Comparing Reading Research to Program Design

AN EXAMINATION OF MCGRAW HILL EDUCATION'S *WONDERS*, AN ELEMENTARY LITERACY CURRICULUM

June 2021

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These reviews were commissioned by Student Achievement Partners, a nonprofit that believes challenging K-12 academic standards, in the context of culturally relevant teaching and equitable classroom practice, are non-negotiable when it comes to improving student outcomes. In partnership with other passionate change-makers, Student Achievement Partners designs tools and resources, professional learning, and other supports, grounded in research and the realities of the classroom.

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Comparing Reading Research to Program Design: An Examination of McGraw Hill Education's *Wonders*, an Elementary Literacy Curriculum

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Introduction

This review is the second in a series of elementary English Language Arts instructional programs sponsored by Student Achievement Partners.[1] This review is of a leading basal reading program: McGraw Hill *Wonders*—a program in wide use in schools across the nation and with publishers who have proven to be interested in and responsive to feedback. We selected the 2017 California edition of *Wonders* because it provides comprehensive attention to English learner instruction and supports.

The evaluation on the following pages reviews *California Wonders* (©2017) from a different lens than the well-known EdReports reviews: it evaluates how closely the curriculum aligns to the reading evidence base. Notably, EdReports, whose teacher reviewers rated *Wonders* (© 2020) highly, evaluates instructional materials for their alignment to college- and career-ready standards.[2] Both types of reviews are essential ingredients to determining the quality of a curriculum. Standards alignment to the research helps define the "what" of instruction; a reading research alignment review goes a step further to explain more about the "how" to teach that "what" with nuance and fidelity. For example, standards set clear expectations for text complexity and vocabulary development; research explains how best to build students' vocabularies and effectively teach complex texts. This review aims to make transparent the research-based practices that should be evident in literacy programs and in play in classrooms, with particular attention on accelerating students who are not reading at grade level or who might be learning English and working on acquiring grade-level literacy.

The areas of inquiry selected generally have a sound evidence base demonstrating their efficacy in reading and language development. They include:

1. Securing solid foundational reading skills early on in students' school careers (ideally by grade 3) so students can continually develop as fluent readers in every grade level after that.
2. Deepening understanding of what students read through regular reading of ever richer, more complex text, with supports as needed for universal access and success.
3. Expanding students' knowledge of the natural and social world so students develop a trove of knowledge to reference whenever they read.
4. Ensuring English learners can comprehend grade-level content instruction provided in English through "just-enough, just-in-time" supports.
5. Offering historically and culturally responsive instruction and representation in children's literature.

These five areas are mutually interdependent and, when activated, work together to produce results for students. A research-based comprehensive set of instructional materials should drive literacy learning in schools. The best of them integrate these literacy elements in powerful ways. Ensuring such power is in the hands of teachers and students is crucial.

If you use a basal reading program that shares some aspects of *Wonders* but not others, it follows that some of the research findings in this report will apply and others may not.

Review Process

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[1] The first review was of *Teachers College Units of Study,* representative of balanced reading programs.

We enlisted five literacy experts to evaluate the attention paid by *California Wonders* (©2017; referred to as *Wonders* elsewhere*)* to the research base in fundamental reading and language development areas. Each expert wrote an analysis based on his or her deep, demonstrated familiarity with the latest research on literacy instruction, equity, and culturally responsive instruction and how research translates into exemplary practice. In the analyses that follow, you will hear from each expert as he or she assesses the program for inclusion of critical components of literacy instruction and shares a perspective on how well the program's elements reflect the relevant research base. Collectively, the reviewers tackled issues of equity and inclusiveness. Following are our five experts in the order their reviews appear in the report:

- Dr. David Paige analyzed the sufficiency of **foundational skills instruction**: print concepts, phonological awareness, alphabetic knowledge, systematic phonics, and reading fluency.

- Dr. Lily Wong Fillmore analyzed the extent to which the program provides students with **regular opportunities to read complex text and develop academic language**.

- Dr. Sonia Cabell analyzed the program for its attention to **building knowledge about the world**.

- Dr. Claude Goldenberg analyzed the **adequacy of supports for English learners** present in the program.

- Dr. Autumn Griffin analyzed the extent to which *Wonders* offers **historically and culturally responsive instruction and representation** in children's literature.

Each researcher review begins with an introduction of major research, followed by a summary of findings and an explanation of the review process. The reports then proceed into a more detailed, research-based discussion of how *Wonders* measures up for that focused aspect of literacy and equity.

As part of the *Wonders* review against the research, we also assembled a group of veteran California-based educators, all very familiar with the *Wonders* program, to reflect on their experiences with the program. They focused primarily on its ease of implementation and use and reflected on the same critical focus areas as the researchers. Their reflections can be found in the final section.

While we selected the 2017 California edition of *Wonders* because of its comprehensive attention to English learner instruction and supports, we also reached out to the publisher of *Wonders*, McGraw Hill Education (MHE), since the company recently released a 2020 edition of the program. Although our researchers and practitioners were not able to access the 2020 edition, MHE's *Wonders* staff graciously met with us to describe and demonstrate several improvements between the 2017 and 2020 editions. We acknowledge descriptions about various enhancements provided to us by the MHE team throughout the individual focus areas. In addition, we worked to respond to their comments on a pre-publication version of this review.

Executive Summary

The literacy expert reviewers admired several aspects of *Wonders*. The basal contains much research-aligned foundational skills content. It is chock full of English learner supports built into the very architecture of the program. Ample grade-level-appropriate complexity can be found across the grades in the rich anchor texts. These anthology readings are rich and varied—many are worthy of a deep dive. *Wonders* has taken an initial stab at increasing the cultural diversity of the texts and authors and providing ancillary guidance for culturally relevant pedagogy with the materials. Knowledge building is evident in some units.

However, a consistent finding shared by the researchers and seasoned practitioners alike is the overwhelming nature and sheer bulk of *Wonders*, a significant issue that dilutes its many strengths. One reviewer aptly summed up the sentiment:

> *"Implementing* Wonders *is similar to eating at a buffet when you are on a diet. Healthy choices are there, but not all the food is good for you."*

With *Wonders*—as with every other basal program—students are dependent on their teachers adeptly sorting through all the content offered and selecting the right stuff to teach to their students. Teachers with less experience are likely to find the content overload dismaying and confusing. Some teachers will feel the need to cover all the content in the program (which is not possible in the time allotted to ELA study); others will have difficulty choosing what will best serve their students. Teachers could easily shortchange research-based elements. The "make-your-own-adventure-because-one-cannot-possibly-teach-all-that-is-offered" design of *Wonders* left reviewers skeptical that crucial aspects of reading acquisition would get the time and attention required to enable all students to become secure in their reading ability.

The practitioners who contributed to this report reflected on the importance of accessing the "healthy stuff" in *Wonders*. They noted the challenge for teachers comes in knowing which pieces of *Wonders* to prioritize and which ones to reduce or leave behind. They met that challenge initially through meeting as a staff on the components and organization of the instructional materials. District coaches wrote Unit Guides to support teachers on knowing which pieces of *Wonders* to elevate. They were supported in their implementation by Student Achievement Partners' *Wonders* Materials Adaptation Project, which provides guidance for streamlining the literacy program to promote the research-based elements. As one practitioner concluded, "When teachers become familiar with the practices that accelerate literacy achievement and the know-how to make strategic instructional decisions on what to use and what to leave behind, *Wonders* can be a great resource to help students become literate and knowledgeable individuals."

Phonics and Fluency

Explicit instruction of foundational reading skills is critical in early elementary school. Foundational skills instruction includes print concepts, phonological awareness, phonics and word recognition, and fluency. Numerous studies point to the benefits of a systematic foundational skills program for reading success.

Dr. Paige, who closely reviewed lessons for their learning-to-read content, noted several strengths, including 1) a scope and sequence coherent letter-feature instruction, 2) many lessons that contain direct and explicit instruction, and 3) weekly foundational skills (including fluency) assessments with guidelines for attainment and recommendations for students who fail to reach the criteria.

He also noted some significant concerns, including 1) phonemic awareness instruction seems insufficient to develop the isolation and manipulation skills that students need; 2) there is insufficient time to marinate on, practice, and become fluent with decoding words in first and second grade, which is particularly dire for students who might not immediately master those patterns or read fluently; and 3) fluency practice is insufficient.

Text Complexity and Language Development

Students' ability to read complex text independently and proficiently is essential, not only for success in life, work, and post-secondary education but also for students in elementary grades to progress to text with richer and richer ideas expressed in more profound ways as their knowledge and skills deepen.

Dr. Fillmore, who focused on this area, noted that the texts included in the *Literature Anthology* at every grade level are varied and complex. Add to these the leveled text selections and ancillary readings, and it is unlikely there is time to do justice to them—especially in the upper elementary grades where the sheer length of the texts precluded enough time to read, consider, and discuss those selections or their connections to other selections. The weekly and daily pacing guides have teachers racing through the materials with no time to delve into or to savor them. As a result, students only get a glimpse at the richness of the language and the cultural treasures these complex texts offer. As she notes, "there is hardly time enough for a quick read, let alone multiple reads." That will leave less proficient readers behind and only offer rapid, shallow exposures for most children.

Moreover, the weekly groupings of texts within units tended to be relatively unrelated to the others in so many cases that whatever background information students might carry over from week to week was minimal or nonexistent. Without the opportunity to build knowledge on a topic, most students would not gain the "bootstrap" supports needed to read other grade-level texts with comprehension.

Building Knowledge

The importance of students building knowledge of the social and natural world is critical — and is inextricably connected to reading comprehension, enabling students to make necessary inferences while reading, learn vocabulary, and integrate new knowledge with existing knowledge. When readers (or listeners) lack the necessary background knowledge for a given topic, it is not only difficult for them to understand texts on that topic; it also impedes new learning from the texts.

While Dr. Cabell noted occasional exceptions and some standout weeks of instruction, she found that most *Wonders* unit*s* fell short on building knowledge systematically. They organize principally around themes rather than content topics. Although *Wonders* includes science and social studies topics to some degree within each week, sets of texts do not consistently deepen knowledge incrementally on a given topic. Moreover, content topics jump across weeks and sometimes within a week, toggling between science and social studies, so knowledge is not consistently built. Consequently, discussion and writing in response to these texts do not consistently focus on building content knowledge or emphasize relationships among words. Too often, the curriculum tends to rely on students' background knowledge rather than build that knowledge systematically. Although the term "Build Background" is used throughout the curriculum as part of a weekly routine, the activities in this section generally focus on the activation of background knowledge rather than the systematic building of it.

Regarding vocabulary, Dr. Cabell found that the program offers many quality instructional features in keeping with guidance from the experts. The extent to which vocabulary instruction

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in *Wonders* aims to build content knowledge, however, is inconsistent. Although there are word web activities, recurring vocabulary activities are not designed to emphasize relationships among words.

English Learner Supports

The foundation of effective literacy practices for English learners (ELs) is the same as effective literacy practices for students in general: phonological awareness, phonics, fluency, vocabulary, and comprehension instruction, as well as numerous opportunities to engage in meaningful and motivating reading and writing. ELs deserve the same grade-level literacy instruction that English-speaking students receive. However, English learners face a double-barreled challenge, as do their teachers. Students are becoming literate in English as they are learning to read and write in English. These students also require targeted supports and ample high-quality English language development instruction.

Dr. Goldenberg reported that a full range of EL supports can be found throughout the lessons and auxiliary materials. But the EL supports contained in *Wonders* suffer from an embarrassment of riches. Further, they are inconsistently applied and uneven in availability and quality. Their *over*abundance and the difficulty in accessing many of them (because they are housed in a resource collection that is several clicks away from the lesson and online) present challenges to teachers. There is no guidance provided in what teachers are to prioritize in the lengthy and multifaceted lessons. This lack of guidance is mainly an issue in grades K–2, where lessons are overloaded with EL activities that are likely to distract from essential foundational skills instruction. EL supports in *Wonders* too often rely on teachers asking students closed-ended questions that require pulling a word off a page or recalling a word or fact and going no further to ensure students learn and understand key concepts and corresponding English.

Equity and Cultural Responsiveness

For decades, scholars have urged educators and curriculum writers towards culturally responsive pedagogy that validates students' varied identities and cultures and affirms them within the classroom. Literacy learning inescapably grows out of the larger social context of the classroom. Students need to feel safe, seen, and respected in their school environments to thrive.

Dr. Griffin found that texts with diverse characters are incorporated fairly regularly. However, as is common of most instructional programs, the *Wonders* materials incorporate minimal numbers of multicultural authors in its text selections. While the visual depictions of racially diverse people in the texts are seemingly high, the representations are often myopic, shallow, and stereotypical. They are not culturally responsive, sustaining, or affirming.

Wonders has enlisted a team to develop an overview of culturally relevant pedagogy. The publisher has recently produced six sample lessons for each grade of *Wonders*. This resource is available to all current *Wonders* customers but only online, making it hard to find. While this effort is a start, it only represents a beginning for what is needed. Cultural responsiveness in instruction cannot work as an afterthought or superficial gesture. It requires an equity-first method and needs to be baked into every lesson. That means designing educational tools and techniques to intentionally meet the needs of students from historically marginalized and underserved groups, including Black students, students learning English, and students currently experiencing poverty.

What These Reviews Mean for Students

These reviews offer an extraordinary opportunity to educators across the board, and especially those using *Wonders* or another similar literacy program with students. Each reviewer offers

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strengths and critiques rooted in literacy research to paint a picture of what works and what could be better in service to young learners. Each strength presented represents an area of instruction to amplify in service of young learners. Likewise, each critique offers an opportunity to redesign, adjust, or even radically alter instruction to introduce practice in that area that is research-proven. The impact this will have, which is up to the teachers and other educators, publishers, and stakeholders committed to learning from this report, may make all the difference in the reading and the lives of children. For one example of what this type of amplification might look like, see the *Wonders* Materials Adaptation Project.

Phonics and Fluency

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Introduction

Development of proficient decoding skills begins with an early emphasis on phonological awareness at the phoneme level, what is called phonemic awareness (Bus & van IJzendoom, 1999; Melby-Lervaq et al., 2012; Wagner et al., 1994). A meta-analysis of 235 studies by Melby-Lervag et al. (2012) found that only phonemic awareness was a "unique predictor of individual differences in children's word reading skills" (p. 340). Phonemic awareness enables students to map strings of letters to their corresponding sounds and is the key that unlocks a word's pronunciation and its associated meaning, thus providing a mapping process essential to proficient reading (Ehri, 2014; Perfetti, 2007). Additionally, alphabetic knowledge (AK) instruction that teaches children the connection between letters, sounds, and their symbols is essential to learning to read and write (Bowyer-Crane et al., 2008; Jones et al., 2013).

Letter-feature patterns refer to the various combinations of letters occurring within words that map to phonemes. While oftentimes a letter(s) may not represent a sound, they often signal the pronunciation of other sounds within words (Templeton & Morris, 1999). These letter-feature patterns complement the more straightforward alphabet patterns and are critical to pronouncing words. When taught concurrently with phonemic awareness, letter-feature pattern knowledge has been shown to boost early spelling and reading skills as both draw on the same foundational knowledge (Ehri, 1993; Gill, 1992; Perfetti, 1992).

The seminal work of Read (1971, 1975) established that children categorize the speech sounds in words in a predictable and developmental sequence. The insights from Read have been subsequently well researched, resulting in the identification of developmental stages with each containing specific letter-features (Henderson & Templeton, 1986). The instructional implication is that children do not leap-frog between stages; rather, phonics must be taught sequentially and explicitly, as stages unfold in overlapping waves. The National Reading Panel (2000 [NRP]) is emphatic that letter-sound knowledge taught through systematic phonics—defined as explicit teaching of phonics patterns following a scope and sequence—is essential to successful reading.

Teaching phonics patterns requires confirmation of student learning by the teacher as features and stages build on each other. To benefit from instruction of increasingly complex and irregular letter-features patterns, the student must master the less complex features (Adams, 2001; Carnine et al., 2006; Carnine et al., 2010). Abundant research conducted subsequently to the NRP continues to support the teaching of systematic phonics. Additionally, to produce the greatest results, adequate opportunities to practice reading using newly learned relationships between sounds and letters is critical (Ehri & Wilce, 1987). It is practice that results in the ability to automatically convert letter-feature patterns to sound that facilitates decoding written words into speech (Ehri, 2014). This ability is essential to developing the word automaticity that encourages the fluent reading of text that in turn, allows the reader to focus their attention on creating meaning from what they read (Perfetti, 1985, 1988).

From the primary through the secondary grades, research has consistently shown a moderate to strong correlation between measures of oral and silent reading fluency and comprehension, and overall reading proficiency (Kuhn & Stahl, 2003; National Reading Panel, 2000; Rasinski,

Reutzel, et al., 2011). These same results include those who struggle with reading (Stevens et al., 2017; Zimmerman et al., 2019). Moreover, studies have found that instruction in fluency leads to improvements in comprehension and overall reading proficiency (e.g., Stahl & Heubach, 2005; Stevens et al., 2017).

Research into reading fluency has identified key instructional strategies for fluency (Rasinski, Samuels, et al., 2011). These include: 1) modeling fluent reading by the teacher or other proficient reader; 2) assisted reading in the form of a less fluent reader reading orally and simultaneously with a more fluent reader through choral reading, paired reading, and audio-assisted reading, in all cases with feedback; 3) wide reading; 4) repeated reading practice of grade-level text; 5) phrasing instruction; and 6) combinations of the above elements into synergistic instruction.

Mastering foundational reading skills is a complex, multi-dimensional process that unfolds at different rates within individual students. Unfortunately, and through no fault of their own, teachers have been generally underprepared in both the knowledge and pedagogy necessary to effectively teach this array of reading skills (Binks-Cantrell et al., 2012). To fill the gap between what students need and teachers know, a research-based foundational skills program becomes important for the teacher as it can potentially provide the curriculum that will increase the probability that students will leave the early elementary grades knowing how to read. However, a one-size-fits-all curriculum will not account for the variability between students in their rate of reading acquisition. If all students are to learn to read, it is this individual variability that must be accounted for by teachers. Consequently, the whole-group insertion of students into a curriculum is less effective than fitting the curriculum to the needs of students.

Summary of Findings

Overall, the findings of this review are mixed. While the *California Wonders* curriculum (©2017; referred to as *Wonders* elsewhere) across K–3 contains much research-aligned content, the density of the program and its rapid pace in first and second grade requires a teacher who possesses deep knowledge of reading development and instruction to appropriately adapt the program to the needs of students.

