When asked what matters most in life, it’s easy to quickly answer family and friends. It’s loved ones we care about most, so the answer is appropriate—but is it entirely accurate? Of course not. The precise answer, which no one wants to hear, begins with oxygen.

Life is full of such social conventions. Many are beneficial (at least for easing communication), and most are harmless. But sometimes the “appropriate” answer goes unexamined for too long. Sometimes an accurate answer is needed. We see a parallel situation in discussions of school improvement. Whether in casual conversations or even in serious debates, there seems to be a de facto, appropriate answer as to what matters most in creating a good school: great teachers and supportive parents. Not that these things are unimportant; just like family and friends, they are essential. But is there a more accurate answer, one that, like oxygen, is taken for granted? We contend that there is: the content of the curriculum, the specific knowledge and skills taught each day.

Experience tells us that curriculum is glossed over in different ways by educators and policy leaders.

For educators, the content of the curriculum really is like oxygen. Teaching is always about something, and that something has to be specified before any other decisions can be made. That’s so obvious that it’s assumed, prompting educators to jump to other factors in thinking about what’s essential to a great school. Don’t get us wrong: the curriculum doesn’t make a school great all by itself any more than oxygen alone makes us live. Both are merely necessary preconditions. Yet while it is possible to find a struggling school with a great curriculum, finding a good school with a weak curriculum is about as likely as finding a human being who can live without oxygen. Regrettably, when educators take the content of the curriculum for granted, they lose opportunities to coordinate and collaborate. Students may be learning something valuable in each grade or course, but they do not receive the benefits of a coherent, cumulative, cross-curricular experience.

Many leaders in education policy, on the other hand, seem to have no idea that curriculum matters. Some don’t even realize that standards and curricula are not the same thing. Theoretically, we could blame the educators for not explaining to the policy-leaders. All of the images shown within this article come from the Core Knowledge Language Arts Preschool program. The program contains seven units; each unit has its own teacher guide, four of which are shown below.
makers that curriculum is like oxygen—but in the real world we can’t. In an era of “100 percent proficient or else,” what sane educators would encourage policymakers to “improve” their oxygen? Teachers realize, after all, that their evaluations are increasingly tied to student scores on high-stakes tests. As a result, they are reluctant—and rightfully so—to invite policymakers to offer what are likely to be similarly flawed suggestions about what the curriculum for each grade level should look like.

Unfortunately, the very lack of any discussion about the curriculum virtually ensures that the standards regime cannot attain its goal of raising student proficiency. There is no more direct connection to student achievement—i.e., what students know and can do—than what students have been taught.

It has been nearly five years since Russ Whitehurst of the Brookings Institution wrote “Don’t Forget Curriculum,” noting that “policy makers who cut their teeth on policy reforms in the areas of school governance and management rather than classroom practice [are] people who may be oblivious to curriculum for the same reason that Bedouin don’t think much about water skiing.” Importantly, Whitehurst compared the impact of curricular improvements to that of other reforms, such as charter schools, altering the teacher workforce, Common Core.” Examining curriculum effects versus teacher effects, they found that implementing a better curriculum can have a slightly greater impact on student learning than teachers whose value-added data puts them at the 75th percentile (as compared with a 50th percentile teacher). While teacher quality is the clear leader in policy discussions of what matters most, these findings indicate that curriculum is just as important as teaching.

Since curriculum matters, everyone ought to act like it matters—and educators should have the opportunity to lead the way. Within schools, educators can work together to adopt, adapt, or create a coherent, grade-by-grade curriculum that maximizes cross-discipline connections and efficiently builds knowledge and skills. Across schools in areas with high student mobility, they can agree to a set of specific knowledge and skills to be taught in each grade; children who change schools will benefit immediately—and so will their teachers.

These are bold claims. They rest only in small part on research, like Whitehurst’s, showing the relative power of curriculum. The fact is, there has been nowhere near enough research conducted on curriculum. But lots of relevant research has been done by cognitive scientists on how children learn. It is on this large body of evidence that we build our bold claims.

