

# What a Knowledge-Building Approach Looks Like in the Classroom

by Barbara Davidson and David Liben

If we want to ensure academic success for all children, understanding the importance of knowledge to reading comprehension is a vital prerequisite—but it is only the first step. As a practical matter, educators and parents also need to understand how to build the knowledge students need in the classroom. It is certainly possible for individual practitioners to switch the focus of their questions and class discussion to the content of texts and away from comprehension “skills.” But a far more effective way to ensure that students acquire knowledge is through the schoolwide—or perhaps districtwide—adoption of a content-rich literacy curriculum.

A high-quality, content-rich curriculum can provide teachers with appropriate topics and texts along with suggestions for how to present them, relieving them of the burden of searching for instructional materials and enabling them to focus their limited time on how best to deliver content to their particular students. For students, the advantage of a coherent curriculum is that the topics it covers can build on one another, with one unit providing a foundation of knowledge for others that come later, both throughout a single school year and across grade levels. When related concepts and vocabulary show up in texts, students are more likely to retain information and acquire new knowledge; knowledge sticks best when it has associated knowledge to attach to.

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## Changing Emphasis on Curriculum

“Curriculum” is a term with a wide range of definitions and implications. In the earliest days of the movement for accountability in education, its leaders talked about the three-legged stool of standards, curriculum, and assessments. Standards were the *what*, curriculum the *how*, and assessments were generally assumed to supply the *why*. But when early accountability champions stood the stool up in this way, they were

referring to a set of state standards that included not only skills-oriented goals in English language arts (ELA) and mathematics, but also content-focused frameworks for science, social studies, and sometimes the arts. In other words, the “what” included both skills and content.

Sadly, as No Child Left Behind (NCLB) put an ever-increasing emphasis on “adequate yearly progress” in ELA and math, with annual tests used as the metric, time spent on social studies and science in elementary school dropped precipitously. In a survey conducted five years after the enactment of NCLB, 44% of districts reported that they had cut time on science, social studies, and other non-tested subjects, while increasing time on the tested subjects of ELA and math by 42% (McMurrer, 2007.) By 2012, schools reported that less than three hours a week was being devoted to science and social studies instruction in kindergarten through third grade, and just three hours and 40 minutes in grades 4 to 6 (BaniLower et al., 2013, p. 54). Given that these figures are self-reported, and that time officially scheduled for content-area subjects often ends up being devoted to reading or math, even these numbers may well be overstatements.

And how has this grand experiment in decimating the content of the elementary curriculum succeeded? It hasn’t. Despite the increased time and attention to English language arts, reading scores on the National Assessment of Educational Progress have remained stubbornly flat, with less than 38% of fourth and eighth graders scoring at a proficient level.

The authors of the Common Core State Standards, first promulgated in 2010 and at one time adopted by all but a handful of states, restricted their efforts to ELA and math. And, to avoid political conflict, they framed the ELA standards almost entirely in terms of skills rather than content. Nevertheless, they cautioned against the idea that these standards would suffice to provide students with a high-quality education. Acknowledging the evidence on the importance of background knowledge to literacy, the authors of the standards inserted the following passage in the preamble to the ELA document: “By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them the background to be better readers in all content areas. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades.”

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## Abbreviations

ARC: American Reading Company  
CKLA: Core Knowledge Language Arts

ELA: English language arts  
NCLB: No Child Left Behind

Unfortunately, few educators and policymakers have been aware of this language. But in recent years, at least two states—New York and Louisiana—and several new private educational groups have taken this call to heart and designed or promulgated literacy curricula that are intentionally designed to build knowledge of the world. Significantly different from what preceded them, these curricula currently represent about 11% of the elementary ELA textbook market (EdReports, 2019).

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**Examples of Content-rich Curricula**

In the winter of 2018, we were part of a group touring elementary schools across the country that have adopted some of these new curricula. We visited schools in the Los Angeles suburbs, rural Louisiana, downtown Detroit, and points in between—all serving large numbers of children living in poverty. This was by design. We were interested in seeing how the content-rich approach common in elite private schools might work in public school settings more typically associated with test-driven or skills-oriented instruction. Carried out under the aegis of the Knowledge Matters Campaign, our school tour enabled us to find out what traction the new curricula are gaining and the level of popularity they enjoy.

