report for him and his teacher.
- Name: Miguel
  - Grade: 1
  - L1: Spanish
- Answers placement test questions (student input on adaptive assessment)
- Enlists assistance by clicking on words, replaying video or audio, rereading, comparing recording with model, etc.
- Responds incorrectly to a question
- ...or gets the answer right!
- Performance over time alters pace
Recommendation #4: Develop the same five basic reading abilities (as identified by the National Reading Panel to be valuable for native speakers)

1. **Phonemic awareness** is one of the best predictors of how well children will learn to read during their first two years of school (Learning First Alliance, 2000; National Reading Panel [NRP], 2000; Macaruso, Hook, & McCabe, 2006). If students have phonemic awareness in their first language, they can readily transfer that knowledge to a second language (McIntosh, Graves, & Gersten, 2007; Gersten & Geva, 2003; McIntosh et al., 2007). However, if the new language they are learning has new phonemes—phonemes that may not exist in their home language—then they will need explicit instruction in producing these sounds (Linan-Thompson & Vaughn, 2007; Atwill, Blanchard, Christie, Gorin, & Garcia, 2009).

One of the phonemic awareness activities in Imagine Language & Literacy, Discover Similar Sounds, shows students that both English and Spanish have the /s/ phoneme. Another activity, Meet New Sounds, teaches Spanish speakers a new phoneme: /sh/.

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**Figure 9: New and Similar Sounds**

1. Students with Spanish as their first language learn that English also has the phoneme /s/, a phoneme they also know in Spanish. They are shown sample words in both languages with the same sound—silla, soap, stop, and sun—in an activity called Discover Similar Sounds.

2. In Meet New Sounds, students learn a new phoneme. They hear the sound in shoes, ship, sheep, and shell.

3. Students can see how /sh/ is spoken by watching a video; then they are invited to imitate it.

4. They then identify pictures that begin with /sh/.
2. **Phonics instruction** refers to teaching the structure of English beginning with letter-sound correspondences through the reading of connected text. It gives students a framework for making sense of English orthography. Daily integrated lessons that include explicit introduction of letter-sound relationships and provide opportunities to blend the sounds to read words, to build words, to read decodable texts, and to practice spelling words will enhance students’ beginning reading experience (Blevins, 1998). The IES Practice Guide warns about delaying phonics instruction in order to “wait and see” if ELs will overcome their reading difficulties as they become more proficient in English. Rather, if ELs are experiencing difficulty decoding words, they should receive explicit, systematic, and intensive phonics instruction (Gersten et al., 2007). Since it takes longer to learn to read in English than it does in most languages (Quioroga et al., 2002), phonics instruction should not be withheld.

Effective instruction in phonics includes these practices (Linan-Thompson & Vaughn, 2007):

- Letter-sound correspondences should be taught explicitly and in isolation at the start, then they should be reinforced with daily efforts at applying this knowledge while reading and writing.
- Provide opportunities to work with word families and spelling patterns. Analogy-based phonics is useful once the letter sounds are mastered.
- Provide ample opportunities to apply the knowledge of letter-sound relationships in reading.

**Figure 10: Phonics Instruction in Imagine Language & Literacy**

Letter sounds are taught explicitly at the start, and then students work on recognizing spelling patterns.

Students learn to decode words using their knowledge of letter-sound correspondences and then practice reading words in books.
3. **Vocabulary** development is perhaps the most needed element of literacy instruction for ELs. Without an understanding of key story vocabulary, it is impossible to comprehend the story. Despite this reality, the amount of vocabulary instruction in US classrooms is only about five to ten percent of classroom instructional time. Many lessons don’t give any attention to word meanings. With the expanding EL population, this neglect is troubling (Francis et al., 2006).

Five important principles should guide vocabulary instruction:

1. Teach both the definition and the context so that students get the definitional information as well as hear the word used in multiple contexts (Stahl, 1985).
2. Provide a first-language translation for the word to help students draw directly on familiar experience and expedite learning (Nation, 2001).
3. Encourage deep processing: engage students in thinking about words and in making links to other words (Beck & McKeon, 2002).
4. Provide students with multiple exposures to the target words (Stahl, 1985).
5. Choose high utility academic words (such as analyze or frequent) or important function words (Francis et al., 2006).

When students read leveled texts in Imagine Language & Literacy they have an opportunity to explore key vocabulary words in Word-A-Tron. In this activity, they can listen to the word and definition in English and, if they choose, hear a translation of the word and definition in their first language. Students then choose, from four pictures or words, two items that are related to and examples of the target vocabulary word. Finally, they choose the sentence that fits the target word, dragging the word to the blank. In this way, they are able to see a definition, a context, and they process the word more deeply (Figure 11).

4. **Reading fluency** is more than speed and accuracy—it also includes phrasing, prosody, and inflection. Each of these is considered an indicator of comprehension, as readers must understand the meaning of a sentence in order to give it the right expression (Francis et al., 2006).

Several critical elements have been documented to improve the reading fluency of ELs (Linan-Thompson & Vaughn, 2007):

1. Provide an explicit model of fluent reading.
2. Give students multiple opportunities to read the same text.
3. Assist ELs in obtaining word meaning and background for the passage before and during reading.
4. Be mindful about engaging ELs in oral reading practices that are too challenging or embarrassing.