Strengths

1. *Wonders* integrates the teaching of phonemic awareness and alphabetic knowledge instruction, an approach that is aligned with research.

2. Letter-feature instruction within *Wonders* adopts a scope and sequence that is coherent with research on the development of decoding knowledge.

3. *Wonders* does include direct instruction activities in many of its lessons, an approach that is aligned with the recommendations of the NRP (2000) regarding direct and explicit instruction.

4. *Wonders* includes, in each foundational skills lesson, words containing the instructed letter-features. This practice reflects research-based findings that reading and writing words containing the letter features currently being taught enhances learning.

5. In grades 3–5, *Wonders* does recycle the teaching of letter-features taught in the earlier grades, which may be helpful to some children.

6. *Wonders* places a heavy emphasis on reading with prosody, which research has shown is important to fluent reading and comprehension.

7. *Wonders* addresses assessment on Fridays and does provide fluency assessment guidelines for words-correct-per-minute attainment and recommendations for students not reaching the criteria. This focus is a strength of the program.

Weaknesses

1. There is a concern that phonemic awareness instruction may be insufficient to develop the isolation and manipulation skills that equip all students to fully benefit from phonics instruction. An example is the significant recycling of constrained skills, such as syllable awareness that is likely learned in kindergarten, well into grades 1 and 2.

2. Alphabetic knowledge is taught in the initial part of kindergarten using a letter-a-week approach, which is not coherent with the research. This also unnecessarily prolongs the introduction of letter-sound instruction.

3. Conversely, the rapid pacing of letter-feature instruction in grades 1 and 2 is likely to leave many children, particularly those at risk for reading acquisition, behind in reading development. For many children, the pace of instruction would leave insufficient time to marinate, practice, and become fluent with decoding words. This will result in students with less-than-adequate ability to engage in the self-learning of new words necessary in later grades.

4. Reading fluency texts are scaffolded quickly across grades 1 and 2. The challenge as noted earlier, is whether students are acquiring the decoding skills necessary to read texts that are up to a complexity level of 600L by the end of grade 1. Teachers will need to closely attend to differentiating text complexity for readers.

5. It was difficult to determine whether *Wonders* provides students with the necessary practice time to develop fluent reading. While there is a focus on fluency on Thursdays, the practice is insufficient for fluency development and attending to fluency only one day a week is problematic. Other activities, such as Close Reading, also provide some reading practice. There was no evidence found that the *Wonders* curriculum provides students with the uninterrupted reading time necessary to develop fluent reading unless teachers purposefully plan for and supply it.

6. The large amount of material available that constitutes *Wonders* in total is of concern. While the density of content may be helpful to experienced and knowledgeable teachers who can adeptly sort through it, teachers with less experience will find the preponderance of content overwhelming and confusing. Some teachers will feel the need to cover all the content in the program, which is not possible, and many will have difficulty choosing what will best serve their students. This could result in the research-based elements of the foundational skills offerings getting shortchanged.

Review Process

This review of the *Wonders* program consisted of five steps. The first was a general "familiarity tour" by grade of the program. This step began with kindergarten and was focused on obtaining a sense of how the program rolled out across the various units, weeks, and days of the school year. Of interest was a sense of how *Wonders* sequences and presents instructional activities involving alphabetic knowledge, phonemic awareness, early letter-feature relationships, and fluency. Program familiarization continued in a similar manner across grades 1 and 2. The review also extended to grades 3–5. Again, the focus was not so much on instructional specifics, but on gaining a general overview of the program.

Step two focused closely on the teaching of phonemic awareness, as well as alphabetic knowledge, and initial letter-feature knowledge in kindergarten. The review of phonemic awareness instruction continued through grade 2.

Step three consisted of a review across K–2 on the teaching of letter-feature knowledge. Of particular interest was the sequence of letter-features, instructional methods, the connection between letter features and text, and practice opportunities.

Step four focused on reading fluency across kindergarten, grade 1, and grade 2, and how it was integrated with letter-feature instruction, the opportunity for fluency practice, and the various fluency strategies recommended in the program. The review of fluency was continued in grades 3–5.

The last review was how fluency instruction unfolded in grades 3–5. *Wonders* also continues with phonics after grade 2, so this component was also reviewed in the upper grades.

Teacher as Guide

To assist with this review, teacher "guides," teachers with experience implementing the *Wonders* program, were available to answer questions and offer perspectives on their use of the program. Once this reviewer had completed an initial familiarization of the program, a conversation with the teacher guide took place. The initial review of *Wonders* revealed a large amount of material that made navigation difficult. The teacher guide agreed that the program was massive and added that it took her two years to become comfortable with it. However, once familiar, she found the repetitive nature of the program simple to follow and that the approach provided distributive practice for students. Particularly helpful were sound spelling cards and independent practice materials that reinforced whole-class instruction. Another guide noted that the depth of materials in *Wonders* made it easy to lose focus of the essential elements of the program, confirming what this reviewer had already encountered. The guide helped later in pointing out aspects of lessons that were more useful than others, and in navigating the large volume of corollary materials. The teacher guide addressed reviewer questions about her use of the program, what she found helpful, and what materials she tended not to use.

Later in the review, the guide provided insight on how she differentiated the program. She emphasized that while *Wonders* does not make specific suggestions, she relies on her teaching experience and knowledge of reading development to differentiate the program to better meet the needs of her students. For example, she explained that she would move certain letter-feature lessons from whole-class to small-group instruction. Another example was her differentiation of high-frequency words to better fit the needs and learning trajectory of specific readers. She also explained that she used the on- and below-level reading passages in *Wonders* to better match specific readers. While this teacher guide was adept at differentiating the curriculum beyond the recommendations provided in *Wonders*, other teachers reported different approaches to their use of *Wonders*.

A second guide reported that she supplemented *Wonders* with outside phonemic awareness and phonics materials as she thought they presented a more systematic approach than what she found in *Wonders*. This teacher commented that her supplementation resulted in reading scores that out-performed those of the district. In sum, the guides reported that what is perhaps most challenging is selecting from the buffet of activities in *Wonders* those that are most useful for their students and then working them into the available instructional time.

Findings

1. **Phonological/Phonemic Awareness: Attention to phonemic awareness, in particular advanced phonemic awareness, is inadequate. This crucial element of foundational reading is not part of formative assessments, and teachers could easily overlook students who are not achieving automaticity in a timely manner.**

There are many good, easily implemented activities throughout the program to help develop phonological and phonemic awareness in children. There is also a scope and sequence laid out by grade for phonological and phonemic awareness that includes phoneme isolation, categorization, blending, substitution, segmentation, and reversal activities, as well as rhyme generation. However, these are noted as problematic aspects of the program regarding this area:

- Aside from an initial focus in kindergarten on the structure of language, the sequence of phonological and phonemic awareness across grades seems almost haphazard. For example, the identification and generation of rhyming words, a skill not shown to predict reading acquisition, appears across K–2, including the last weeks of grade 2. Another example is the regular rotation of onset and rime (and sometimes rhyming) activities across all grades.

- There appears to be little time devoted to phoneme deletion and substitution activities at a level beyond CVC and CVCe words. It is noted that within *Wonders,* phonological and phonemic awareness activities are categorized as part of word work. As letters and phonograms are introduced across the program, accompanying phonological sensitivity and phonemic awareness activities are included for phonograms as recommended by the National Reading Panel (2000). However, the concern remains as to the adequacy of activities to develop advanced phonemic awareness.[3]

- *Wonders* uses a distributed practice strategy across its lessons which has been found to be helpful to learning (Carpenter et al., 2012). However, activities such as the clapping out of syllables are constrained skills and once learned do not require continued practice. Further instruction of such skills will limit practice with more advanced skills.

- An additional concern is the absence of formative assessment for phonemic awareness across the curriculum. While *Wonders* provides phonemic awareness assessment, it is not explicitly written into the lessons. This runs the risk that students not appropriately acquiring phonemic awareness skills may be falling further behind without the necessary intervention supports.

Recently, this reviewer had the opportunity to conduct a small study of phonemic awareness in an elementary school that had been using this edition of *Wonders* for several years. The results were consistent with how phonemic awareness is presented in the program as no difference in attainment was found between students in grade 1 and students in grade 2. Students in both grades reflected attainment at the phonological sensitivity level and had difficulty isolating and manipulating an initial phoneme, a critical skill that research shows is important to reading acquisition.

See the following section[4] for grade-by-grade findings for Phonemic Awareness (K–2)

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[3] Note that MHE's *Wonders* staff report that the 2020 edition has extended phonemic awareness work up through grade 1 with a review at the beginning of grade 2. However, it is not clear that the adequacy of practice in advanced phonemic awareness has been remedied.

[4] For each area of foundational reading, the specific grade-by-grade findings are available immediately following the Findings.

2. **Word Recognition/Phonics Work: Overall, word recognition and phonics is grounded in research with the exception of how it is paced across the primary grades. The pacing, including alphabetic knowledge (AK) is problematic. Too slow in kindergarten, word recognition and phonics learning picks up considerably in grades 1 and 2, and may in fact proceed too quickly for many students to achieve solid and automatic word recognition crucial to later success.**

The *Wonders* word study curriculum begins in kindergarten with a letter-a-week approach to alphabetic knowledge instruction. This method assigns equal learning time to each letter which is counter to established research (Sunde et al., 2020). A ramification of this approach is that it unnecessarily extends the length of alphabetic knowledge instruction, thus consuming time that could be devoted to other skills. Research supports an approach that leverages insight from the five, evidence-based advantages associated with letter-name and sound acquisition (Huang & Invernizzi, 2014 Jones & Reutzel, 2012). Characteristics of letters, such as the extent to which they are confused, their frequency of occurrence in print, how much their name reflects their sound, and their similarity in upper- and lower-case representation should all be considered when designing a letter learning sequence (Fry, 2004; Hanna et al., 1971; Smythe et al., 1971). Also of concern is that the traditional, letter-a-week approach erroneously reinforces the notion among teachers that the kindergarten year is largely for AK acquisition. Research strongly supports beginning phonics instruction in kindergarten (NICHHD, 2000). The fact that *Wonders* largely ignores letter-sound instruction in kindergarten is problematic and will increase the chance that some children may experience reading failure. To appropriately adapt or supplement AK and phonics instruction in *Wonders* would require substantial work and rearrangement of the curriculum, a task that may be well beyond many kindergarten teachers who rely on a program, and a lot of work for even seasoned teachers.

Following alphabetic knowledge instruction, word work is taught in grades 1 and 2. Therefore, *Wonders* does adopt a word study approach to phonics instruction that is supported by developmental spelling research (Invernizzi & Hayes, 2004). The initial 15 weeks of grade 1 are focused on letter features associated with the letter-naming stage – initial and final consonants, blends, and diagraphs, and features called affricates (the /ch/ sound as in *choice*). In Week 16, the program transitions to long vowel features found in VCe words, r-controlled words (words with/ar/, /ir/, and /er/ features as in *firm* and *fern*. Instruction during the last 10 weeks is generally focused on within-word stage features. Grade 2 begins with a review of letter-naming stage features such as long and short vowels and consonant blends with instruction quickly transitioning for the rest of the year to within-word features and some in the syllable juncture stage. Implicit in this curriculum is that children who have mastered letter features through the within-word stage are likely to possess the fundamental decoding knowledge to be self-learners when decoding words (Paige et al., 2019; Share, 1995).

While the slow pacing of *Wonders* in kindergarten is problematic, it picks up considerably in grades 1 and 2. Ironically, the rapid pacing in these grades presents potential issues for those students unable to keep pace with the curriculum. On the other hand, students who have spent considerable time with text at home may likely flourish.

See the following section for grade-by-grade findings for Word Recognition/Phonics work.

3. **Reading Fluency: It is not at all apparent students are provided the necessary time and practice to develop reading fluency.**

A review of reading fluency involves uncovering where in the curriculum, students have opportunities to read connected text for more than a minute or two. It was difficult to find time built into the curriculum for students to engage in reading for any significant amount of time. In most of the grades, *Wonders* uses Thursdays to specifically teach fluency, which generally

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involves teaching students to read with prosody. This emphasis continues across all six years of the curriculum. While prosody is important, it is likely that both teachers and students may tire of the repetitive nature of the instruction that extends across years. It should be noted that encouraging students to engage in activities to develop reading prosody is different from providing them significant time to read text. It is the latter activity that cements solid fluency at grade level. It is a serious concern then, whether students are provided the necessary time to develop reading fluency.

See the following section for grade-by-grade findings for Reading Fluency.

Foundational Skills Summary Findings by Grade Level

Kindergarten

Phonemic Awareness

A strength of the *Wonders* kindergarten program is that it integrates letter identification and phonemic awareness instruction, an approach aligned with research showing a causal relationship between the two when learning to read words (Clayton et al., 2020; Hulme et al., 2012). Also, phonological and phonemic awareness activities in *Wonders* are suggested to take five to ten minutes of daily instruction time as recommended by Moats (2020), and are designed to run concurrently with alphabetic knowledge instruction. However, a significant issue is the initial letter-a-week approach to alphabetic knowledge as it unnecessarily delays the instruction of higher-order skills that would help prepare students for the grade 1 curriculum.

Word Recognition and Phonics

As noted, the concern of the *Wonders* kindergarten curriculum for word recognition and phonics work is the letter-a-week curriculum that delays the introduction of subsequent skills. Alphabetic knowledge instruction encourages students to make a one-to-one sound correspondence connection between the letter name and its most frequent sound. To facilitate letter learning, *Wonders* incorporates letter writing, an activity shown to foster letter learning (Ehri & Roberts, 2006). For the target letter, teachers are encouraged to use the program's letter card that pairs the letter with an anchor picture whose name begins with the letter. This paired learning strategy provides students with a concrete image to associate with the target letter. For example, when the letter /t/ is taught, the picture card contains a photo of a turtle, while a picture of a piano is used for the letter /p/. Over the first 11 weeks, 10 letters are taught in this order: /m/, /a/, /s/, /p/, /t/, /i/, /n/, /k/ and /c/, /o/, and /d/. Week 12 is a review week, followed by letters /h/ and /e/. In Week 15, two to three letters are presented each week (/f/ and /r/, /b/ and /l/, and then /k/), while Week 18 is a review week. Week 19 continues with /u/ followed by /g/ and /w/ in Week 20, /v/ and the sounds /ks/ and /x/ in Week 21.

Across Weeks 22–27, letter-feature instruction begins where the letters /a/ and /e/ are used to teach short and long vowels. It is at this point that the program makes a distinct transition from teaching the sounds of letters in isolation to teaching them within words. For example, the word *rat* is used to teach the short /a/ sound. The curriculum then surprisingly pivots to more advanced letter features found in the within-word stage of spelling development (Henderson & Templeton, 1986). Students are taught that the introduction of a silent /e/ at the end of a word changes the vowel to a long sound as in *rate* and *like*. In the last two weeks of kindergarten, students study various ways that /e/ is used /e/, /e_e/, and /ee/ as in *bee*, *green*, and *eve*. This is an abrupt departure from the leisurely pace that marks the rest of kindergarten.

Reading Fluency

Fluency in kindergarten emphasizes learning to read high-frequency words by sight. To quickly engage emerging readers with connected text, it is necessary that they recognize frequently occurring irregular, or "oddball," words (e.g., *the, was, does*), as well as some they cannot yet decode. Sight word instruction begins in the first week of *Wonders* with the word "*I*" and continues to the end of the year with words such as *help, too, play, does, where, who, has*, and *good*. There is little research on how many words to teach "by sight," and the risk is that too much emphasis on sight word learning may lead students to think that memorizing word pronunciations is how they learn to read. Because *Wonders* places a premium on learning sight words across all three years of the curriculum, it may run the danger of teaching students that words are learned through memorization, and when that fails, they may fall prey to the discredited three cuing system so many teachers have been taught and encouraged to use.

Within the phonics curriculum, *Wonders* does include words containing the letter patterns being instructed. Students practice reading these words to reinforce recognition and pronunciation of these letter patterns, and to encourage eventual automaticity at the pattern and word level. This instruction, while still involving the reading of words, is not the same as learning to pronounce a word as a whole unit.

Experience with connected text occurs within the Reading/Writing Workshop in *Wonders* where students engage in shared book readings. Research is clear that young readers must hear fluent reading on a daily basis. During the 10-minute workshop, students are invited to echo read a shared book with the teacher while in small groups. For students who rarely engage in reading outside of school, this is a minimal amount of time that is likely to be inadequate.

For most of kindergarten, *Wonders* properly emphasizes reading with expression, an indicator of prosody. At the end of the year, the emphasis shifts from expressive reading to reading accuracy and speed. Children are told to read words accurately and to not pause unless they come to the end of a sentence or a phrase. There are several problems with this approach. First, aside from words whose pronunciations have become automatic through intentional memorization, students accurately read words when they possess the necessary decoding skills and have had sufficient, repetitive encounters with the word so that it becomes "automatic."

There is not much of a repertoire of learned patterns by the end of kindergarten. While they read, young students particularly are processing many important things about words including their meaning, relationships to other words, syntax, and phrasing. Reading rate increases not through encouragement to read faster, but with practice reading text. Encouraging fast and accurate reading will teach students that good reading is fast reading, an idea that should not be fostered in children. Additionally, research suggests that students are more likely to attend to the prosodic features of text once they become competent at decoding words (Paige et al., 2014).

Grade 1

Phonemic Awareness

Phonemic awareness instruction in grade 1 runs the continuum of sound and manipulation tasks. These activities range from rhyming, alliteration, and oddity tasks to phoneme identification at the initial, medial, and ending positions. They also include blending and segmenting of sounds, and in the final lesson, a phoneme reversal task. A concern is with the distribution of emphasis the curriculum gives to these various tasks. For example, many

children have likely acquired competency with syllabication and onset and rime tasks in kindergarten, and so would benefit in grades 1 and 2 from more instruction isolating and manipulating phonemes at the basic and advanced levels. To provide more focused instruction, teachers would have to know the developmental level of each student so instruction can be appropriately adjusted.

Word Recognition and Phonics

The sequence of letter-feature instruction in grade 1 is aligned with research. However, the significant concern is that the sequence is very rapid and may not allow sufficient time for the practice needed by many learners to achieve the mastery upon which subsequent skills are built. Teachers will have to make decisions based on their knowledge and experience, to either slow the pace and differentiate instruction to allow all students to achieve mastery, or to move forward with *Wonders* knowing that some will not be able to keep up.