The first school we visited, Bryant School of Arts & Innovation, was probably the most compelling; it had been using a content-focused curriculum longer than the others, allowing teachers to become more accustomed to a new way of teaching and students to reap more cumulative benefits. Located in a working-class neighborhood in Riverside, California, Bryant at one point ranked 27<sup>th</sup> out of 29 elementary schools in the district in terms of test scores. Since adopting the Core Knowledge Language Arts (CKLA; see Table 1) curriculum eight years ago, it has moved up to seventh.

Compared to other new content-rich curricula, CKLA may do the best job of building students’ knowledge in a coherent, cumulative way. Despite the wide variety of topics CKLA covers, at Bryant we repeatedly heard teachers and students making connections between the subject at hand and others that had been covered in previous years or would be later on. During a discussion among fifth graders of the “grace and elegance” of Renaissance art, the teacher asked, “Remember last year in the Middle Ages, the art was all dark and serious?” Second graders learning about the role of waterways in the War of 1812 were advised, “You’ll be learning more about the Great Lakes—one of the waterways important in the War of 1812—in third grade.” These exchanges were concrete examples of the ways that a sequential, content-focused curriculum can enable children to acquire new knowledge. When students are jumping from one unrelated topic to another, as is the case in schools that focus on reading comprehension skills, that kind of logical knowledge-building isn’t possible.

Another increasingly popular ELA curriculum we saw was EL Language Arts, formerly called Expeditionary Learning (Table 1). While all the new curricula build knowledge, they have different approaches that may appeal to different

**TABLE 1. Comparison of High-Quality Elementary ELA Curricula\***

Curriculum	Publisher(s)	Content-Focus	Distinguishing Feature
ARC Core	American Reading Company	Informational and fictional texts on a variety of topics	Diagnostic tool (IRLA) and enormous library of leveled books allows for maximum individualization
Core Knowledge Language Arts	Amplify (OER version on Core Knowledge Foundation website)	History, Civics, and Science	Builds knowledge of topics within and across grades; utilizes mostly original (non-trade) texts
EL Language Arts (formerly Expeditionary Learning)	OER from EL Education, print/digital versions from Open Up Resources, LearnZillion	Natural/Social Science and Social Justice	Focus on social-emotional learning embedded right into the program
Wit & Wisdom	Great Minds	Humanities (History, Literature, and Art)	Decodable texts to accompany units built around rich, award-winning titles

IRLA = Independent Reading Level Assessment; OER = open education resource

\*While not discussed in the article, Bookworms (Open Up Resources), Match Fishtank (Match Education), and Ready Gen (Pearson) should also be investigated as part of any search for a high quality elementary ELA curricula. Bookworms, though brand new, has already shown big increases in reading scores in low-income districts.

constituencies. Just as CKLA does an especially good job of sequencing history and social science topics within and across grades, EL has a particular focus on social justice. At two charter schools in Detroit, we saw kindergarteners learning about patterns in nature and pondering what they suggested about how to protect the environment; second graders writing in their paleontology notebooks about tools used to study fossils; and fifth graders debating the source of Jackie Robinson's success as a social change agent.

A third entrant into the array of new knowledge-building ELA curricula is Wit & Wisdom, which includes the study of great works of art—not only for their aesthetic features but also because, like complex written text, art can fuel discourse and add nuance to reading and writing assignments (Table 1). At the Wit & Wisdom school we visited in Dayton, Ohio, a second-grade unit on “civil rights heroes” included not only books about Martin Luther King, Jr., and poems by Langston Hughes, but also the iconic photograph “U.S. Marshals Escorting Ruby Bridges.” Here we also witnessed third graders participating in a “Socratic seminar” on the value of the United States space program, part of a unit on outer space that kicked off with Peter Sis's award-winning book about Galileo, *Starry Messenger*.