One of the ways to provide an “explicit model” is through echo reading. In echo reading, students read text aloud after listening to a model. Typically, teachers read part of the text (usually just one or two sentences at a time, depending on students’ oral language proficiency). Then students echo read the same text, trying to imitate their teacher’s rate and expression (University of Texas Center for Reading and Language Arts, 2002 (O’Shea, McQuiston, & McCollin, 2009)).

When students echo read in Imagine Language & Literacy, they record a page, using the recording buttons on the far right of the screen (Figure 12). When they finish, their recording is automatically played back for them, followed by the model. Students can record again until they are satisfied with their fluency. Final recordings are saved for
teachers, who can listen to it at their convenience (Figure 13).

5. **Comprehension** is particularly important with ELs. There is considerable research showing that foundational skills in reading are acquired by ELs, but there is often a breakdown with reading comprehension (Linan-Thompson & Vaughn, 2007). One likely cause of this difficulty is ELs often encounter more unfamiliar English words and fewer familiar topics while reading than their monolingual English peers (Garcia, 1991; Jimenez et al., 1996; Giroir, Grimaldo, Vaughn, & Roberts, 2015). When Garcia compared fifth- and sixth-grade monolingual English speakers with their Spanish-speaking peers, he observed that Spanish-speaking students did significantly worse on the scriptally implicit questions, or those questions that required them to use background knowledge. The low- and average-performing Spanish speakers did not know when they were supposed to rely on background knowledge to answer some of the test questions and instead attempted to answer them through a literal interpretation of the text.

For this reason, the Imagine Language & Literacy activity **Understand What I Read** was designed to explicitly show ELs how to answer questions that require background knowledge (similar to “Author and Me,” a question-answering strategy described by Raphael, 2006). If students answer inferential questions incorrectly, they are shown the page of the story containing the partial answer. If they answer incorrectly again, the background knowledge and reasoning are supplied.

For example, this inferential question requires students to identify the meaning for the simile “runs like the wind” (Figure 14). If a student answers incorrectly, the narrator explains that this is an “inferential question” (indicated by the icon at the bottom of the screen) and takes the student to the supporting page (enlarged) in the story saying “Read this page again.” Then it explains the logic behind drawing the appropriate inference: “The story says she passed the other runners, so she is going fast” (Figure 15). If the teacher has selected first-language support, this explanation is provided in the student’s home language. If the student still answers incorrectly, the feedback explains, “When you ‘run like the wind,’ you run fast.”

**Recommendation #5: Add important modifications (to developing the five reading components) for English learners**

Clearly focusing on the five elements of reading is very important, but insufficient. English learners need help in building their background knowledge. They need scaffolding for discussing and reading in the content areas. They need safe opportunities to engage in structured, academic talk. All agree that academic language is important for student achievement and that limitations in academic language development are the root of most ELs’ academic difficulties. There is a pressing need to attend to the role of academic language and to support its development (Gersten et al., 2007).

The glossary developed by the Center for Research on Education, Diversity and Excellence (CREDE, 2002) defines academic language proficiency as the language skill level needed for mastering academic material, including both written and oral language. TESOL defines academic language as

*Language used in the learning of academic subject matter in formal schooling context; aspects of language strongly associated with literacy and academic achievement, including specific academic terms or technical language, and speech registers related to each field of study (TESOL, 2000).*

Often ignored are the words used during instruction, in exams, and in textbooks because they are commonly perceived as words with which students should not have difficulties. However, these words are very important and need to be explained (NCELA, 2007).
Research studies paint a rather bleak picture: ELs’ speed of acquiring English vocabulary seems in many cases not to be adequate to bring them up to native speaker levels by first or even fourth grade. English learners do learn English vocabulary at a steady pace similar to that of their English-only (EO) classmates, with the result that they remain on average about one standard deviation below EO students on vocabulary assessments. Given that vocabulary is one key predictor of reading comprehension outcomes, it seems clear that the consequences of this vocabulary deficit in terms of ELs’ capacity to learn the content presented in textbooks, are quite severe (Snow & Kim, 2007).

Imagine Language & Literacy has a series of activities designed to build academic vocabulary. For example, here is how the word “research” is taught and elaborated upon (see Figure 15): In the first activity, Word Videos, a video shows a student asking her teacher how to do research, which she explains in detail. The word is presented in a sentence that is displayed. Students see this video multiple times. Students then play a game, Go for the Gold, in which they can click on videos to determine the correct word for the cloze sentence (the video character is researching in order to write a report). Students practice their understanding of the word by listening to clues and trying to identify the word correctly with the fewest clues in Name that Word. Finally, students demonstrate their understanding in a test, Show What You Know. Throughout these activities, there are conversations including the target word, illustrating correct usage in multiple contexts.