The first three weeks of grade 1 are spent working to read one-syllable, CVC words, while Weeks 4–9 focus on short vowels. In Unit 2 (Weeks 10–15), instruction is focused on beginning and ending blends and blending words with short /o/.

Unit 3 (Weeks 16–21) generally moves into the within-word spelling stage and begins with long vowels and the "magic e." Phonograms such as those including final /e/ (*ride*), soft /c/ (*ice* and *silent*) and /g/ (dge), and other long vowel words with /o_e/, /u_e/, and /e_e/ as in *hope*, *hose*, *mule*, *fume*, and *eve*. At the end of this unit is the oddball blend of /oo/ as in *book* and *look*. The repetitive concern is that the curriculum moves quickly, and that students will not have sufficient time to master what is being presented.

The latter part of grade 1 works on variations of long /a/, /e/, and /i/, r-controlled vowels, diphthongs /ou/ and /ow/, abstract vowel features /oi/ and /oy/ as in *coin* and *boy*, and the variant vowel /ŏ/ as in *haul*, *cause*, and *pause*, and silent letters in features such as wr, kn, and gn (*write*, *know*, and *gnat*). Finally, complex consonant patterns appearing in trigraphs are also taught at the end of the year.

Reading Fluency

Fluency instruction in grade 1 uses research-aligned strategies. However, a concern is that inadequate time is provided for the critical practice with connected text that is necessary to develop fluent reading. As noted earlier, there is also the concern that students may not be acquiring the necessary decoding skills to attain the necessary word reading skills that lead to fluent reading with grade-level text.

Fluency instruction occurs on some days during the Reading/Writing Workshop and on others during close reading with an emphasis on reading with prosody across the entire year. Instruction begins during shared reading using partner reading of texts with two-, three-, and four-word sentences at about the 10L level. About 10 weeks later, text has increased to about 300L to 350L and, at 20 weeks, texts increase to a range of 450L to 500L. By the end of the school year, text complexity has increased to about 600L. For both shared reading and close reading, the program recommends about 10 minutes of reading per day, a minimum that is likely inadequate for many children to acquire fluent reading.

Grade 2

Phonemic Awareness

The full continuum of phonemic awareness instruction found in grade 1 is continued in grade 2. Surprisingly though, students are still engaged in rhyming and syllable segmentation and clapping tasks that would likely have been mastered in kindergarten. As in grade 1, inclusion of these activities likely wastes instructional time that would be better spent on phoneme manipulation tasks at the advanced level.[5] Again, this requires the teacher to know, through proper assessment, the specific instruction needed by students.

Word Recognition and Phonics

In grade 2, *Wonders* continues a developmentally appropriate instructional sequence. But again, the concern is that students unable to achieve mastery of preceding skills in the time allotted will not benefit from the more advanced instruction in grade 2. Teachers must decide, as in grade 1, whether to slow the curriculum, differentiate instruction, or to continue moving forward with those students who are able to keep up. In many contexts, administrators may not allow the first two options and insist that instruction keep pace with artificial progress points.

Instruction begins with a review of long and short vowels and consonant blends. CVC words are reviewed including the silent-e rule as in *tap* to *tape*. In Week 10, the /ai/ phonogram (*rain*, *train*) is introduced along with long I. Vowel teams are introduced for the phonograms making the long /o/ sound including /oa/, /ow/, and /oe/ (e.g., *boat*, *soap*, *bow*, and *doe*). Weeks 13 and 14 focus on common vowel teams while Weeks 16–20 begin with consonant team phonograms. In Weeks 21–26, dipthongs, variant vowels, and vowel diagrams are presented. In the final six weeks of grade 2, instruction is focused on two-syllable words with long vowels in open and closed syllable. Grade 2 instruction ends with a focus on r-controlled vowel syllables.

Reading Fluency

Grade 2 fluency instruction continues with an emphasis on research-aligned strategies. Fluency strategies include reader's theatre, choral reading, and partner reading. The scaffolding of text complexity continues the question of whether students are acquiring the necessary decoding skills to read more complex text. Also, of concern, as noted in the other grades, is whether students are getting sufficient time for reading practice, a critical element for becoming a fluent reader.

Throughout Units 1 and 2, and then continuing through Unit 3 (Week 4), the fluency emphasis remains on prosody. By the middle of the school year, texts for shared and close reading are in the 575L range, and by the end of the year, it has increased to the 650L to 700L range. In Week 4 of Unit 3, the fluency emphasis turns to pronunciation, or word identification accuracy. Teachers are instructed to teach students to preview a text for unfamiliar words, and to take time to sound them out before reading the passage. Later in the year, the fluency focus turns to phrasing, where *Wonders* provides a good explanation of the value of phrasing in supporting comprehension. Near the end of the year, intonation becomes the focus of fluency, and teachers are provided a good rationale to teaching its importance to students.

Grade 3

Word Recognition and Phonics

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[5] Since we did not have the opportunity to examine changes from the 2017 edition to the 2020 edition of *Wonders,* we do not know if this was corrected. Conversations did not indicate there had been substantive changes to the foundational skills lessons or sequences.

In grade 3, many of the letter features taught in grades 1 and 2 are reviewed followed by the introduction of more complex features found in the syllable juncture stage. Each week, new features are introduced, including review of previously introduced features. Reading passages for shared reading reflect an appropriate complexity level requiring use of syllable juncture letter features.

In the middle of grade 3, several weeks are spent re-teaching r-controlled vowels from second grade. This is followed by instruction of prefixes and the diphthongs /ou/ and /oi/ and prefixes /un/, /non/ and /dis/. Near the middle of grade 3, the curriculum introduces for the first-time, letter features in the syllable juncture stage. Included are plurals (/s/ and /es/), the variant vowel /ô/, homophones, soft /c/ and /g/ as in *sun* and *jump.* The latter end of grade 3 includes instruction in compound words, inflectional endings, and open syllables. In the final six weeks, prefixes, consonant + le (e.g, *purple, little, global*), vowel team syllables (e.g., *afraid, indeed, oatmeal)*, r-controlled vowel syllables (e.g., *circus, cellar, garlic)*, and the suffixes *ful, less,* and *ly* are taught.

Reading Fluency

Fluency objectives begin in Unit 1, Week 2 with an emphasis on phrasing. Generally, reading with prosody remains as the fluency objective throughout grade 3. Early in the year, texts in the complexity range of 500L are used for shared and close reading, as well as fluency practice. By the middle of the year, the text complexity for these activities is in the 700L to 750L range, and by the end of year it is about 800L. Halfway through the year, the fluency emphasis turns to word identification accuracy. There are appropriate directions for teachers to explain to students that good readers do not change the words in the text, and to use sound-to-letter knowledge to accurately read words.

Grade 4

Word Recognition and Phonics

Throughout grade 4, *Wonders* includes phonics instruction that includes letter features across the letter naming, within-word, and syllable juncture stages. Generally, features in the first two stages occur earlier in the year with the more complex features taught later. One might ask, however, why short and long vowels and r-controlled vowels, features taught in grade 1, are included in grade 4? Students who find reading difficult may exit grade 3 still working on proficiency with within-word features, making continuation of these in grade 4 necessary. But not for everybody. Teaching syllable juncture features requires increased instructional skill, making inclusion of activities focused on variant vowels, consonants with /le/ endings, and three-letter blends, attractive to teachers. The use of word sorts, a research-supported activity, continues in grade 4.

Reading Fluency

Fluency instruction in grades 4 and 5 remains focused on phrasing and expression, characteristics of prosodic reading. *Wonders* continues to schedule fluency instruction once a week on Thursdays, with the most often-used strategies being shared reading, choral reading, and partner reading. As in other grades, the concern is the extent to which students engage in fluency practice and how well text is differentiated to accommodate various reading abilities. As noted in the other grades, it is not certain that students are provided enough time to read connected text so as to develop fluent reading.

Grade 5

Word Recognition and Phonics

Phonics instruction continues in grade 5 with many of the same letter features covered in grade 4. These include long and r-controlled vowels, contractions, vowel teams, and plurals, as well as prefixes and suffixes with Latin roots introduced later in the year. The primary question arises as to how the lower-level features are to be included in instruction. For example, some teachers may have no students needing lower-level feature instruction while others may need it for only a few students. While many teachers may be easily able to make the decision to not include those features in instruction, others may be unsure what to do. As frequently occurs across the program, knowledge and experience are needed on the part of the teacher.

Reading Fluency

Fluency instruction in grades 4 and 5 remains focused on phrasing and expression, characteristics of prosodic reading. *Wonders* continues to schedule fluency instruction once a week on Thursdays, with the most often used strategies being shared reading, choral reading, and partner reading. As in other grades, the concern is the extent to which students engage in fluency practice and how well text is differentiated to accommodate various reading abilities. As noted in the other grades, it is not certain that students are provided enough time to read connected text so as to develop fluent reading.

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Text Complexity and Language Development

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Introduction

Appropriate levels of text complexity are key considerations in the evaluation of any English Language Arts literacy curriculum since the advent of college- and career-ready standards. Text complexity is most usually evaluated metrically, based on sentence and word length, word frequency, and the like, but measures differ in terms of how well they predict text difficulty. The ones that are the most robust in predicting how appropriately difficult texts are for a given grade band are ones that look at complexity, quality, and range of text-types (Nelson, Perfetti, Liben & Liben, 2012). The question that must be asked in reviewing materials is whether texts are sufficiently complex at each grade level to challenge students intellectually and to promote reading stamina and language development (Adams, 2009). The next, more practical, question is whether students are supported in accessing that text by the instructional materials.

This review of text complexity was guided by those considerations, and most particularly by the following questions:

- Are the texts included in the program of sufficient interest informationally? Do they provide sufficient depth of coverage, and are they engaging enough for the age and maturity of the students?

- Are the chosen texts and the learning materials considerately written for readers at the intended grade band?

- If they are, then have writers included necessary background and contextual information potential readers might need about topics to understand the texts?

To do these things, writers make use of the many grammatical forms, structures, and rhetorical devices the language provides to package everything together in a text that is interpretable as intended. Together, the inclusion of necessary information and the use of whatever structural devices are needed can contribute, along with vocabulary demands, to making texts complex. For writers, it is a balancing act between providing a sufficient amount and a surfeit of information. Writers can avoid some of the complexity, but not all of it, depending on topics and intended purposes of the text. When writing for younger students and, more specifically, when creating texts for reading programs at the primary level, writers operate under constraints of space and levels of difficulty, so they sometimes leave out cohesive ties and other indicators of narrative flow, making texts harder to understand because indictors of relationships between ideas are missing.

Summary of Findings

Ample grade-level-appropriate complexity was found across the grades and in the numerous reading passages included in *California Wonders* (©2017; referred to as *Wonders* elsewhere). The sheer abundance of reading materials was both remarkable and downright staggering. There were reading passages in anthologies, for work in the Reading/Writing (R/W) Workshop, and in collections of leveled readers. Together they offer a rich, varied, and copious collection of materials that can be examined to see the program's strength or its weakness. There are so

many reading passages scheduled for students to work with *each week*[6] that it is hard to imagine how there would be time to give any of them the time, thought, and attention they deserve and require, or to get anything from them. The text selections in the Anthologies for grades 4, 5, and 6 tend to be far too long to be given anything beyond the most superficial or cursory consideration. While the time devoted to ELA instruction varies from state to state, it is doubtful that teachers could find the time needed to give the attention and focus these rich texts deserve and to give students the support they might need to read them successfully. Further, the teacher's guides and pacing charts both mitigate against spending adequate time. They hurry students along to the myriad other texts and away from the richest most complex texts at a pace that almost guarantees those texts won't be paid the attention they require for comprehension and learning to take place.

Review Process

After scanning the overall structure of *Wonders* broadly, I looked more closely at the materials in grades 1, 3, and 5. Within each of those three grade levels, I selected one of the six units (Unit 5 of Grade 1, Unit 2 of Grade 3, and Unit 6 of Grade 5), on which to focus my review of text complexity. I began by studying the weekly guides for instruction and the teacher's guide for the unit, along with a consideration of where the unit fit into the materials for the grade level.

My review of text complexity was based on a study of the texts for the target units included in the anthologies for each grade and in the collections for the R/W Workshops, especially with respect to the theme or "Essential Question" around which they were included, and on which they were presumably meant to build. I did not consider the leveled-reading text selections, as by definition they are not complex, but tailored to a variety of at- or below-grade reading levels. A particular focus, as indicated earlier, was the guidance provided on how teachers should use the texts: schedules, pacing guides, activities, and materials to be used, and most importantly, the instructional attention teachers were advised to provide in presenting and building on the materials with students.

In looking at the *Literature Anthology* (*Anthology*) and R/W Workshop text selections themselves, I used the following criteria for examining text complexity beyond Lexile levels: their potential understandability by students at the grade levels at which they were used and their usability depending on their placement within the units (since texts covering closely related topics can provide spill-over support for comprehension). I looked closely at text structure, sentence structure, the use of cognitively demanding constructions (e.g., conditionals, comparatives, etc.), and at non-transparent expressions (e.g., metaphoric and other types of figurative language) that require explication. Attention was given not only to vocabulary but also to *how* words are used—words in context—since how words are used and what they mean can depend on the context in which they appear (Anderson & Ortony, 1975; Foraker & Murphy, 2012; Neely, 1991). In addition, I also looked at cohesion in the texts as an aspect of complexity. The flow of a text depends on the use of cohesive ties or transitional markers moving the reader from one idea to another, but in texts written for children, such indicators are sometimes avoided in efforts to keep things short or simple (De Belder & Moens, 2010; Nation, 2019). That can make an otherwise simple text more difficult to understand because readers have to figure out how things are related.

In addition to looking at the texts themselves and at the guidance provided on how teachers should use them in developing reading, writing, and language understanding, I also asked a grade 3 teacher guide from with an intimate knowledge of the program how she used the texts

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[6] We learned from MHE's team that some grades in the 2020 edition of *Wonders* have been reorganized in ways that allow more time with texts and a more focused approach.

with her class. In particular, I asked her which of the texts her students found especially engaging, which ones they found difficult to comprehend or to get interested in, and which ones she found especially difficult to work with. Following those leads, I looked closely at each of the texts she identified in an effort to discover what might have contributed to their enjoyment or finding of difficulty.

Findings

1. **The texts included in the *Anthology* at every grade level in the *Wonders* program are rich, varied, and complex, as are many of the ones in the Reading/Writing Workshop materials.**

The pieces of literature in the anthologies for each grade level include poetry, myths, folktales, drama, realistic and historical fiction, science fiction, and fantasy. The informational texts cover science, technical, social studies, history topics and include biographical sketches, science articles, expository pieces on topics related to various subjects, descriptive pieces on places, events, and conditions, and persuasive writings on issues and situations.

The *Wonders* program provides ample materials of more than appropriate levels of complexity.

2. **There is richness, variety and ample complexity in the text selections, but it is hard to imagine how there would be time enough to do justice to them.** [7]

In fact, there is such an abundance of texts that it was difficult to keep count of their number. Not only were they numerous, but text selections also tended to be lengthy, particularly for the upper elementary grades. Length by itself would not be a problem if there were time enough built into the program to read, think about, discuss, and work on those selections, but that may well be problematic for students and teachers following the pacing guides.[8] While there were text-based questions provided for students to read, think about, or address in one way or another (turn and talk to partner, write a response to, work on aspects of grammar or select vocabulary items, etc.), it is doubtful that there is time enough for students to savor a text, spend enough time thinking about the content, or drawing possible connections between it and others they may have read on similar or related content. A teacher following the pacing guides offered in the weekly and daily guides for instruction would be racing through the materials. Multiple readings of a text are useful and necessary in reading instruction, but there is hardly time enough for a quick read, let alone multiple reads. A child not yet reading so proficiently that she can still glean meaning while racing along—or confident enough to ignore the teacher to just happily dive into the good text selections—would be left far behind and gain very little from the rapid, shallow exposures.[9]

3. **The weekly groupings of texts within units tended to be relatively unrelated in so many cases that whatever background information might be carried over from week to week was minimal or nonexistent, which means many students will not have the experience of reading the grade-level texts successfully.**

Text complexity is often mistaken for text difficulty, and while there is overlap, the two are not the same. There are simple texts that are extremely difficult to understand (think of a brief

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[7] As noted above, MHE staff assert that changes to the 2020 edition of *Wonders* have led to tighter connections of the texts within a unit.

[8] Again, while we were not able to personally review the new *Wonders* 2020 edition, this issue as described by MHE's *Wonders* staff would seem to have been largely ameliorated.

[9] MHE's team reports that in some grades in the *Wonders* 2020 edition, students will have more encounters with the central text over the course of two weeks rather than just one week of the unit.

poem!), and there are complex texts that are easy to understand. The role played by background knowledge in facilitating reading comprehension is well established (O'Reilly et al., 2019; Recht & Leslie, 1988; Shapiro, 2004). One way of creating conditions for background knowledge to support text understanding is by organizing materials around essential questions or themes, and the *Wonders'* literacy materials make an effort at doing just that. The materials for each grade are divided into six units, with an overarching theme for the year. But alas, these themes for the year are generally unrelated to the topics covered in the units, each of which is guided by a subtheme or "concept" and comprise six weeks of work. The readings for each week are meant to address a facet of an essential question, but the selections are only loosely related to that question and are only loosely related even to one another.

For example, Unit 6, Grade 5 has "Linked In" as a major theme (or Big Idea) and begins with a quote by F. D. Roosevelt on peace depending on people willing to work together and help one another. The Concept for Week 1 of Unit 6 is "Joining Forces" and lists as its Essential Question: "How do different groups contribute to a cause?" The texts and passages are related to World War II, but the major text, "The Unbreakable Code," scheduled for Week 1, Day 3 is a story about a present-day Navajo child who does not want to leave his homeland to move to Minnesota to live with his mother and new stepfather. His grandfather, one of the legendary Navajo code-talkers, tells him about his role and the role played by the Navajo language in the war effort. Grandfather tells the child about a time when he was forced to go to boarding school, of being forbidden to speak his language, and of running away from boarding school to join the Marines. The text is, technically speaking, not so complex, but the materials would not be easy for the average grade 5 reader to understand without some necessary background information. Grandfather said it was the law that required him, at age five, to be sent to boarding school, where his hair was cut, his name changed, and he was punished for speaking his language. World War II is merely a part of the backdrop of the story, told as a flashback.