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Yet another of the new ELA curricula, American Reading Company's ARC Core, places a priority on having students read voluminously (Table 1). As with the other programs, ARC Core features a core text. In kindergarten through second grade, all children listen to teachers read aloud texts that are significantly above grade level, while in later grades all students read grade-level core texts themselves. Units are organized around genre and include informational and literary texts that draw on science and social studies topics—for example, bugs in kindergarten, or animal stories in second grade. In addition to reading or listening to the core text with the class as a whole, each student is responsible for picking a related topic for independent reading, choosing from texts at a range of grade levels. When the third-grade core text is about weather and climate, students may choose to read about different types of weather events; fifth graders reading a core text about the Civil War may opt to focus on weaponry and battles. Because ARC works with more than 250 publishers, the company has a library of over 150,000 titles at its disposal, allowing for a wide variety of related texts at a range of complexity levels. Although students' independent reading is often at lower complexity levels at the beginning of a unit, as they acquire knowledge about the core topic they are

generally able to read texts on their related topic at complexity levels greater than their diagnosed grade level.

### Programs' Common Elements

All the programs described here have been independently verified to align with the Common Core and other college-and-career-ready literacy standards. More importantly, though, they all expose students to the kind of background knowledge essential if students are to *achieve* those standards. And in every school we visited, we observed some common elements that convinced us something exceptional was happening for both teachers and students.

First, students had the opportunity to immerse themselves in meaty content for multiple days, even weeks, enabling them to acquire what cognitive psychologists call “domain knowledge.” “ARC focuses on one thing, one topic at a time—where you can really get an idea of what it means, what happens, instead of half of this and half of that,” said one fifth grader in Greensboro, North Carolina. Not only did students clearly find this more enjoyable than jumping around from topic to topic in order to practice some comprehension strategy or skill, teachers told us it was a lot more rewarding for them as well. A first-grade teacher in Kinder, Louisiana, told us she loves the complexity of the texts in Guidebooks, the curriculum created by that state, which allow her to delve into “deep questions with her kids that foster incredibly engaging discussions even among six-year-olds.” The classrooms we visited were lively, and it was more the exception than the rule that we noted students who were disengaged.

Second, the greater time spent on each topic enabled these students to acquire more vocabulary, as recent research has shown (Cervetti, Wright, & Hwang, 2016). For example, second graders studying Early Asian Civilizations as part of CKLA are likely to acquire words related to the topic, like *source*, *conquer*, *prosperous*, and *fertile*—the last of which they encountered the year before while studying Ancient Mesopotamia. Perhaps more surprising, evidence shows that students who delve deeply into a topic are also more likely to acquire general academic vocabulary such as *develop*, *value*, *produce*, and *surface*—words that appear in a wide range of text types. In fact, it turns out that the best way to grow knowledge of words is to grow knowledge of the world. Cognitive psychologists refer to this as “indirect” vocabulary instruction. There is still a place for traditional “direct” vocabulary instruction, but most words are in fact learned indirectly.

Third, we saw students falling in love with books and valuing them for the world of adventure, knowledge, and discovery they revealed. In many schools we've visited that follow the usual skills-focused curriculum—including some that consider themselves to be doing a great job of implementing the Common Core and similar rigorous standards—we have seen students reading from a host of digitally-delivered articles on a wildly disconnected range of topics. That approach to reading instruction deprives children of the chance to experience the delights that come with immersing themselves in a rich, engaging text—and the rewards that come when they do so.

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“When I was in kindergarten I didn’t like to read because it was so hard and really boring,” a first grader outside of Dayton named Moria told us. “I really like to read now because it’s so fascinating.” Jaden, a fifth-grade student in Greensboro, North Carolina, hadn’t been engaged in school in previous years, his teachers said. But when we visited, he told us, “I like it when we read a book together because you can get others’ opinions. I like being in book arguments.”