Recommendation #6: Provide opportunities to practice with feedback

All students, but particularly ELs, need many and varied opportunities to practice their language and literacy skills, including feedback and assistance from the teacher (or computer) as well as independently (Graves, Gersten, & Haager, 2004; Haager, Gersten, & Graves, 2003; Jensen, 2005; Francis et al., 2006; Linan-Thompson & Vaughn, 2007). “Many” and “varied” are key features of valuable practice and are often identified by brain researchers, who assert that practice should be interesting, not just repetitive. They also add it should be “active” (students must respond frequently) and include “feedback” (Jensen, 2005).

English learners benefit from repeated exposure and use of content words scaffolded with support and feedback. One way to achieve this is through reading aloud, which provides an opportunity for practicing effective language use. When ELs are paired with a fluent model (e.g., a narrator on the computer), they have an opportunity to practice appropriate expression with support. Structured experiences with academic language are typically only given “minimal focus” (Francis et al., 2006).

Schools seek to provide as many of these practice opportunities as possible, but they are limited in terms of time, materials, and number of trained ESL teachers.
For this reason, Imagine Language & Literacy provides multiple and varied interactions with vocabulary words. Note, for example, the repetition provided for Tier 1 vocabulary words (Figure 17). A single set of nouns, verbs, and adjectives are introduced and practiced through many activities—more if students forget (automatic reteaching) and fewer if students are successful. Students hear each target word, are prompted to repeat it, see an illustration of the word’s meaning, place the word in an online dictionary, take home a printout of the word to practice at home, and more. This method is based on the premise that “what is reviewed will be remembered” (Jensen, 2005).

Figure 17: Sample Vocabulary Lesson for Tier 1 Words
In addition, students have many opportunities (Figure 18) to practice speaking in a low-risk environment by recording conversations (after listening to a video model) and by singing (karaoke style). Teachers can access student recordings to evaluate progress in the student portfolio.

**Figure 18: Opportunities to Practice Speech**

Students hear songs, nursery rhymes, and chants. The text of each song and chant is highlighted as the words are sung or said. Students sing along karaoke style.

Imagine Language & Literacy provides opportunities to listen to and to read content area selections, providing practice with academic language. For example, before students read one of the leveled articles about the development of vaccines (Figure 19), they study key vocabulary words (“observe” and “hypothesize”), interacting as they determine related words and appropriate context for the target vocabulary word. Then they listen to a fluent model read the article. As students record their own reading, they are able to practice language related to the scientific method. For additional support, they are able to click on any word and hear its pronunciation before recording. Each article is additionally supported by a paired article on the topic (building background knowledge); each story has two levels of text complexity (simplified and advanced).

When students finish reading the article, they receive a printout, requiring them to complete a graphic organizer about the scientific method. This graphic organizer also serves as a prompt for composing a summary. The printout could be completed with a more fluent peer, allowing for additional “structured” academic talk.

**Figure 19: Stopping the Killers**
Conclusion

English learners are faced with a daunting task; they have the responsibility to learn a second language and content in that language at the same time. Research centers and educational leaders suggest that ELs will experience more success if teachers have the resources to assess and monitor progress, provide explicit instruction, differentiate teaching, and develop the five basic reading abilities as well as build academic language. However, the realities of classrooms—the influx of ELs, the shortfall of resources—make meeting these recommendations difficult, but not impossible.

The Educational Alliance suggests that schools rely on technology to support reading instruction. They identify four general capabilities that computers can provide to support students learning to read:

1. Present information and activities to students
2. Assess students’ work
3. Respond to students’ work
4. Provide scaffolds (access to word pronunciation and definitions that help students read successfully)

We believe they are right. Technology can help schools realize NCLB’s purpose and provide more opportunity for ELs to succeed. The best way to determine whether technology can be an effective tool is to look at its impact on students’ scores—the same scores that are used to determine AYP.

Studies of Imagine Language & Literacy’s impact are encouraging. A study conducted by an independent evaluation group (The Whale Hunters, Inc.) looked at the performance of Arizona students during the 2014–2015 school year. English learners in Arizona that used Imagine Language & Literacy significantly outperformed their peers on the Scantron Reading Performance Series and Scantron Reading Foundations tests. Figure 20 below illustrates the power of technology to help close the gap between ELs and their English-only peers. There is reason to believe that technology offers a promising solution for developing L2 literacy.

Figure 19: Average Scale Score Growth for Imagine Language & Literacy and Non-Users

Technology can help schools realize NCLB’s purpose and provide more opportunity for ELs to succeed.
Works Cited


ASCD’s comments on Title I of the NCLB Reauthorization draft. (September 2007). Available at: http://www.ascd.org/ASCD/pdf/new Sandissues/ASCDpercent20Commentspercent20onpercent20NCLBpercent20Draftpercent20Discussionpercent20FINAL.PDF


Education Alliance at Brown University. (n.d. [a]). Meeting the literacy needs of English language learners. Retrieved from The Knowledge Loom website October 22, 2007. Available at: http://knowledgeloom.org/elemlit/ English learners_meetnds.jsp


Moughamian, A. C., Rivera, M. O., & Francis, D. J. (2009). Instructional models and strategies for teaching English language learners. *Center on Instruction*.


University of Texas Center for Reading and Language Arts. (2002). Effective fluency instruction and progress monitoring. Austin, TX: Texas Education Agency.