Meanwhile, the second selection, "Allies in Action," a short expository piece, is scheduled for Week 1, Day 4. It alludes to the economic conditions at the time World War II began and mentions the worker shortage caused by the workers being drawn into the war effort and the need for recruiting farm workers from Mexico. The mention of the "braceros" from Mexico is followed up by short write-ups of the Tuskegee Airmen and the Navajo Code Talkers. Why were African American men in the military rarely given opportunities for advancement or special operations? Why were languages such as Choctaw or Navajo useful for encoding messages?

In the hands of a skilled, history-savvy teacher, the connections could be drawn linking the pieces together, but their relationship is not so obvious that young readers would get the benefit of carry-over from one piece to the other, even in terms of the essential question. To single out the special contributions of the Tuskegee Airmen and the Navajo Code Talkers as instances of different groups contributing to the common cause is especially meaningful. Both represent groups that the society had subjugated and suppressed historically. Both groups were as loyal and faithful to the American cause as all others when America was under attack—perhaps too heavy a message for the week of readings devoted to World War II, but it is hard to see how the text selections could be anything but superficially related otherwise. Yet the relentless pace recommended would prevent any such thoughtful discussion and realization from occurring, even if the teacher had the wherewithal, without any prompting, to make such connections.

The week following the World War II texts and work, readers find themselves thinking about the concept of "Getting Along" and addressing the Essential Question: "What actions can we take to get along with others?" Perhaps an analogy could be drawn between groups in American society

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at the time of World War II and the social relations among students in contemporary American middle schools, but only tangentially.[10]

In Week 2 of Grade 5, Unit 6, readers find themselves in the midst of the *sturm und drang* of pre-adolescence. The long text selection, "The Friend Who Changed My Life," is sufficiently engaging that young readers would willingly work their way through the complex language of this first-person narrative, but it is quite unrelated to the texts of the preceding week. Nonetheless, the set of readings for this week (including the R/W Workshop text, "The Bully") are closely enough related and on issues of sufficient interest to grade 5 students to motivate them to read closely the lengthy materials scheduled for the week. But they can't savor them for long! Off they go to the next thing. After a week spent reading about how some Americans "joined forces" during World War II and a week reading on "getting along" in social relations with peers in middle school, the program takes the reader to adaptations made by animals and plants in extreme environments, and the week after that, to how one person made a difference by planting trees in Kenya.

Perhaps the thinking is that variety is the key to keeping students engaged, but it also means moving from topic to topic so frequently that they can never get deeply into any topic at all. This runs counter to the research on the value and learning available through connected reading on one topic, as is discussed in the Building Knowledge review in this report. This approach has students skimming the surface, and even when students encounter subjects that they might find interesting and want to know more, there is not enough time to build on their interests or to do more than pique their interest.

Each of these text passages is interesting, complex, and contains information and ideas that are worth thinking about and learning from. But they are to be covered so rapidly (just one or two days are scheduled for each), that there is no time to build knowledge or to bootstrap students into a deeper exploration of the subject. It is hard to imagine how any teacher could manage the time needed to return to the full text selection with the attention and focus these rich texts deserve and that would give the students the experience of reading them successfully for comprehension.

4. **If teachers follow the program as recommended, students will only get just a glimpse at the richness of the language and the cultural treasures these complex texts offer.**

For the most part, the readings in the *Anthology* were scheduled for attention two days each week along with many activities to work on in addition to the close reading of the texts. Even with an increase in time to attend to the texts, the reading activities are not targeted enough to plumb the richness of the texts or provide students the supports they need. What do teachers do when students have difficulty comprehending the texts they are reading? I consulted a grade 3 teacher, Elsa Rodriguez, who has had four years of experience teaching the *Wonders* program. She said there were texts that the students found difficult to understand, and there were ones she found difficult to teach and to get the students interested in. Their difficulty stemmed from different sources, but the solution in all cases required her to take time and find ways through her own ingenuity to make the texts understandable to the students.

Texts that the students found difficult to understand included "Martina the Beautiful Cockroach" (a folktale for Unit 3 from the *Anthology*) and "The Castle on Hester Street" (a historical fiction piece for Unit 2 from the *Anthology*). Both stories posed cultural and linguistic difficulties for her students. The notion of testing suitors by spilling coffee on them, and the use of Spanish words and phrases in "Martina," proved to be difficult for her students to understand. This called not only for discussions of words and expressions but also of weighty matters such as

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[10] We do not know whether the changes the MHE team indicated were made to the 2020 edition of *Wonders* have led to tighter connections between texts in units.

first impressions, appearances, and tests of character. In the case of "Castle on Hester Street," the students had difficulty understanding Grandpa's use of similes and other figures of speech in embellishing the story of his early life as an immigrant in America. The story—which was meant to address the Essential Question: "Why do people immigrate to new places?"—does not offer any clue as to why Grandpa immigrated. A teacher could take time to make that connection, but the story itself just barely touches on that at all. The point here is that it takes teacher effort (and time) to build these connections and to provide whatever support students happen to need. These are examples of difficulty that are likely to depend on students' cultural background and their prior experiences, but teachers need flexibility to take such needs into account in instruction.

And what of the texts that the teacher found difficult to teach? The examples identified as such by the teacher I consulted were "Whooping Cranes in Danger" (an expository text for Unit 2 from the grade 3 *Anthology*) and "Amazing Animals of Mohave" (expository text for Unit 4 from the *Anthology*). She reported that it was difficult to get the students interested in these texts, and that both contained a lot of information that the students had difficulty tracking and remembering. It may also be the case that the two texts are difficult by virtue of being unrelated and dissimilar to the other materials they were reading the previous weeks. The texts students read the weeks before "Whooping Cranes" are ones on immigration ("Hester Street"), and government ("Vote!"). The ones preceding "Amazing Animals of Mohave" are about healthy food choices ("Real Stone Soup") and skills and talents ("Talented Clementine"). Both these animal- and environment-focused texts would have required a lot more time than was allocated to them in the very tight schedule and pacing of the teacher's guide.

There are so many competing demands on the teacher's and students' time each week that they may not be able to give these complex texts the attention they require. The most confident and experienced teachers (such as the one I consulted) would have to ignore the pacing guidance and all the activities and materials suggested for each week, and design a more feasible instructional plan using the parts of the program that can be covered well: indeed, the teacher I consulted focused her instructional program on the texts in the *Anthology* and set the rest of the materials aside.

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Building Knowledge

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Introduction

Building students' content knowledge, or knowledge of the natural and social world, has long been considered a key element of schooling. Yet, the amount of time spent in elementary schools on teaching science and social studies is often deemed insufficient (Cox et al., 2016 Tyner & Kabourek, 2020). In recent years, building students' content knowledge during English Language Arts (ELA) instruction has become a popular approach that infuses additional content-area learning into the K–5 curriculum (Wexler, 2019). ELA instruction can serve as a meaningful and motivating context to cultivate content knowledge in a way that provides greater purpose for literacy learning (Guthrie et al., 1999).

Building content knowledge can provide students with a richer base of background knowledge as they approach new texts. Background knowledge is an essential contributor to listening and reading comprehension (Kintsch, 2013; Stafura & Perfetti, 2017), enabling students to make necessary inferences while reading, learn vocabulary, and integrate new knowledge with existing knowledge (Fincher-Kiefer, 1992; Ozuru et al., 2009; Pearson & Cervetti, 2015). When readers (or listeners) lack the necessary background knowledge for a given topic, it is not only difficult for them to understand texts on that topic, but it also impedes new learning from the texts. In addition, knowledge is closely related to literacy (particularly vocabulary), and therefore, intentionally building content knowledge could serve to accelerate literacy learning.

The central question is: Does an ELA curriculum take advantage of findings in the extant research base and deliberately build students' content knowledge in a way that will improve both literacy skills and knowledge outcomes? A curriculum that is designed to simultaneously build literacy skills and knowledge can be considered a content-rich ELA approach (Cabell & Hwang, 2020). According to a recent meta-analysis of over 30 research studies, approaches that integrate literacy and content-area instruction in K–5 grades demonstrated a significant overall impact on both taught vocabulary as well as on standardized comprehension outcomes (Hwang, Cabell, et al., 2020). At the same time, students' content knowledge was also significantly improved.

To inform our understanding of the active ingredients that make a content-rich ELA approach successful, we considered common instructional approaches from efficacious studies that took place in the ELA setting (i.e., content-rich ELA approaches) that also met a rigorous standard for methodological design (informed by the *What Works Clearinghouse Standards Handbook*; Institute of Education Sciences, 2017). In most of these approaches, content knowledge was infused into instruction of literacy skills that support language comprehension (the "C" when considering the Simple View of Reading [R = D X C]), such as vocabulary and inferential language skills.

Common features of content-rich ELA instruction include (Hwang, Lupo, et al., 2020):

   (A) planning units around science and/or social studies topics,
   (B) using conceptually coherent text sets ordered to build content knowledge,
   (C) discussion and writing focused on building knowledge, and
   (D) teaching relationships among words.

Summary of Findings

This review addresses the following question: Does *California Wonders* (©2017; referred to as *Wonders* elsewhere) build content knowledge in a manner consistent with evidence-based, content-rich ELA instructional approaches? In short, *Wonders* does not consistently display the features of content-rich ELA instruction. Although the curriculum embeds many high-quality, evidence-based features for vocabulary and comprehension instruction (e.g., explicit teaching of reading comprehension strategies; child-friendly definitions; high-quality texts in a variety of genre; interactive read-alouds) along with many content-related activities and texts, the curriculum only partially builds content knowledge systematically. The curriculum's overall organization does not emphasize building content knowledge.[11] Although science and social studies topics are taught to some degree within each week, text sets do not consistently deepen knowledge on a given topic. Consequently, discussion and writing in response to texts are not consistently focused on building content knowledge, and relationships among words are not emphasized.

Review Process

This review was based on an examination of the *Wonders* curriculum. Materials studied for the review included K–5 teacher manuals and student materials. The reviewer worked with a seasoned teacher-guide who had years of experience working with this edition of *Wonders.* Particular attention was paid to unit Big Ideas, Weekly Concepts/Essential Questions, texts read, domain specific vocabulary taught, discussions about texts, and written assignments.

Findings

Although *Wonders* features instruction that is linked to content-area objectives (science and social studies), the curriculum is generally inconsistent with the evidence-based features of content-rich ELA instruction that are designed to build students' knowledge. There are five main findings, with the first two addressing the curricular organization and design (as noted above in Feature A: planning units around science and/or social studies topics) and the remaining three each corresponding to Features B, C, and D, respectively.

1. **The overall curricular organization does not emphasize content topics.**

The overall organization of *Wonders* does not appear to be driven by the idea of systematically building content knowledge. Rather, building science and social studies content knowledge is one of many aims that appear equally important as other strategies or skills. Building or activating background knowledge is one part of the broader goal of teaching comprehension strategies. This is evident in a review of the Scope and Sequence documents.

In contrast, content-rich ELA approaches are organized around science and social studies topics. Building knowledge is a chief aim of the curriculum and not just one part of the curriculum. Topics may be selected based on standards (Connor et al., 2017; Hinde et al., 2007; Neuman & Kaefer, 2018), and there is generally a logical structure or sequence of the target content (Cabell & Hwang, 2020; Cervetti et al., 2016; Vitale & Romance, 2012).

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[11] In conversations, MHE's *Wonders* staff maintained that their 2020 edition is organized more directly on building knowledge. In response to our questions, however, staff explained that their re-organization did not include changing 1) the text selections or 2) the Big Ideas or Essential Questions. We were not able to view the 2020 units themselves.

2. **Weekly topics don't build toward a larger unit content topic. Science and social studies topics "jump" across weeks and sometimes within a week.**

Wonders features units that are 3–6 weeks long, depending on grade level. Units are organized by themes, rather than science or social studies topics. These themes (i.e., Big Ideas) are not explicitly tied to a content objective. Examples of Big Ideas include:

- What can we learn when we try new things? (kindergarten);
- How can we make sense of the world around us? (grade 1);
- How do animals play a part in the world around us? (grade 2);
- What does it take to solve a problem? (grade 3);
- How can you show your community spirit? (grade 4); and
- What does it take to put a plan into action? (grade 5).

Each week of the thematic unit relates in some way to the unit's Big Idea but also has an Essential Question that is often connected, sometimes tightly and sometimes loosely, to a content objective in science or social studies. For example, in grade 2's Big Idea (Unit 2) about how animals play a part in the world around us, weekly Essential Questions are: "How do animals survive?"; "What can animals in stories teach us?"; "What are the features of different animal habitats?"; "How are offspring like their parents?", and "What do we love about animals?" The weekly Essential Question does not necessarily build knowledge toward a larger unit topic but rather are different topics under a broader thematic idea. Within a given week, there is an active effort to relate learning back as much as possible to the week's Essential Question.

However, the Essential Question does not always tightly correspond to the stated content knowledge objective for the week outlined in the student materials. For example, in Grade 1, Unit 1, Week 1, the content objective is "explore how a school is a community." Yet the curriculum does not teach the concept of communities (e.g., a group sharing common characteristics or interests) but rather discusses what happens at school, with learning about communities being implicit, rather than teaching how a school is a community. Another example of loose alignment between the content objective and the curriculum is found in Grade 3, Unit 1, Week 5, where the content objective is to "know the importance of American heroes," and yet the Essential Question is: "How do landmarks help us to understand our country's story?" Although American heroes are discussed, American landmarks might be the better stated content topic.

While the weekly learning on a topic does not necessarily build knowledge toward a larger unit topic, there is indeed some science or social studies content teaching embedded within a given week. In efficacious content-rich ELA approaches, the number of topics taught varies, with some approaches building knowledge on a few topics deeply, and others building knowledge on a breadth of topics. The amount of time spent on a single topic also varies, but has been documented for 6–10 days (Connor et al., 2017; Kim et al., 2021), two weeks (Neuman & Kaefer, 2018), or 3–4 weeks (Cabell & Hwang, 2020; Vitale & Romance, 2012). Therefore, approaches in the extant literature last beyond the five days offered in *Wonders*.

Because the weekly topic learning doesn't build content knowledge toward a larger unit content topic, the result is "jumping" in topics across weeks (and sometimes within a week, toggling between science and social studies objectives), without consistently building prior knowledge to support learning of new content.

One example of "jumping" can be seen in a grade 4 unit with the Big Idea of "What can animals teach us?" From this question, one may think this will be a unit to build scientific knowledge around animals. However, the unit begins in week 1 with "What are some messages in animal stories?" as the Essential Question for the week's Literary Lessons. During the week, students

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focus on folktales and how to determine what messages are learned from the animal characters. In Week 2, the focus shifts to "Animals in Fiction" with "How do animal characters change familiar stories?" as the Essential Question. During this week, students read a fairy tale and are asked to analyze the animal characters. Thus, the unit's first two weeks do not build scientific knowledge about what animals can teach us. In Week 3, the curriculum jumps to a science focus. Students read texts related to the Essential Question of "How are all living things connected?" The texts included in this week work toward building knowledge on this topic. On Day 1, students encounter the Interactive Read Aloud, "Return of the Wolves," a Shared Read, "Rescuing Our Reefs," the *Literature Anthology* piece, "The Buffalo are Back," and several leveled readers—all with a similar content focus. These texts work together to build knowledge around the idea that all living things are connected. Week 4 maintains the science focus by building knowledge on animal adaptations with science in nature texts. The unit then shifts back to a literary focus in the fifth week with the Essential Question: "How are writers inspired by animals?" During that week, students read poetry.

A second example of "jumping" is in grade 5 (Unit 5), which is dedicated to the Big Idea of "New Perspectives: In what ways can things change?" Each week is loosely related to the theme of how things change, but the individual weekly content does not build on one another:

- In Week 1, students read realistic fiction texts that show how experiences change the way people see themselves.

- Week 2 moves into historical fiction as students look at how shared experiences help people adapt to change.

- Week 3 shifts to a scientific look at what changes in the environment affect living things. Within this week, students engage with several texts that build knowledge around climate change and the effects on living things and different environments.

- Week 4 stays with a science focus but shifts to how scientific knowledge changes over time, focusing on what has been learned about space.

- Week 5 goes back to exploring how natural events and human activities affect the environment. However, this week's text is more about building the conceptual understanding of change and not deepening knowledge on a specific topic.

3. **Texts inconsistently represent conceptually coherent text sets ordered to build content knowledge.**

Conceptually coherent text sets are a central feature of content-rich ELA instruction. Students read, and/or teachers read aloud, multiple related texts in which knowledge about a topic is repeated or deepened over successive readings and may have vocabulary words that repeat across texts (Cervetti et al., 2016; Neuman & Kaefer, 2018). These related text sets may comprise a variety of genres (Cabell & Hwang, 2020; Neuman & Kaefer, 2018), although most studies use informational text to build knowledge (Cervetti et al., 2016; Connor et al., 2017; Vitale & Romance, 2012).

In *Wonders*, texts used for reading aloud and for student reading are generally related to the week's focus (i.e., Essential Question) but loosely related to the unit's theme (i.e., Big Idea). On a positive note, the texts span a variety of genre and include high-quality informational texts that explicitly teach content knowledge. Video presentations and music are also used as reinforcers of topics. Further, the leveled readers are often explicitly related to the week's Essential Question. Indeed, there are some instances throughout the curriculum of coherent text sets in a given week where content knowledge is deepened over successive readings. For example, in grade 4, there is a week focused on "Money Matters" where the texts are tightly linked from beginning to end. The Essential Question is "What has been the role of money over

time?", and every text encountered through the week ties tightly into answering that question in a way that would be deeply satisfying to curious grade 4 students.

Unfortunately, these are exceptions. In general, the texts in a given week do not consistently represent a coherent text set designed to incrementally build content knowledge. For example, in Grade 1, Unit 1, Week 3, the Essential Question is "What makes a pet special?" The stated science objective is to "explore what pets needs to survive." However, the texts for listening comprehension in this week include a simple fictional story about a dog who goes to school ("Cool Dog School Dog") that does not add knowledge related to the content objective, and an informational text on different types of pets ("Our Pets") that provides some information on the topic. Students read an informational text ("What Pets Need") that provides very basic information about pet survival, and the leveled readers provide some additional information. However, it is important to note that much of the information that students are asked to generate is not introduced in books but, rather, through discussion, students are asked to use their prior knowledge to relate the books to the Essential Question and/or content objective. Thus, the curriculum tends to rely on students' background knowledge rather than build that knowledge systematically.