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Perhaps most importantly, *all* children in the schools we visited were able to participate as full-fledged members of the classroom community. We certainly saw the full range of student reading levels one would expect in schools serving high-needs populations, often including children with diagnosed learning disabilities and large numbers of English learners. And students did spend time independently reading text at different levels of complexity. But in stark contrast to our experiences elsewhere, we saw no permanent “underclass” of students in these schools—no kids shuttled off to work in groups at their “just right” level, far below that of most of their classmates. In each classroom we visited, all students engaged in the discussion of shared complex texts, allowing those who might not have been able to read all the words access to the same key vocabulary and content knowledge their classmates were getting.

This approach, which allows students to read a volume of text at their own levels while also participating in the communal analysis of texts at grade level or above, is essentially new pedagogy in our country. And it’s simply not possible without a strong curriculum that provides topics that unfold in a logical sequence, units and lessons that are designed to focus on content, and carefully choreographed instructional “moves” and scaffolds.

### **Benefits and Challenges**

With social and emotional learning a topic of considerable interest to educators today, we can’t help reflecting on the positive cultures we witnessed at the schools along the tour. While some of the curricula used in these schools have, to their credit, intentionally built social and emotional learning into their materials, we’re talking about something more: the profoundly egalitarian sense that because students are learning together as a group, they are authentically committed to each other’s success. This showed up in the respect students showed

one another during a Wit & Wisdom Socratic seminar (in which *all* students participated); the coaching students provided their peers when working collaboratively; the way children spoke about book discussions they had with their friends; and teachers’ observations—at every stop along the tour—that their struggling students “have never been so engaged.”

Without question, the most powerful experience of the school tour was the enthusiasm and confidence we observed in the children with whom we interacted. They were excited about the topics they were learning about, whether that was Greek gods, characters in R. J. Palacio’s *Wonder*, or the early English explorers who settled Roanoke Island. And their ability to engage in lively discussions about that content gave them—all of them, regardless of reading level—a self-assurance that was exciting to witness.

While the benefits are clear, the transition to this kind of content-rich, structured literacy instruction has not been easy for teachers. “I struggled last year a lot; I called [the coach] and said I can’t do this,” one teacher in Ohio told us. When we asked one of her colleagues, who happened to be a chief driver behind bringing the new curriculum in, how hard that first year was on a scale of 1 to 10, she said, “I was very excited, but I’d still have to say 8 to 9.” She then went on to say it was also “the greatest professional development I’ve had in my career.”

What all the teachers along the tour told us—in one way or another—was that the hardest thing was to *let go*: to let go of their belief that the children could not tackle the topics, that they would be frustrated by the complexity of the texts, that without explicit strategies instruction they would do poorly on tests. Their best advice to teachers implementing one of the new curricula was “have trust.” “Give it a year and you’ll see the whole picture,” said one teacher who compared getting comfortable with the curriculum to putting together furniture from Ikea. “I thought there were too many of these parts, and that things were missing over there. Then I realized, ‘Oh, they know what they’re doing! It all works.’ I had to see the whole picture.”

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“If I had read for hours and hours, I could never have selected this particular mix of texts,” one eighth-grade teacher said. “I could never go back to what we did before because now I’ve seen how beautifully it can be pulled together.”

The knowledge-building curricula we saw in action are still very new, and it takes time for the results of this kind of

curriculum to show up in the form of improved standardized test scores. Knowledge-building is a gradual, cumulative process. Nevertheless, some schools that are using these curricula have already seen statistically significant gains in reading scores (Walpole, McKenna, Amendum, Pasquarella, & Strong, 2017). If more schools and districts adopt this approach, and if teachers' implementation improves over time, it seems likely that this trend will continue.

For over half a century, the stubborn gap in test scores and other measures of educational achievement between students from low-income families and their more affluent peers hasn't budged (Hanushek, Peterson, Talpey, & Woessmann, 2019). During this time elementary literacy instruction also has not substantially changed. What we have seen in the schools we visited is a fundamental transformation that not only has the potential to increase test scores but also can bring more joy, meaning, and equity into classrooms and into students' lives. It is fitting that providing children with access to knowledge of the world is driving this improvement. Isn't that, after all, what education is about?

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