4. **Discussion and writing are focused on essential questions but do not always seem to have the intent of <u>building</u> content knowledge.**

Content-rich ELA approaches employ discussion as a central feature to foster content knowledge and support vocabulary and comprehension. These conversations may happen before, during, and after interactive read-aloud sessions, employing different types of questioning techniques to facilitate inferential language use (Cabell & Hwang, 2020). In addition, discussion explicitly prompts students to leverage content knowledge they learned previously from text to learn new knowledge (Cervetti et al., 2016; Connor et al., 2017; Vitale & Romance, 2012). Specifically, teachers activate students' background knowledge learned in previous lessons of the curriculum, in order to apply that knowledge to new learning.

In keeping with these recommendations, *Wonders* guides teachers to frequently *activate* background knowledge. In addition, teachers remind students of prior learning within a given week or unit. Yet, the focus does not seem to be on building background knowledge. Although the term "Build Background" is used throughout the curriculum as part of a weekly routine, the activities in this section generally focus on activation of background knowledge and not systematic building of knowledge. For example, in Grade 2, Unit 2, Week 1, in the "Build Background" activity for English language learners, students are asked before the interactive read-aloud, "Swamp Life*,*" whether they have ever visited a swamp and what a swamp is like.

Literal and inferential questioning is used in discussion before, during, and after interactive read-alouds. These questions sometimes relate to content, particularly when informational text is used. For example, in Grade 1, Unit 4, Week 4, the familiar retell activity after the interactive read-aloud ("Insect Hide and Seek*"*) focuses on content related to the week's topic of how insects are alike and different (e.g., Why does a praying mantis hide on flowers? How is it different from a walking stick and thornbug?). However, questions before, during, or after read-alouds are not consistently designed to promote discussion that will build content knowledge. When the text is loosely related to the week's topic (Grade K, Unit 5, Week 1; "What do living things need to grow?"), the related discussion does not enhance content knowledge building (e.g., a book about an imaginary garden where things like jellybeans grow). Similarly, consistent text-to-text connections are made within a week, but whether they relate to building knowledge largely depends on whether they represent conceptually coherent text sets.

Student writing is often in response to a text, an Essential Question, or both. This is somewhat in keeping with evidence-based, content-rich ELA approaches where writing may serve to connect prior knowledge to newly learned information, which can aid students in cumulatively

reviewing content (Connor et al., 2017). In *Wonders*, students are repeatedly encouraged to find evidence from a text when writing about a text. Research and inquiry are features of the program that consistently—though often loosely—reinforce the topics learned within and across weeks in a unit. There is some concern that content knowledge is not built deeply enough within the curriculum to optimally facilitate student learning. For example, in Kindergarten, Unit 5, Week 1, students complete a research and inquiry project that is based on how plants grow. Yet the texts used in this portion of the curriculum do not seem to provide enough content teaching to deepen knowledge on this topic.

5. **Relationships among words are not explicitly taught with regard to building content knowledge.**

Content-rich ELA approaches often focus on cultivating concepts through explicitly teaching categorical relationships among words (Cervetti et al., 2016; Connor et al., 2017; Neuman & Kaefer, 2018; Vitale & Romance, 2012). Vocabulary that is explicitly defined and taught is often selected to boost content learning, although general purpose words are also taught. Semantic maps are useful tools to represent related information. For example, under the topic of "plants and where they grow," words can be placed in categories representing types of trees, vegetables, and fruits (Hiebert, 2019).

In *Wonders,* most vocabulary words that are explicitly taught represent general-purpose words, with some content-specific words. Vocabulary learning routines are in place, with child-friendly definitions and examples. Although vocabulary instruction is in keeping with guidance from experts (e.g., Beck et al., 2013), the extent to which the instruction builds content knowledge is inconsistent. Although there are word web activities, words selected are not consistently related to one another around a topic. Recurring vocabulary activities are not designed to emphasize relationships among words. For example, in Grade 3, Unit 3, Week 4, the Essential Question is "What ideas can we get from nature?" The target words are *model*, *effective*, *example*, *observed*, *identical*, *similar*, *imitate*, and *material*. Although these words are thematically related, instruction does not emphasize the connections among the words nor how these words can help build knowledge on a topic. Rather, students complete activities, such as using sentence stems to fill in missing vocabulary words, discussing words with peers, examining a visual dictionary, answering questions about word meanings, and creating word squares (i.e., word, definition, illustration, non-examples).

In short, since curricular weeks are not tightly planned around content topics, and text sets are inconsistent with regard to conceptual coherence, it follows that word selection for explicit teaching would not necessarily lend itself to building knowledge through emphasis of relations among words. The ground simply has not been laid for this to occur.

Cautions or Limitations

It is important to note that this section of the report does not discuss what or whose knowledge to teach. This is a question that is unlikely to be settled by research alone. In addition, this report focuses on content knowledge, while acknowledging that there are other important types of knowledge (e.g., cultural knowledge) (Hattan & Lupo, 2020).

Further, knowledge building is only one part of improving children's language comprehension and, therefore, should not be viewed as a panacea. This report focuses on this important aspect of comprehension because it is often neglected in instruction and its role in reading has been long been misunderstood in public school teaching (Cabell & Hwang, 2020).

Finally, this report compared *Wonders* with common instructional features (found in multiple studies) across seven efficacious approaches examined in well-designed studies. Although these approaches all seek to integrate content-area learning into ELA instruction, there is,

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nevertheless, substantial variability in instructional components (e.g., how comprehension is taught). As content-rich ELA approaches continue to grow in popularity, additional studies are needed that examine integrated literacy and content-area approaches to further delineate the active ingredients.

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English Learner Supports

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Introduction

"EL supports" refer to additional materials, instruction, and adjustments that help make English curriculum and instruction accessible to English learners (ELs) to support their academic development. According to Goldenberg, 2020:

EL supports include

- using techniques that help communicate content but don't rely exclusively on English as an instructional medium (e.g., pictures, graphical displays, videos, and real objects—aka "realia");
- using clear and comprehensible English;
- strategic use of students' home language, e.g., cognates, brief explanations;
- clear and predictable classroom routines; and
- teaching vocabulary and English skills required for comprehension and participation.

EL supports are not a substitute for effective instruction. Rather, they should build on a foundation of instruction that is effective for learners in general.

With respect specifically to foundational and early literacy instruction (grades K–2), research-based practices considered effective for learners in general include

- teaching core reading elements using explicit instruction: phonological awareness, letter-sounds, phonics/decoding, fluency, vocabulary, and comprehension;
- using formative assessments, measures, and standards to monitor progress;
- making adjustments to instruction as indicated by formative assessments used for all students;
- providing small-group interventions in small homogeneous groups with similar needs;
- teaching key vocabulary words in depth; and
- teaching academic English.

Additional EL supports include

- teaching meanings of everyday words and word forms fluent English speakers know;
- making sure ELs understand tasks that native speakers can be assumed to understand;
- familiarizing ELs with the sounds of English;
- grouping ELs with peers at different English proficiency levels; and

- providing English language development instruction targeted at helping ELs understand the specific language (vocabulary and text) they are being taught to read, which would include
  - clarifying, as needed, words and content with visuals, gestures, facial expressions;
  - defining and demonstrating words in the directions (e.g., trace, copy);
  - highlighting and illustrating 2–3 key vocabulary words/day, with periodic review; and
  - providing instruction in English language use, including having students respond verbally, e.g., teachers' guiding students' retelling and discussing stories they read.

The same principle holds once ELs pass foundational and early literacy stages: provide a base of effective instruction that is effective for learners in general, along with additional supports intended to make content and classroom participation accessible for ELs (Goldenberg, 2020; Saunders, 1999). For ELs in all-English or primarily-English instruction, English vocabulary and receptive and expressive oral English are particularly important.

ELs, no less than non-ELs, must build strong literacy skills to be successful in school and have ample opportunities for postsecondary success.

Summary of Findings

Overall, *California Wonders* (©2017; referred to as *Wonders* elsewhere) provides a great deal of EL support and instructional materials for ELs. These materials are generally either research based or generally accepted ways to support ELs in all-English instruction. Virtually all of the features identified above as "EL supports" can be found, to one degree or another, throughout the program in the lessons and auxiliary materials, including "talking head" and classroom demonstration videos. (Findings 1 and 2)

However, while the abundance of EL resources is commendable, their *over*abundance and difficulty in accessing many of them are likely to present a challenge to teachers. Some of these resources, possibly many, will not be used. A district official told me, "There are so many [EL] resources that teachers often do not know which ones to use." Moreover, supports are not consistently provided even when present. They are sometimes confusing, contradictory, or of uneven quality. These features will constrain the degree to which all students will have access to best practices in EL supports. (Finding 3)

A significant problem in the base program is that, particularly in grades K–2, where reading foundations are critical, lessons were overloaded with activities that are likely to distract from instruction in foundational skills and knowledge. There is no guidance provided in what is to be prioritized in the lengthy and multifaceted lessons. Further, there is insufficient opportunity for ELs to read running text with teacher guidance and feedback.[12] Instructions to teachers indicated far more reading "to" or "with" ELs rather than providing support for students to read running text themselves using their developing reading skills. (Finding 4)

EL supports in *Wonders* too often rely on teachers asking students closed-ended questions that require pulling a word off a page or recalling a word or fact and going no further. Questioning is certainly part of effective instruction, as is making sure students can read accurately and with

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[12] Conversations with MHE's *Wonders* team assert this has been fixed in the 2020 edition. We were not able to determine independently.

comprehension. But questioning is less effective when the teacher "mainly asks questions that are closed, focuses on recall of information, and having one 'right' answer" (Department of Education and Training, 2017; p. 22). Too many of the EL supports provided in *Wonders* have these characteristics; conversely, too few support providing ELs with additional input or guidance to help them understand key concepts and develop increasing skill levels in key aspects of reading development. (Finding 5)

Finally, there are mixed messages regarding the basic instructional model teachers are to employ. Some materials and resources use the "I do/we do/you do" model; others use "gradual release." Although the former is very simple and might be useful for some instructional tasks, it lacks sufficient depth and complexity for many others. The inconsistency and lack of differentiation as to when one might be preferable to the other is likely to be confusing for teachers using the program to guide their instruction. (Finding 6)

Review Process

The review of English learner supports in *Wonders* comprised the following:

- Observation of instruction and conversations with a kindergarten teacher who provided a general orientation to the program; observing a grade 4 teacher meeting where the principal was leading teachers on how to work with grade-level complex text; observing the principal as she conducted a lesson in one of the classes, based on the meeting with the teachers; debriefing with the principal after the lesson. (All of the above was on Zoom.)

- Reading all Whole Group Reading lessons K–2 and randomly selected ones in grades 3–5 to understand base lessons; reviewing the EL tab on the main "Daily Lessons" pages, the English Learner tab under "Small Group Differentiated Instruction," and the three English language proficiency (ELP) levels in DESIGNATED EL INSTRUCTION.

- Reading two units of English Learner Small Group Differentiated Instruction for grades K, 1, 2 (paying particular attention to how foundation skills were taught), and grade 4. Spot checking in grades 3 and 5.

- Reviewing each week and day of the introductory "Smart Start" unit (Unit "0") for all grades to determine the level of EL support for these opening units.

- Noting all and reviewing randomly sampled resources (textual, multimedia, student and teacher facing) accessed by the English Learner tabs and links.

Findings

1. ***Wonders* provides many areas of contextual EL support in the very architecture of the program.**

The main Daily Lesson page illustrates where direct EL supports are in the online teachers' guide. Two of the support systems are integrated into the general program materials:

- Whole Group Reading and Language Arts lessons are supported by an EL tab variously labeled ENGLISH LEARNERS, ENGLISH LEARNERS SCAFFOLD, EL BOX, or on different pages throughout the teachers' guides.

- Small Group Differentiated Instruction has an ENGLISH LEARNER section with lessons targeted for ELs.

A third support is an "add-on" that can be purchased separately. However, since ELA programs in California are required to have designated ELD provided at no additional cost, this component was in the program reviewed:

- DESIGNATED EL INSTRUCTION tab is described in a guide available online as an "intervention resource ... to provide differentiated instruction" for students needing "additional help as they become familiar with the English language (EL)."

2. ***Wonders* provides EL support materials beyond what is on the Daily Lesson page; "EL supports" can be found throughout the program in the lessons and auxiliary materials.**

Additional access to EL resources is available behind a "Resources" drop-down menu just above the Daily Lesson. The first link on the Resources drop-down, "Resource Library," leads to two other links: "Dual Language" and "English Learners." The "Dual Language" link leads to resources that support dual language programming, e.g., dual language planning guide; language transfer handbook; and letter-sound, phonics, and vocabulary cards. Although possibly helpful by themselves, these materials are not sufficient to mount a dual language program, since there are no materials for teaching Spanish literacy. Materials for teaching Spanish literacy can be found in a separate *Wonders'* program, *Maravillas,* which was not reviewed.

The "English Learners" tab links to additional teacher and student materials. "All Resources" are available over 32 pages. They include e-books, practice worksheets, interactive games, assessments, additional lessons, differentiated texts, and newcomer resources. There are explanatory and demonstration videos on topics such as supporting EL oral presentations, choosing vocabulary for instruction, clarifying word meanings, and close readings.

There are several videos by program authors and others covering topics such as providing support and scaffolds for ELs (e.g., visuals, multimedia, and sentence frames) and the benefits of the Common Core (e.g., the distinction between academic and social language; the emphasis on oral language, collaboration, and discussion). The videos are informative overall and cover generally agreed-upon principles and strategies intended to provide academic support for ELs.

The last item in the Resources drop-down is the English Language Development "add-on." As noted, since ELA programs in California are required to have a connected ELD program, the add-on was part of the program that was reviewed.

The English Language Development "add-on" link opens "Designated EL Instruction" and "Wonders for English Learners/Designated EL Instruction." This link then opens additional links to a designated EL instruction planning guide, teaching resources, PD resources, and "adaptive learning," which comprises video games to practice foundational skills. There is also an "Adaptive Learning" portal. Among the program resources is a 12-page PDF that is a user's guide for the Designated EL Instruction add-on.

The designated EL instruction lessons differentiate instruction for Emerging, Expanding, and Bridging ELP levels. There is a "Level Up" feature, which is very positive since it encourages teachers to think about helping students advance ELP levels: "If students (at this level) are able to do the following, they may be ready to move to the (next) level."

3. **Students' access to best practices is constrained by the density and complexity of the materials and uneven availability and quality of the supports.**

> ➢ The amount, complexity, and difficulty of accessing all the EL supports are obstacles to their use.

Wonders provides a staggering amount of EL support materials. The quantity alone provides challenges to their full utilization. In addition, they are accessed through different means and, even by the same means, using different labels. The EL tab to support large group lessons is variously labeled ENGLISH LEARNERS, ENGLISH LEARNERS SCAFFOLD, EL BOX, or ELL materials. It's unclear whether they all signify the same thing. In some lessons, the EL support is behind a "Monitor and Differentiate" tab. The designated ELD component is itself challenging to navigate. A district official told me that the "Designated ELD program is not widely used. We provided after-school (paid) training in year two of the adoption, but it was optional. The program is so dense it could easily be the only curriculum used during our ELA blocks, but teachers were strongly advised not to do this." More generally, this official told me that "there are so many [EL] resources that teachers often do not know which ones to use."

As an illustration of this problem, there is no support in the Whole Group lessons or Small Group EL reading lessons for ELs to develop skills in reading running text. Instead, the support is in the Designated ELD "add on." See, e.g., Grade K, Unit 5, Week 2 and Grade 5, Unit 3, Week 2. (See also Finding 4.)

There are several problems:

First, what little attention is devoted to students' reading running text in the Designated ELD "add-on" is still inadequate. Students need to apply their developing skills by reading words and running text of increasing challenge and complexity. Yet the teacher is the one doing most of the reading.

For example, in Grade K, Unit 5, Week 2, these are the Day 2 instructions to teachers in the "Shared Reading" tab of Designated ELD:

> READ "ED AND NED"
>
> Have children follow along as you read the text aloud. Stop as suggested below to have children apply the Word Work skills.

Here are the instructions on Day 3:

> REREAD "ED AND NED"
>
> As you read the text, stop frequently to elicit responses that will help you gauge and support comprehension, draw attention to the week's vocabulary, and encourage good reading behaviors that result in text-dependent responses to the story.

Following the "reread" is this:

> Ask guiding questions about each picture: What are Ed and Ned doing? Also provide the frames children can use to retell the text, using the suggestions at the bottom of the page."

Students sometimes read chorally with the teacher or are put in pairs to read to and with each other. But there is no indication that the teacher needs to be monitoring, scaffolding, and giving feed back on whether students—as a group and especially individually—are reading words and text accurately.

Second, what little support exists for reading running text is misplaced in the Designated ELD "add-on." Designated ELD instruction, according to the term's general use, focuses on English language acquisition and development *per se.* Integrated ELD, in contrast, denotes a focus on academic skills, along with the English necessary for acquiring and using those skills. The lesson supports in the Designated ELD "add-on" that presumably support reading running text focus on the acquisition of reading skills. They do not constitute Designated ELD.

Similarly, there are few writing supports in the Whole Group lessons or Small Group EL lessons. They instead are found in the Designated ELD "add-on." (See, e.g., Grade 2, Unit 5, Week 3.) As with the reading running text supports, these should have been linked as EL supports to the Whole Group base lessons or been in Small Group differentiated instruction for maximum utility and support, both to teachers and students. These lessons could then have been followed up in the Designated ELD "add-on" in order to further build out English language skills in a writing context.

The line separating "Integrated" and "Designated" ELD can be blurry. Both involve learning English, but the distinction is important because as much as oral and written language overlap and their respective skills correlate, there are some very important differences in how they develop and the supports each requires.

Finally, and perhaps most worrisome, if a district does not purchase the Designated ELD "add-on," they will not have access to lesson components intended to provide EL reading (or writing) support. This is perhaps the most compelling reason for those supports to be provided as part of the Whole Group lessons and the Small Group differentiated EL instruction.

> ➢ Despite their abundance, EL supports are inconsistently provided and of uneven quality.

A principal source of EL support is the EL tab linked to the Whole Group Reading lessons. The type of support the tabs provide are generally helpful but inconsistent. For example, in the beginning of kindergarten (Unit 0, Week 1), a phonological awareness lesson calls for the teacher to model counting the words in a line from a poem; the teacher is to hold up a finger for each word s/he says. Students are then told, "Hold up one finger for each word, and we'll count the words." The EL support tab states:

> **Wait for Responses** Children may need additional time to respond as they process what has been said, translate in their heads, formulate a response, and then translate it to English. Allow enough time for children to respond. Or allow children to respond in different ways—such as in their native language, with the help of a more proficient speaker, or through gestures.

Listening Comprehension activities include helpful read-aloud cards with pictures and with tips for ELs to accompany "The Ugly Duckling." The EL support tab for this part of lesson states:

> **Reinforce Understanding** Preview the story by pointing to pictures on the **Interactive Read-Aloud Cards** and identifying the characters shown. As you read, reinforce character recognition by pointing to pictures when you mention a character or read dialogue spoken by that character.

These supports are appropriate as far as they go, but there are missing supports and missed opportunities. When counting the words in a line from a poem, since many kindergarten ELs at this level (and non-ELs as well) might not know the concept of "word," it would be helpful for the teacher to point to each word in the line of the poem, circling it to emphasize its separateness in the text, and counting it as s/he reads. The same issue exists in the EL Small Group Differentiated Instruction (e.g., Kindergarten, Unit 1, Week 1, Day 1), only it's worse,

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since there is no shared text involved. Rather, it's all oral: "Remind children that sentences are made up of separate words. *Listen as I say a sentence:* I can make friends. *Now I will say the sentence again. This time, I will clap once for each word.* Clap once for each word as you repeat the sentence." Unless the teacher pauses (unnaturally) between each word, children who are very new to the language will not know the word boundaries orally.

In the "Ugly Duckling" read-aloud, the EL support provided is appropriate, but when the story is revisited the next day, it would have been useful to review the characters (mother duck, the ugly duckling) by having children point to (or touch, depending on the group size) the character as the teacher names it; if students cannot recall, the teacher should reteach/remind them. No EL support is provided on the second day of the interactive read-aloud.

Similarly, a second read-aloud that week, "The Three Sisters," has no EL supports. In fact, the only available material for the story is a single picture of a farm. Pictures of three sisters and what each did that was special ("How is everyone special?" was the week's Essential Question) would be helpful not only for ELs but probably for other students as well.

A missed opportunity is in the week's very first lesson, where the Essential Question is introduced: "How is everyone special?" The EL support tab states:

> **Repeat and Expand** Confirm answers offered by English Language Learners. If children provide one-word answers, repeat it and then expand to model the use of complete sentences.

Depending on the ELs' English proficiency level, expansion to a complete sentence is unlikely to be helpful for a beginning kindergartner. If the home language is Spanish, it would be far more helpful to utilize the Spanish cognate, *especial,* and use it in some meaningful context in the classroom, e.g., special clothing a child might be wearing or a special color.

None of the writing activities for the week include EL supports.

Similar uneven EL supports are seen at the higher grades. As an example, Day 1 of Week 1 of each unit begins with a "Unit Opener" that introduces the unit's Big Idea. In Grade 4, Unit 6, the Big Idea is "How can you build on what came before?" The opening picture of the unit shows a boy and someone who appears to be his grandfather. They are most likely Chinese, judging from their appearance and the setting that appears to be Chinese (Chinese writing on a building and a proverb identified as Chinese). Under the unit title, "Past, Present, and Future," is the Big Idea: "How can you build on what came before?" The rest of the lesson is entirely dependent on oral English and without EL support. The lesson for the whole group begins with a "Talk About It":

> Have students read the Big Idea aloud. Ask students to think about ways the past can influence the future. Students may list stories, personal experiences, and other examples of how history informs the way we live.
>
> Ask: *How do we learn from the past?*
>
> Have students discuss in partners or in groups, and then share their ideas with the class.

There then follows instructions for the teacher to use a song located in "Resources Media: Music." The connection between the unit's Big Idea and the "Unit Song" in Resources is not obvious nor easily accessible (whether for ELs or non-ELs), despite "Reading Connections" stated in one of the resource documents. Finally, there is to be a discussion of the Chinese proverb ("Once a word leaves your mouth, you cannot chase it back even with the swiftest horse"),

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prompted by these two questions from the teacher: "What is the lesson from the proverb? How is this lesson useful today?" No EL supports are provided at any point.

The next section in the Whole Group Reading lesson is Reading/Writing Workshop, which introduces the Weekly Concept ("Old and New") and Essential Question ("How do traditions connect people?"). There are EL supports (called "EL SCAFFOLD" here) for this portion of the Whole Group lesson.

The EL tab for the Reading/Writing Workshop produces distinct guidelines in relation to students' ELP levels:

>### Beginning/Emerging
>**Use Visuals** Ask: *What is the man in the picture doing?* (dancing) *Is he wearing special clothes?* (yes) *Special clothes and dancing can both be traditions.* Have students repeat after you. Point out that *tradition* is *tradición* in Spanish.
>
>### Intermediate/Expanding
>**Describe** Have students describe the photograph. Ask: *What is the man doing in this picture? What makes it an example of a tradition?* Elaborate on students' responses to model fluent speaking and grammatical patterns.
>
>### Advanced/High/Bridging
>**Discuss** Ask students to discuss how the dancer is preserving his culture. Ask: *What are other ways to preserve and honor cultural traditions?* Repeat students' responses, correcting for grammar and pronunciation as needed.

The Spanish cognate for tradition—*tradición*—is used appropriately at the Beginning/Emerging level, although there is no reason not to offer it at the higher levels. Just as important, teachers need to note whether the children understand the concept of "tradition" even when named in Spanish. Otherwise, it will not be helpful. Similarly, Spanish cognates will not be helpful for ELs from other language backgrounds. The point is the same: cognates in the home language must be familiar to the student if they are to be helpful in developing English vocabulary and comprehension. There are other examples of cognate use in the program, all of them in Spanish, e.g., the Spanish *líder* for "leader" (Grade 3, Unit 3, Week 2, Day 1, EL Scaffold Beginning/Emerging). Again, teachers must determine whether the children know this concept and word in Spanish for it to be useful. If the word is not known in Spanish, it would be helpful to provide colloquial or more easily accessible alternatives.

Perhaps the most striking example of uneven EL supports is their near-absence in opening units (Unit 0) across the grades. Unit 0, called "Start Smart," is a two- or three-week unit intended for teachers to set up their classrooms, establish routines, administer placement tests, and create differentiated small groups. There in no small-group instruction, including no small group EL lessons, in the Start Smart Units. There is also no designated EL instruction. This absence of supports appears to be a shortcoming of the program, since it is likely that ELs could benefit from targeted support to help them orient to their new class, classmates, instructional environment, and classroom and group routines. There is also very limited support for the whole-group reading lessons. There is no support for many of the lessons and only some for portions of lessons that do have EL support. It is unclear why some lessons and lesson portions have EL supports and some do not.

➢ <u>Support videos have helpful features but are also of mixed quality and could be difficult to locate when needed.</u>

Among the many resources in *Wonders* is a library of professional development videos related to English learners. Some are classroom demonstrations; other are "talking head" presentations by series authors and others.

One video in this category, "Preparing Students to Write," contains good suggestions, particularly in using and analyzing writing models. Unfortunately, many of the writing lessons/activities in Whole Group Reading and Language Arts do not include any EL supports, which will limit the application of the video's suggestions.

Another video, "Extending Oral Expression," offers a strategy to model an extended response—"Echo back, add more details, clarify, expand, elaborate"—and provides this example: Student says, "That is bear," the teacher is to say "Yes, that is a brown bear that lives in the forest." What's missing is a prompt from the teacher that elicits a more elaborate response from the student. The research is clear (Lyster, 2007) that simply modeling the kind of response you want is unlikely to produce any language gains, principally because students often do not realize they are getting feedback intended to be incorporated into their speaking. Instead of just modeling, the teacher should model, and then follow with a prompt, for the student to reply with a more elaborate or improved response, which could mean repeating what the teacher said but is not necessarily limited to this. Such a prompt increases the chances that students' next utterances will incorporate the feedback. The example that is illustrated in the video is particularly bad because the teacher's "model" is far beyond what the student is trying to communicate and probably even able to communicate.

There are numerous issues with the video lesson, "Phonemic Awareness - Blending," which presumably shows a teacher conducting "a phonemic awareness activity in which students blend initial and final consonants." The teacher says in the video that she is "isolating" initial and final sounds. However, what is actually being shown is blending initial consonant and rime (e.g., /m/ + ap = map) and blending final consonant with the phonemes represented by the preceding letters (e.g., bi + /g/ = big). "Isolating" would be if she were to say the whole word (e.g., *map*) and asked students to say (isolate) the first (i.e., /m/) or last (i.e., /p/) sound. The teacher's description of what she is illustrating is inaccurate.

The teacher asks who knows what "isolate" means (a good example of calling attention to "academic vocabulary"). A student gives a correct but longish answer. There are two issues here: first, the teacher does not check to see whether all or at least other students heard or understand the concept. The teacher could have praised the student for knowing the word then offered a much simpler synonym such as "separate…. when you isolate something, you separate it from others" then do a quick check by asking the class, "What's another word that means the same as isolate?" Second, an EL support could have been provided—the Spanish cognate *separar*.

The beginning of the video is needlessly confusing (although it is a more accurate account of what is being shown than what the teacher says she is doing). The opening title frame and the voice-over announce that the video illustrates students "blending initial and final consonants." This is confusingly poor syntax. Initial and final consonants are not blended. Not in this video and not ever. Rather, the video illustrates students blending initial consonants with rimes and final consonants with the preceding phonemes in the word.

In one of the "talking head" videos, one of the program authors encourages using inquiry or project-based lessons for ELs. In general, inquiry- and project-based learning have been controversial for a long time, and there is little agreement as to their efficacy (Barron et al., 1998; Gijbels et al., 2005; Lilley, 2016). To my knowledge there is no evidence to support their benefit for ELs. A major challenge is helping ELs in an all-English instructional environment acquire knowledge, concepts, and skills commensurate with their non-EL peers—precisely the reason for the many strategies and tools that have been developed. If project-based learning is

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to be used, then it is vital that teachers make sure ELs have the requisite knowledge and skills that will allow them to participate meaningfully.

Finally, a more general problem with the video library, as with the *Wonders* program overall, is that the videos are not always easy to access or even for teachers to realize they exist. Depending on the grade level, there are as many as 220+ pages of resources, each page linking to approximately six different resources. All resources for a given grade level can be accessed on the main "All Resources" page by clicking through all of the pages, one by one. One can also search by resource category, although there is not category for "video" or "multimedia," and therefore the demonstration videos would not show up in a category search. It is possible to search for a video if one knows the title or topic. Otherwise, a page-by-page search is required.

4. **Foundational reading lessons do not provide instruction and guidance in reading running text.**[13]

Although the Small Group EL Reading lessons address the foundational skills of phonological awareness, letter-sounds, phonics, and fluency, they fail to provide instruction and guidance on actually reading running text. Yet the lesson plans presume that students will have read the texts and are able to reread them independently or with a peer. In kindergarten, for example, Unit 5, Week 2, Day 2, the Whole Group Shared Reading is with the decodable text "Ed and Ned." No relevant EL support is provided. The corresponding Small Group EL Reading instruction on Days 2 and 3 does not use "Ed and Ned." On Day 4 of Small Group Differentiated EL Reading instruction, "Ed and Ned Can Go"—a different story about two different characters named Ed and Ned—is in the materials for EL Small Group Instruction, but there is no teacher direction or support for students to read it. There is short /e/ work, which is relevant to the "Ed and Ned" stories, and other activities, which are not. On Day 5, the EL small-group instructions are to "Reread for fluency" the "Ed and Ned" story used in the whole-group lesson on Day 1. "Rereading" presumes students have already read the text, preferably accurately and even if with support. But this text has not been the focus of any small-group instruction or EL support, nor were there directions for the teacher to see whether ELs needed support for reading it before they were supposed to *re*-read it.

More generally, the reading lessons attempt to do too much and risk neglecting a crucial element of reading instruction: instructing and supporting ELs to read running text accurately and fluently. Although language and comprehension need to be present from the outset, in grade 1 specifically and on into grade 2 (and possibly in late kindergarten, which is when this program commences reading instruction that is, presumably, phonologically based), there needs to be a more concentrated focus on foundational reading skills. Many of the activities in the Reading/Writing Workshop and unit opener Big Idea, which is in addition to the week's Essential Question and Concept, load up lessons and dilute the necessary focus on foundational skills. In Grade 1, Unit 1, Week 1, for example, the "Close Reading Routine" in the Reading/Writing Workshop for the decodable "Jack Can" has the teacher telling children "that 'Jack Can' is realistic fiction. Realistic fiction is an invented story with imaginary characters and events that could happen in real life. It is not true but could be based on real events." Teachers are then to "Explain to children that as they read 'Jack Can,' they will look for key ideas and details that will help them answer the Essential Question: What do you do at your school?" Other parts of the lesson—"Focus on Foundational Skills" and "Focus on Fluency"—are appropriate foundational skills instruction and should receive maximum attention in the lesson. The program would be stronger in general if lessons were more clearly focused on these components.

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[13] Conversations with MHE's *Wonders* team assert this has been fixed in the 2020 edition. We were not able to determine independently.

The issue is particularly acute for ELs. The corresponding EL Small Group Reading lesson fail even more obviously to include children's use of phonics and decoding to actually *read* the text. Instead, when running texts are read on Days 1–4, the focus is on oral discussion of the Essential Question, followed by the teacher's reading to the children with children "reading" after or with the teacher, e.g.:

> **Pages 16–17**
>
> *Listen as I read page 16:* "Max can." *Look at the picture. What can Max do at school?* (Max can paint.) *Say it with me*: Max can paint. *Pretend you are Max. Show me how you paint.*
>
> *Now let's read page 17 together*: "Can Jack? Jack can." *Can Jack paint?* (Yes. Jack can.)
>
> **Explain and Model Phonics** Repeat the sentences on pages 16–17. *Listen carefully. Raise your hand when you hear a word that has the /a/ sound. (Max, can, Jack) Now let's practice saying each word together*: Max, can, Jack.
>
> **Explain and Model the Comprehension Skill** Remind children that they can find details in the words and pictures. *I read the words to learn details. The words* Max *and* Jack *tell me who the boys are. I look at the pictures to learn other details. I see that Max and Jack can paint.*

Days 2–4 follow in this same vein with two other "Leveled" texts. Then on Day 5, the "Phonics" strand instructions to the teacher, entitled "Fluency in Connected Text" are to "Have children review 'Jack Can' in their Reading/Writing Workshop. Identify short *a* words. Blend words as needed. *Have children reread on their own or with a partner."* (Emphasis added.)

This is the same pattern we saw in the kindergarten example above—the absence of direct teaching and guidance for children to use their grapho-phonemic knowledge to actually read words in running text and make sense of the text. Then at the end of the week (Day 5), children are expected to "re-read" the text for fluency.

This appears to be the model throughout the program, although in the later grades it's ambiguous who is supposed to be doing the reading—the teacher or the students. In Grade 5, Unit 3, Week 2, Day 1, for example, the shared reading instructions sometimes have the teacher asking a question about a page or a paragraph, without designating who was to read it, and at other times give instructions such as, "Read the dialogue aloud. Have students echo you….

> **Explain and Model Theme** Choral read paragraphs eight and nine."

5. **There is over-reliance on teacher questioning and insufficient emphasis on input, more directive cues or prompts, and supports to make sure students learn, understand, and can use key concepts and corresponding English.**

Questions and questioning can be valuable, but they need to be balanced with input, more directive cues or prompts, and supports for students to learn and use concepts and corresponding English language. All are needed, but questions get the preponderance of the attention in videos and the EL supports. For example, instructions to the teacher in Grade 3, Unit 2, Week 4, Day 1 EL Small Group Differentiated Instruction are to "Ask questions that help students understand the meaning of the text after each paragraph." This is a very typical prompt in the program. Some teaching scripts do acknowledge the need to provide information

but then are devoid of any meaningful interactivity. For example, the same lesson contains these instructions:

> **Model Author's Point of View** *The author believes that the oil spill was a bad thing. You can tell by the word mess and the exclamation point at the end of the first sentence. The author then talks about ways that the spill hurt animals. What other statement shows what the author thinks or what the author's point of view is?* (Have students choral read the last sentence on the page to answer the question.) Help students talk about their own point of view of the oil spill.

On the one hand, the script tells students directly what the author thought of the oil spill. But on the other hand, there are missed opportunities for structured interactivity. For example, the teacher could have told students to read the first sentence of the story ("What a mess!"), then ask, e.g., "What is the author telling you she (or he) thinks about the oil spill?" If students, or at least some of them know, then ask them to identify what lets them know. If students don't know, then the teacher would point out "mess" and the exclamation point, and tell the students what they indicate. Alternatively, the teacher could start off, as the script suggests, with "The author believes that the oil spill was a bad thing," then either ask "What in that first sentence tells you that right away?" Or, if students don't know, the teacher can point out (as the script does) "You can tell by the word mess and the exclamation point at the end of the first sentence," but then tell the students to put their fingers on the word "mess" and on the ! and explain their significance. Which of these is best will partly depend on students' English language proficiency. This will be true more generally—the degree of support ELs need will depend partly on their English language proficiency. One part of this support consists of teachers explaining things directly rather than solely asking questions.

Teachers must have the resources to support and scaffold participation not just ask a series of questions.

Similarly, lessons and activities focused on fluency, grammar, and pronunciation are certainly important, but must be balanced with supporting content, vocabulary, and English language that provide ELs maximum access to lesson content and participation. There are useful support materials in many lessons, e.g., pictures, videos, visual displays, and organizers. They would be more productive if used to provide students with additional input to understand key concepts and the language required to understand and talk about those concepts rather than relying so heavily on superficial question-asking.

There is little evidence in the teacher scripts or instructions that ELs (and other students) might need more directive help rather than teachers' relying on asking questions to try and pull out understandings, vocabulary, or language structures students might not already have.

6. **There are inconsistent messages with regard to the instructional model advocated and used in the program.**

In the video, "Analytical Writing," the teacher uses the "gradual release" model. Other lesson videos, e.g., "Phonics: Small Group, Day 1" and "Phonological Awareness: Small Group, Day 1," also invoke the gradual release model. There are several videos in the Resource Library dedicated to explaining this model. Some of the videos map the gradual release model onto another model, known as "I do/we do/you do." Other resources (e.g., PD white paper "Improving Literacy for English Learners: What Teachers Need to Know") invoke the "I do/we do/you do" model without reference to "gradual release." Lesson scripts consistently use the "I do/we do/you do" model rather than gradual release. Superficially, there is some similarity between the two, and to my knowledge there is no research to sort out whether one is more conducive to effective teaching than the other. However, the gradual release model (Duke & Pearson, 2002) is more detailed, complex, and explicit about what teachers need to be thinking

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about as they teach new knowledge and skills. It would be preferable to point to this model consistently. Depending on the complexity of the learning objective, the "I do/we do/you do" model could lend itself to more superficial instructional coverage. In any case, it could be confusing for teachers to read or hear about one model in some resources and another model in others.

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Equity and Cultural Responsiveness

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Introduction

This review of materials focuses on the equitable practices of the *Wonders* curriculum. Generally, research regarding equity in reading instruction falls into three categories:

(1) vocabulary instruction and skill building (Oullette, 2006); (2) historically and culturally responsive instruction (Ladson-Billings, 1995; Muhammad, 2020); and (3) historically and culturally responsive representation in children's literature (Thomas, 2019). Inequity is often perpetuated through reading instruction, as much standardized curriculum and assessments of vocabulary tend to be culturally and racially biased (Griffin & James, 2018; Restrepo et al., 2010). Thus, for decades, scholars have urged educators and curriculum writers towards culturally responsive pedagogy (Ladson-Billings, 1995) that acknowledges students' varied identities and cultures and makes space for them within the classroom. For vocabulary, research suggests using differentiated learning techniques including interactive storybook reading and repeated reading (Schwanenflugel & Knapp, 2016) as well as incorporating multiple modalities (Ouellette, 2006).

With regards to reading, scholars recommend diverse texts that are culturally and historically responsive and include the authentic representation of people from various cultures (Muhammad, 2020; Thomas, 2016). Research has suggested that diverse texts are important because they allow Students of Color (whose population is growing at a rapid pace) to see themselves in texts, providing windows and mirrors for their own experiences (Bishop, 1990). Additionally, some scholars have suggested that diverse texts assist white students in learning about the world beyond their own communities and to develop respect and empathy for those different from them (Nemec, 2019). However, research also suggests that both Authors and Children of Color are rarely represented in textbooks (Hughes-Hassell et al., 2009).

Summary of Findings

Analysis of the *California Wonders* curriculum (©2017; referred to as *Wonders elsewhere*) revealed three major findings regarding (1) vocabulary instruction; (2) diverse texts and authors; and (3) culturally and historically responsive representations of people from historically marginalized communities. Largely, the *Wonders* curriculum provides adequate vocabulary instruction that builds skill while remaining responsive to the needs of varied learners in the classroom. As is common of most textbooks (Hughes-Hassell et al., 2009), the *Wonders* textbooks incorporate minimal multicultural authors. Lastly, while the visual depictions of racially diverse people in the texts are seemingly high, the representations are often myopic, shallow, and stereotypical, diminishing opportunities for culturally relevant, sustaining, or affirming instruction.

Review Process

For this analysis, I reviewed units for grades 2 and 4 from *Wonders*. Because the "Teacher Guide" with whom I worked was a grade 4 teacher, I became most familiar with the curriculum for that grade. Further, because *Wonders* is patterned and repeats similar instructional strategies across grade levels, I staggered the grades to obtain a more comprehensive understanding of the content across all elementary grades.

I began by reading the anchor texts for kindergarten, grade 2, and grade 4. I then analyzed the anchor texts (*Literature Anthology*) in grade 4 (as they are the texts all students engage with) to create a table (see Figure 1) that broke units down by title, demographic information of the author (race and gender), classification of fiction and non-fiction texts, and, if fiction, depiction of characters in the text (both through illustrations and characterization). For non-fiction or historical texts, I analyzed content using a historically responsive literacy framework (Muhammad, 2020). This table allowed me an at-a-glance overview of the content covered in texts as they related to themes of equity and justice. After observing Ms. Martinez's teaching of Unit 2, Week 2 and "The Frog Princess*"* –a text that contains multiple Spanish vocabulary words and phrases—I analyzed the *Wonders* plan for vocabulary instruction to understand how vocabulary is integrated in a way that allows students to successfully access texts. I implemented an identical review process for grade 2 materials. Below, I present the four most salient findings from this analysis.

Findings

1. **The depth and breadth of vocabulary instruction is notable and uses equitable practices.**

Vocabulary instruction throughout the *Wonders* curriculum was found to use equitable practices, focusing on both depth and breadth as well as incorporating multiple instructional practices to reach varied kinds of learners (i.e., auditory, visual, etc.) across grade levels. With specific regard to language instruction, however, the curriculum neglected to introduce students to non-English words that appear throughout. For instance, in the grade 4 text, "Ranita, The Frog Princess," students encounter the Spanish words *ranita* and *vieja*, which are the names of main characters and repeat several times throughout the text, as well as the word "Mayan," which deals with the setting of the story. Words presented in languages other than English, as well as those representing settings or historical figures significant to the setting or plot, must be introduced prior to close reading to increase both fluency and comprehension (Oullette, 2006). Doing so would ensure that students are able to decode with ease, and thus maintain a high level of comprehension of the overall text (Ouellette, 2006).

2. **Diverse texts and authors are incorporated.**

Diverse texts are those defined as those that represent the multiple and diverse identities of readers (e.g., race, gender, religion, sexuality, etc.). For the purposes of this report, I looked specifically at aspects of identity pertaining to race in the *Wonders* texts, as this country is built on anti-Black and anti-Indigenous principles. Figure 1 represents the percentage of multicultural authors. My findings indicate that 16.12 percent of the texts in grade 2 and 14.70 percent of the texts in grade 4 were written by authors who are Black, Indigenous, or other People of Color. Figure 2 represents the number of Black, Indigenous or other People of Color represented in the texts through pictures. For grade 2, I found that 21.05 percent of the nonfiction texts and/or poetry and 63.63 percent of the fictional texts visually represented Black, Indigenous, or other People of Color. In grade 4, 15 percent of the nonfiction and/or poetry texts and 46.15 percent of the fictional texts visually represented People of Color.

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Although the statistic below suggests that there are high numbers of representation of multicultural characters and children throughout the textbook, particularly in fictional texts, my next finding discusses the type of representation present.

Figure 1: Percentages of Multicultural and Gender Minority Authors

Grade	% of Multicultural Authors
2*	16.12
4*	14.70

*Texts are from the *Literature Anthology.*

Figure 2: Percentages of Visual Representations of Multicultural People in Texts

Grade	% in Nonfiction Texts & Poetry	% in Fictional Texts
2*	21.05	63.63
4*	15	46.15

3. **Representation of peoples from historically marginalized communities are neither culturally nor historically responsive.**

As stated above, Children and People of Color are visually represented in high numbers throughout the textbooks. However, the representation present follows trends of myopic representation of People of Color (e.g., recognizing the periods of enslavement and the Civil Rights Movement, perpetual foreigners, etc.).

Representations Are Not Culturally Responsive[14]

To begin, stories of People of Color either neglect to address other salient aspects of their identity, perpetuate stereotypes, or erase their faces from the text. For instance, Khan's *Big Red Lollipop* depicts a Muslim family as well as a woman wearing a hijab. Despite the pictures of the character's hijab, the textbook offers no opportunities for students to learn about Islam, the reasons some women wear a hijab, or the varied religious practices of families, despite the theme of the week, "Families Around the World."[15] Additionally, texts about people of Asian descent (e.g., "The Secret Message" and "Wolf! Wolf!") depict them largely as perpetual foreigners or perpetuate stereotypes (Colvin et al., 1992). For instance, while the grade 4 text, "The Secret Message,*"* is set in Persia, the setting of the grade 2 text, "Wolf! Wolf!" is not named. The illustrations in "Wolf! Wolf!" however, suggest it takes place in an Asian country, which is unnamed in the text. To begin, varying Asian countries have distinct cultures and should be represented as such in texts for students. Further, while representation is important, if not contextualized or nuanced, it can do little to disrupt the idea of Asian Americans as perpetual

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[14] MHE has enlisted a team to develop an overview of culturally relevant pedagogy. The team has produced six sample lessons for each grade of *Wonders*. This resource is available to all current *Wonders* customers through the ConnectEd portal. This is a start. Eventually, culturally relevant pedagogy should be evident in every lesson. The resources can only be found 5 "clicks" away from the *Wonders* landing page. It is located within the Teachers Editions for each grade, under the Resources tab, and then is part of the "Back to School Support Resources." We understand from MHE staff that they are placing these lessons at the point of use in the digital course, so the content is more readily accessible.

[15] MHE believes they have addressed this specific concern in the recently released Culturally Responsive Lesson Plan.

foreigners. Finally, texts like "Ranita, The Frog Princess" can be misconstrued as diverse texts, but often work to erase characters' diverse identities from the texts. In this instance, the main character, who is a Latina Princess, is depicted as a frog throughout the entirety of the story, thus dehumanizing the character and robbing students of the opportunity to interact with the character in human form.

U.S. Historical Representations Promote Stereotypes and Include Misrepresentations

Scholars of works of literature often critique misconstrued historical events in children's literature, suggesting that such texts can lead students to believe in sanitized and whitewashed versions of historical figures who indeed played a role in upholding white supremacist and patriarchal values (Thomas et al., 2018). In many ways, the *Wonders* curriculum falls into the same trap. For instance, some texts misrepresent the experiences of African American people, painting them as happy to be subjected or listen to stories of subjection. In the grade 4 text, "Delivering Justice: W.W. Law and the Fight for Civil Rights" ("Delivering Justice"), the narrator states, "Westley loved listening to the old man's stories" because "Old John had been born a slave" (p. 218), suggesting that somehow Westley found joy in listening to stories of subjugation about what we know was an intensely brutal time in the history of African Americans. Similarly, statements about racism or racial injustice are generally passive, neglecting the true violent nature of this country. The narrator of "Delivering Justice" passively explains that "Back then, black people weren't treated as well as white people" (p. 221), neglecting to state by whom or why, missing an important opportunity for racial literacy learning.

Finally, texts about U.S. history often highlight "heroes" or "white saviors" as historical figures who were morally unflawed, and single-handedly achieved justice. For instance, "Abe's Honest Words" paints Abraham Lincoln as a figure interested in justice for enslaved African Americans without any mention of his true motivation for abolishing slavery (i.e., to save the union). Instead, the text tells a single story from the point of view of the "victor," effectively obscuring Lincoln's true reasons for abolishing chattel slavery, which were rooted in capitalism as opposed to good nature. Further, thematic units meant to inform students about social or historical events (e.g., "Let's Make a Difference" in grade 2 and "That's the Spirit" in grade 4) gloss over major historical events in superficial ways that do not allow students an opportunity to grapple with the texts critically. Applying a critical multicultural or critical historical lens to such texts would provide students the opportunity to develop racial and historical literacy as well as become critical readers of historical texts.

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Educator Observations on Usability and Key Aspects of *Wonders*

Introduction

As part of the *Wonders'* review against the research, we recruited five seasoned California-based educators, all very familiar with *Wonders*, for their reflections on the program. The Long Beach Unified School District has a well-deserved reputation as thoughtful implementers of educational practices. They invest time and energy as well as finances whenever they adopt instructional materials. They work hard to ensure teachers know how best to use materials and are supported in making that best use in the classroom.

LBUSD adopted *California Wonders* (©2017; referred to as *Wonders* elsewhere) as the K–5 ELA Curriculum in 2016 and adopted the-made-for-California English Learner Development (ELD) supplement a year later. In the first year of the adoption, teachers received training, delivered by district coaches, on the components and organization of the instructional materials. District Unit Guides were written centrally to support teachers on knowing which pieces of Wonders most closely align to the Common Core State Standards. Beyond that, the district afforded each individual school site with the opportunity to tailor training and implementation unique to the needs of the school.

We asked five educators who serve in different roles with LBUSD to reflect on their own user experience, and those of the teachers they work with. We asked them to serve as expert guides to the various researchers. The following pages contain those educators' thoughtful reflections in their own voices. We asked for attention to be paid to the same critical focus areas as the researchers: foundational skills, access to texts of grade-level complexity, knowledge building, EL supports, and the degree of cultural responsiveness reflected in the materials. This piece begins with one additional area of concern raised by all five contributors: its usability or the size and scope of the program.

These reflections are complementary to the researchers' reviews. We recommend studying the research reviews of each focus section for *Wonders* to see how it stacks up against the research base for best practices to promote English language and literacy proficiencies.

Overwhelming Nature and Sheer Bulk of *Wonders*

So frequently remarked was how overwhelming *Wonders* is even for seasoned practitioners. To a person, the practitioners made this critique. One Long Beach reflection summed it up,

> *"Implementing* Wonders *is similar to eating at a buffet when you are on a diet. Healthy choices are there, but not all the food is good for you."*

In the words of each of the five contributors from Long Beach Unified School District:

- I can still recall the overwhelming feeling that clouded my kindergarten colleagues and me when we first reviewed the program. It was such a massive program with so many compartments that we found it to be intimidating.

- In any given week, I can have up to <u>seven</u> reading selections to use with my students! In addition, each passage is accompanied by a multitude of prescribed instructional components. The sheer volume of options can lead teachers and students astray from the primary focus of making meaning from text.

- In my experience, I find it burdensome to use the teacher's manual because it's so scripted--so broken down into minutiae--that it takes hours to read through it. That leaves me with no time to plan my teaching. It is challenging to navigate and find which pieces to use and which to avoid altogether.

- The *Wonders* curriculum has some good information and useful readings, but it is undermined by disorganization and information overload.

- On one end of the implementation spectrum, some teachers only use what they "like" out of *Wonders* to supplement the previously developed Long Beach curriculum. On the other end, teachers dutifully follow every single piece of the Teacher's Edition, resulting in their falling behind the suggested pacing due to the abundance of material to "cover." The challenge comes in knowing which pieces of *Wonders* to prioritize and which ones to reduce or leave behind.

Foundational Skills

The two highly experienced educators—a teacher and coach—who reflected on *Wonders'* foundational skills have very different views of its quality and how well it provides for young students' needs while learning how to read. Clearly, both teachers were confident enough in their knowledge to make the program their own and supplement or collapse elements of the foundational skills program as they thought important to support their students. You will have to decide for yourself, particularly in this section, whether the concerns or expressions of strengths are most valid. We have presented their contrasting reviews in a point/counterpoint format, with the more positive perspective coming first.

Against that contrast, again, we recommend readers consider the expert review of *Wonders'* Foundational Skills carefully to see how the program stacks up against the foundational skills' research base.

What follows is a more favorable impression of the program elements, as they exist for kindergarten teachers and students:

- The *Wonders* Foundational Program provides a vast amount of material for a teacher to get acquainted with. The materials are both exciting and strenuous in the beginning stages of familiarizing oneself to the program. As an experienced primary teacher with a strong background in reading and writing, it still took me a couple years to know which materials were most valuable, how to best utilize them to meet the needs of my students, and to discover a few new resources I hadn't even realized existed.

- The explicit and repetitive approach the *Wonders* program takes for teaching reading is simple to follow because of the instructional routine of the program. It also provides students with multiple opportunities to get familiar with the skill or standard being addressed. The introductory unit [in kindergarten] is called "Start Smart," which allows the teacher to introduce the alphabet as a whole and exposes students to nursery rhymes, letter names, and syllables. This unit, along with Units 1 through 10, is three weeks long. Each week introduces a new high-frequency word and letter sound. However, midway through the year, the program bumps it up and introduces two high-frequency words and two-letter sounds a week.

- The lessons are designed so that each activity builds upon previously taught material. For example, building sentences with high-frequency words seen in prior units is commonly done, along with decoding words containing letter sounds introduced in previous units. This pattern of explicit and repetitive teaching has helped my students gain confidence and increase their skills. The word work section of each (kindergarten) week—composed of phonemic awareness, phonics, handwriting, high-frequency words,

and fluency—is broken down into Days 1–5 of the week. Day 1 of each week follows the same routine in all units, as do Days 2–5, which allows the teacher to become familiar with the Teacher Guide's structure and expectations.

- The supports offered through student independent practice are strengths of *Wonders,* including:
  - o Your Turn Practice workbooks allow my students to independently practice what was previously instructed in a whole group setting.
  - o Sound spelling cards are an excellent resource for my students. I often refer students to them when practicing various skills.
  - o Differentiated Texts are printable books found on the *Wonders* site. They are available for each unit, tied to the unit theme, and are differentiated for students at the Expanding, Emerging, and Bridging levels of language development.
  - o Another resource online is called Beyond Reproducibles. These provide students who are reading beyond the "On Level" readers with printable books that are more challenging.

  Both of the online resources provide response to text opportunities as well. Not only do my students enjoy them, but they supply the learner with books that can be taken home for personal use. All of these materials are used widely in my classroom, and I highly recommend them.

- Now, considering all these foundational skills resources along with the many lessons laid out in the teacher's manual, the students have ample opportunities to engage, practice, and hone their skills. Having said this, it is safe to say that one of the greatest challenges that most teachers face is time management. Utilizing these materials and teaching all the detailed lessons does not always fit nicely into the provided time slot teachers have set aside. Therefore, knowing individual student needs in a classroom is key, and what is expected lesson-wise each day is invaluable. For example, by the middle of the year if a majority of my students are accurately able to identify initial/medial/ending sounds, blend, or segment, I pull that specific activity from the whole group instruction that day and plug it into the small group for the students who need the extra support.

- After reviewing and applying *Wonders* with a wide range of learners, I consider *Wonders* to be a massive and robust ELA/ELD program that provides the teacher with many opportunities to instruct and engage students in learning foundational skills.

What follows is a more critical perspective of *Wonders*' Foundational Skills resources:

- Having taught kindergarten for twenty-three years, my team and I noticed that *Wonders* lacked systematic phonics instruction compared to the previous program, Open Court, and the previous kindergarten training provided by Long Beach.

- The *Wonders* program spends too little time on phonemic awareness and phonics in kindergarten than the previous programs I have used, specifically Open Court. Currently, I supplement the program with Heggerty and Orton Gillingham. These two programs explicitly use systematic phonemic awareness and phonics instruction which help kindergarten students achieve improved literacy for decoding and encoding. I outsource material using Heggerty and continue the district professional development practices for phonemic awareness. I use the Orton Gillingham program to support all learners in phonics. It helps to supplement the sections that *Wonders* lacks. The addition of systematic phonetic awareness instruction into the program addresses a critical area it currently lacks.

- A quarterly review revealed our kindergarten students scored higher on phonemic awareness compared to the district overall. I believe the reason for the higher achievement was due to the district training and the fact that we continue to use a systematic phonics program. After learning the good teaching practices of systematic phonemic awareness, our teachers closely followed these practices in our classroom.

Text Complexity and Language Development

Text complexity is bedrock to all college- and career-readiness standards. *All* students must have access to texts of increasing complexity as they go up through the grades. *Wonders* has a *Literature Anthology* (*Anthology*) for every grade (constituted of read-aloud selections from kindergarten through the first half of first grade; student-facing thereafter). But as you will hear from the Long Beach teachers, too little time is budgeted to do justice to the marvelous texts and excerpts MHE brought into *Wonders*. This problem becomes chronic from 4ᵗʰ grade on when the selections' lengths are far too long to read closely without committing swaths of time to do so. Every teacher, then, is forced to make tradeoffs. As should already be obvious, the teachers who were tapped for this review are well-informed and confident about what helps students progress as readers. They handle the tradeoffs in admirable ways. But as they point out repeatedly in these pages, it takes years to develop the awareness of how and what to trim in *Wonders* to preserve time for what matters most.

- For the past three years, using *Wonders* as our reading program has brought forth many mixed feelings. The *Wonders* program has many useful resources (in reality too many to use), but when focused on the *Anthology* in *Wonders*, we know we are using the highest quality complex text for direct instruction.

- Each selection within the *Anthology* textbook describes the Lexile Level, which provides us with an understanding of the complexity of the text to ensure the text is grade level appropriate. The *Anthology* textbook describes the purpose of the text, provides connections with other texts and real-world experiences, and incorporates ways and ideas to integrate the students' prior knowledge.

- As I plan for my English Language Arts block, I use the *Wonders Anthology* textbook. I incorporate other concepts that the textbook offers, such as skills and strategies, yet I don't make this my focus. For example, one selection is called, "Whooping Cranes in Danger." The Lexile Level is 580 and the purpose, prior knowledge, and connection of ideas are a few of the objectives that make this text complex. There is too much to cover in a week. The guidance supplied suggests spending no more than parts of a period or two per week on the *Anthology* selection, regardless of the text's richness, complexity or length. Here's what I do instead:
  - The first read involves reading the text to the students to provide a preliminary understanding of the story. At this point, I do not stop or discuss anything involved within the text.
  - As the week progresses, I present text-dependent questions and the students must look for and provide evidence for their answers.
  - By the end of the week, I expect students to write a brief summary of the text.

Building Knowledge

Knowledge building is an essential aspect of deepening students' comprehension. Tightly linked to vocabulary growth, it matters greatly that students develop an ever-deepening reservoir of knowledge to draw on when reading sophisticated and complex text for understanding. The beginning of this section describes a group of grade 4 teachers reflecting on how to best create coherence and build knowledge with the *Wonders* materials, both of the

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topic or theme and the content within the best texts and activities from a particular unit. That is followed by the reflections of a grade 5 teacher frustrated by the lack of coherence she finds in too many of the units.

Reflections from the Grade 4 Team:

- There is good knowledge building stuff in *Wonders,* but units often have to be largely re-worked by our teachers. Each unit is organized around a Big Idea, and the weekly lessons that follow are tied to Essential Questions designed to build knowledge and conceptual understanding. Central to each week is a high-quality authentic text that falls within the appropriate complexity levels. Paired with this anchor text are several other reading passages that vary in quality and text complexity. Some units are better than others. Throughout the grade levels, we have found that the units that focus on specific content using more informational text, lend themselves better to building knowledge. The literature pieces are often loosely connected. and teacher teams have begun swapping out certain texts for additional texts better aligned to the essential questions.

- For example, in a grade 4 unit, "Amazing Animals," students work to build knowledge to address the Big Idea, "What can animals teach us?" In the first two weeks of the unit, students read literature to analyze how authors use animals in stories to teach a lesson. A large number of the selections are folktales where students learn a message from the animal characters. In the third week, the focus pivots to selections illustrating the interconnectedness of all living things. Each text brings students into the amazing world of animals and how human actions can both positively and negatively impact the habitats of animals and their ecosystems. In the fourth week, students read to learn about what helps animals survive. During this week, students have access to multiple texts at various complexity levels to learn about the special adaptations of animals. The fifth week of the unit returns to a focus on literature where students read several poems and are asked to think about how animals inspire writers. The unit concludes with students researching sharks. At the conclusion of this particular unit, our grade 4 team reflected on which parts of the unit the students found most engaging and which of the weeks most effectively supported students in building knowledge to answer the question, "What can animals teach us?" It was unanimous that the two weeks that focused on learning about animals allowed students to build knowledge and grow their vocabulary. Students integrated their new knowledge across the texts and began to use academic vocabulary in their oral and written discourse. While students enjoyed the literature and poetry from the beginning and end of the unit, those selections did little to build knowledge. The team asked if they would be "allowed" to reorganize the unit for next year, spending more time in the informational text and less time in the literature. Music to a principal's ears: teachers collaborating to make strategic instructional decisions aligned to practices that will accelerate literacy achievement!

Reflections from a Teacher on Special Assignment:

- I have been able to use elements of *Wonders* effectively, but I have not followed the script that it lays out. One of my significant frustrations with *Wonders* is that the units called Big Ideas are fitted together haphazardly. Grade level teams regularly collaborate now to plan for instruction using the program resources. Prior to beginning a unit, teachers spend time analyzing the Big Idea and Essential Questions and come to agreement on which complex texts *all* students will read. Then they determine which of the passages included in the ancillary materials work to support the building of knowledge and conceptual understanding. More time is given to the higher-quality text and the focus of instruction has shifted away from predominantly skill and strategy lessons to making meaning from the text. At the end of each unit, students are assessed on what they learned using teacher-designed performance tasks.

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Reflections from a Grade 5 Teacher:

- My first critique is that *Wonders* offers a hodgepodge of weekly themes that don't hold together under the Big Idea. For example, there's Grade 5, Unit 3, where the identified Big Idea is "Getting from Here to There." It would be easy to guess it was about travel. It's not.

  - The Week 1 theme is "Cultural Exchange," which might have fit.
  - But then Week 2 is "Being Resourceful."
  - Week 3 is "Patterns."
  - Week 4 is "Team Work."
  - Week 5 has no theme but says it comes from the magazine, *Time for Kids*.

  The "Getting from Here to There" title is tacked on rather than promoting a naturally coherent topic. It's difficult to introduce that idea to students if teachers (like me) don't understand what holds the unit together. My response is to use some of the stories and create my own units. For example, I created a unit called "Taking Care of the Earth." I used stories from the *Anthology* and supplemented it with units from our science curriculum and an online article.

  - Week 1 focused on "Freshwater Resources" from the science textbook;
  - Week 2 focused on "Global Warming" from *Wonders*;
  - Week 3 focused on "The Case of the Missing Bees" from *Wonders*;
  - Week 4 focused on "One Well" from *Wonders*; and
  - Week 5 focused on "California Water Supply" from our science text and online articles.

  For me, the reason to teach with *connected themes* is to *build knowledge* for students. This is especially important for my students, who come to school with widely varied experiences and backgrounds.

- My second critique is that *Wonders* suggests that we teach one specific skill or strategy each week. For example, under comprehension **skills**, Week 1 focuses on theme; Week 2 focuses on theme; Week 3 focuses on main idea and key details, and Week 4 focuses on author's point of view. Under comprehension **strategies**, some examples of the weekly strategies are to summarize, ask, and answer questions, etc. Teaching a specific skill or strategy is detached from the way we naturally encounter stories. We can teach reading skills and strategies more naturally *in the process* of *building knowledge*. It is not the skills and strategies instruction alone or in isolation that enable students to perform well. We need to be teaching our students reading through stories chock-full of engaging information that teaches them about the world. Knowledge-filled stories from a young age is what builds comprehension. To comprehend words, you have to comprehend the world they seek to represent. For this reason, I aim to build units that help them make sense of the world.

- My third critique is that *Wonders* suggests we teach vocabulary out of context rather than connecting it primarily to the *Anthology* selections.[16] That's frustrating. I understand that learning vocabulary needs to be learned in context to stick in students' memories and become part of the words they know. Using context clues as you read, as *Wonders* encourages students to do, of course has some value in acquiring new

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[16] Conversations with MHE's *Wonders* team would indicate that in the 2020 edition, students' attention is drawn to vocabulary in context through sidebars added to the *Literature Anthology*. This was able to be verified by the members of the review team.

vocabulary, but more solid practices need to be integrated as well, and these I need to provide for my students myself. Teaching Greek roots and roots in grade 5 has limited value as a stand-alone practice.

- I support my students' vocabulary learning by making many adjustments to the program. In building the units, I ensure that students can practice and develop vocabulary through repeated encounters with the *Anthology* selections, integrated naturally.

English Learner Supports

Given the millions of English learners who attend virtually every elementary school in the U.S., it is essential that any core reading program be supportive of the language development needs of those learners. Careful attention to providing research-based supports that allow for full access to all aspects of literacy learning and the English Language Arts will benefit students even beyond that percentage actively learning the English language. These features, in particular, are why this review is of *Wonders*, California edition, since the California adoption requirements have demanded particular attention to English Language Development (ELD). All the other program elements are the same as in the various national versions of *Wonders*. As you will see below, few of the Long Beach teachers could provide much of a review of the plentiful EL *Wonders* resources. Most teachers just don't have time or the training to use the EL resources. Long Beach reports having a room full of unused resources.

- The district has created resources to explain the ELD *Wonders* materials. These documents are embedded in unit guidance documents that already have more resources than any teacher could possibly do in any given day. The district unit resources and the Wonders ELD materials are excellent and robust. The challenge is finding time to sort through them, understand how to fit them in, and knowing which ones to use. We can barely sift through the important pieces of Tier 1 instruction. Going into the ELD materials is like doubling the resources. Many of the materials designed to support ELs are in the form of "watered down text" which is fine **if** used to access complex text and grade-level content. However, too often teachers use them in lieu of the complex text. Teachers need more support in knowing how to access these resources and how to use them as an "on-ramp" to the core instructional materials, NOT to use in place of grade-level materials.

A couple of the Long Beach reviewers have used the EL materials. Their reviews are mixed.

- As an English learner myself who has used *Wonders* since 2016, this program lacks good practices for our immigrant students and ELs. From my experience with *Wonders*, there aren't enough resources to provide our ELs with what they need. ELs need extra supports to build their core knowledge, build their vocabulary, and experience various complex texts in each unit.

- There's an online resource—Differentiated Texts for English Language Development— that quickly has become a favorite of ours. *Wonders* also addresses strategies for ELs based on whether or not they are Emerging, Expanding, and Bridging. Importantly, throughout *Wonders* are graphic organizers, sentence framing, having students refer back to the text, pointing to the text, collaborating with a partner, and describing academic vocabulary.

- My English Learners require exposure, repetition, and practice. The Differentiated Texts resource provides an additional opportunity for my ELs at the Emerging, Expanding and Bridging levels to engage in the focus letter/sound of the week and the high-frequency word of the week while staying on theme of the weekly Essential Question. These texts provide picture/text support. *Wonders* also offers text printables. After being introduced

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in small groups the printable texts are best utilized in their "book baggies" for extra reading practice during ELA workshop, then are later taken home for their personal library. The text printables also include scaffolded questions and cloze sentence activities for further practice and support.

Equity and Cultural Responsiveness

Wonders was designed and developed nearly a decade ago, though it has been through several editions. It is of pressing importance that this edition be evaluated for how well it represents the diverse populations and cultures enrolled in elementary schools.[17] Does it help all students feel a sense of belonging and comfort in their classrooms? Does reading instruction acknowledges students' varied identities and cultures and makes space for them within the classroom? Does *Wonders* historically and culturally accurate and unbiased stories about people like themselves in some of the text selections they are studying and encountering? Does *Wonders* have texts written by members of the groups being written about? We asked our educator collaborators to address these questions too. Here are some of their reflections:

- There aren't enough resources to provide our ELs with vivid reality or literature with cultural diversity.

- In addition to using the once-a-week week Read-a-Loud big book suggested by *Wonders*, I add the cultural richness, diversity and core knowledge required to empower our minority immigrants and ELs with literature that reflects a "mirror of their community and upbringing" and a "window" into other communities and cultures.

- There is a stereotype that people like myself, my sons, and a majority of my students come to school with a lack of knowledge. Yet we all have funds of knowledge, many experiences and interesting backgrounds that we can share with others. *Wonders* needs to invite this sharing.

- Unfortunately, the readings in *Wonders* are too limited and only address generic groups.

- *Wonders* is a widely adopted program across the United States, but it only minimally addresses cultural diversity. From my perspective, *Wonders* lacks real content to address the existing diversity and language learners in Long Beach.

- I think the *Wonders* curriculum is too generic and doesn't address the cultural diversity in my district. Teachers can, however, play a vital role in tailoring the implementation to their school's and students' needs.

Concluding Observations

The seasoned educators offer provocative food for thought in closing.

- Given that we access the program digitally, MHE could make updates every year instead of waiting for five years or so between editions. In response to thoughtful educator input, these changes could lead to significant literacy achievement for the students of Long Beach and elsewhere.

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[17]

MHE has enlisted a team to develop an overview of culturally relevant pedagogy. The team has produced six sample lessons for each grade of *Wonders*. This resource is available to all current *Wonders* customers through the ConnectEd portal. This is a start. Eventually, culturally relevant pedagogy should be evident in every lesson. The resources can only be found 5 "clicks" away from the *Wonders* landing page. It is located within the Teachers Editions for each grade, under the Resources tab, and then is part of the "Back to School Support Resources." We understand from MHE staff that they are placing these lessons at the point of use in the digital course, so the content is more readily accessible.

- *Wonders* has the "healthy" stuff. It's in there. You just need to look for it. When teachers become familiar with the practices that accelerate literacy achievement and the know-how to make strategic instructional decisions on what to use and what to leave behind, *Wonders* can be a great resource to help students become literate and knowledgeable individuals.

Profiles of Educators

Bandaul Chansy
I have been a teacher in the Long Beach Unified School District for almost 25 years. At the start of my tenure, I taught 4th grade. I have taught kindergarten students for the past 23 years. Throughout my tenure as a teacher, I have been trained on and taught different curriculums adopted by the School District for English Language Arts. During these years, I have used Scholastic, Open Court and now the Wonders curriculum.

Besides my professional teaching experience, I have also had a variety of personal experiences in developing English language literacy. I attended and graduated from Long Beach schools, beginning with kindergarten and culminating with high school. More pertinently, I am the mother of three sons and a foster son who matriculated through Long Beach schools and are English language learners. I believe my professional and personal experiences give me a unique perspective to review the Wonders curriculum and compare it to other programs that Long Beach Unified has implemented over the years.

Alexis Lahera
I started my teaching career with Long Beach Unified School District in 2004. I received my teaching credential from Cal State Long Beach, and worked in a cohort with teachers from my site to receive my Master's in Education, with a specialization in reading. I adore the diversity and dedication of our school district. Coming from a small town with just a few schools, I was awestruck with the massiveness of LBUSD. Since being hired as a teacher for the district I have worked at several different school sites. I truly feel that this has broadened me as a teacher, as each school brings new cultures, ideas, and insights.

After my first year of teaching in 4th grade I was offered a kindergarten position for the following year. I knew immediately I was meant for primary grades. Teaching children to read is my passion. I have been fortunate to work with the LBUSD ELA curriculum office on numerous literacy and assessment projects. I have also led professional development trainings and enjoy opening up my classroom to other teachers for lesson observations.

Elizabeth Martínez
I have been teaching in LBUSD since finishing a BA in Human Development at California State University, Long Beach (CSULB) in 1998, where I also earned an MA in Education in 2014. I began my teaching career in a 2nd grade bilingual classroom. Since that time, I have taught in every grade from K–8 except 3rd grade. In my current role as a Teacher on Special Assignment (TOSA), I provide support to fourth and fifth grade students in the form of individualized and small group instruction.

I am a first-generation daughter of Mexican immigrants. I was part of the bussing program in LA County in the 1970s and 1980s designed to integrate county schools, so I rode the bus daily across town, 90 minutes each way. My parents didn't speak English, which made the distance between home and school feel even greater, but my teachers treated me with love through my K–8 years, giving me a sense of my own competence and capacity. All these experiences shape who I am as a teacher and what my concerns are.

Elsa Rodriguez

I am currently serving as a 3rd grade Teacher on Special Assignment (TOSA) at Bret Harte Elementary School in the Long Beach Unified School District. I am a graduate of California State University Dominguez Hills with a Bachelor of Arts in Liberal Studies and a Master of Arts in Education Administration. I have been an educator for 17 years, with 16 years at the public elementary school level and one year working within the middle school private education system.

During my 16 years, I have taught both 3rd and 4th grades and have been an English Language Learner Specialist for 4th and 5th grades. Outside of the classroom, I have been part of the School Site Decision Making Team, Grade Level Representative and a Trainer of Trainers.

Lisa Worsham

I have worked for the Long Beach Unified School District for 25 years. I began my career as a 5th grade teacher and quickly developed a passion for teaching reading and writing. Knowing that strong literacy skills were critical for future success in school and life, I sought professional learning experiences and collaborated with my colleagues to improve my practice. After five years, I transitioned into a Literacy Specialist position where I led the implementation of a writing program and provided direct support to students. My work with the writing program led me to an appointment with the Office of Curriculum, Instruction, and Professional Development, leading the implementation of the program in 17 schools. In 2009, I became the K-5 ELA Curriculum Leader where I had the good fortune to collaborate with educators across the country during the transition to the Common Core State Standards. This experience allowed me to gain a deep understanding of effective instructional practices that support literacy achievement.

After 12 years in the central office, I transitioned back to the school site as the principal of a large Title 1, K-5 school in North Long Beach. This transition has provided me with the opportunity to work closely with students and teachers to implement effective strategies and practices to accelerate literacy achievement. The work is challenging and often met with several competing initiatives. The school closures due to the pandemic have forced us to prioritize and reevaluate our practices. Now more than ever, it is critical that we get this right.

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