Child Friendly, Content Rich

As the articles on pages 4 and 14 of this issue explain, several findings have emerged that are critical to early education. For example, knowledge builds on knowledge, so it is essential to begin building broad academic knowledge and vocabulary in the early years. In addition, repeated and varied exposures to concepts and vocabulary are needed for solid understandings to take root in long-term memory. Therefore, the content of instruction should be carefully planned to introduce topics early, and then teachers can intentionally revisit, deepen, and extend learning on these topics in later grades.

For educators in preschool through third grade who don’t have the time or support to create such a curriculum, one potential model to adopt or adapt is Core Knowledge Language Arts (CKLA).* The CKLA program envisions reading as a two-lock box—a box that takes two keys to open. One key is knowledge of the code (the sound-letter correspondences), which must be mastered for fluent reading and writing. The other key is knowledge of words and the world, which is essential for language comprehension (both oral and written). Both keys are addressed throughout the program. The first key is developed with a phonics-based approach, as reading and writing skills are taught in tandem. The second key is developed primarily through teacher read-alouds, along with text-based discussions and activities.

While CKLA’s skills instruction is absolutely essential, it is not all that different from other research-based phonics pro-

At an early age, preschoolers have been reserved for middle school. The result is empathy, followed by a desire to learn more, and the hope of a slavery-free world. Hearing the stories of slavery through the eyes of a child such as Minty (Harriet Tubman) helps children make important connections. ... Awareness of slavery also helps prepare students with the understanding of slavery.
necessary background needed to later understand the Civil Rights domain [at the end of second grade]. … Providing such strong background knowledge at a young age will enable these learners to develop a deep level of understanding about our country’s history and its government.

It will indeed. The path to college, career, and citizenship begins in early childhood, so let’s take a closer look at CKLA for preschool.

**Content on the Cutting-Room Floor**

**A Brief History of the Elementary Curriculum**

BY RUTH WATTENBERG

The basic treatment of content in the elementary grades has not changed for decades. *A Nation at Risk*, the 1983 report of the National Commission on Excellence in Education,1 decried “disturbing inadequacies” in American education, including the wholly inadequate content offered to students.

That report helped launch several decades of education reform, aimed at rectifying, however inadequately, the problems that it found. Among the changes were stiffer high school course requirements in the core subjects;2 subject-matter exams in a growing number of states (as opposed to minimum competency tests);3 increased numbers of students taking more-advanced courses (though students are not always learning more as a result);4 and state adoption of academic standards in major subject areas. Thirty years after *A Nation at Risk*, a new infrastructure—in the form of state-mandated requirements, standards, and exams—is in place, with the potential to support, encourage, and monitor greater learning at the high school level.

But, *A Nation at Risk* had a glaring omission: reflecting the nation’s long-standing lack of interest in content in the early grades, the report’s authors barely mentioned elementary schools. Unsurprisingly, as a result, the post-1983 education reforms barely touched them. Here is the crucial fact about the teaching of content in the elementary grades, then and still: too much time is spent on reading and math, especially reading, and too little on history/social studies, science, literature, and art—the content subjects that build a student’s foundation of knowledge.

Even before *A Nation at Risk*, the 1977 National Survey of Science, Mathematics, and Social Studies Education found that

K–3 teachers spent 95 minutes per day on reading and a total of 38 minutes on both science and social studies together—2.5 times as much on reading as on both other subjects.5 In grades 4–6, when students have presumably learned the basic reading skills and in-class reading time can be substantially cut back, teachers spent 66 minutes per day on reading, 28 on science, and 34 on social studies—with reading still getting more time than the other two subjects combined.6

Was there any academic content or knowledge taught in those hours devoted to reading? The best way to find out is to look at the textbooks used to teach reading, commonly known as basal readers, which for many years have served as the spine of the reading curriculum. In 1983, William Schmidt and his colleagues at the Institute for Research on Teaching analyzed

U.S. elementary schools in the 1980s were woefully thin on content. Since then, that has not changed.

34 basal readers for the second, fourth, and fifth grades, from eight major publishers, for a total of 1,959 different selections. Here is what they found:7

q 42 percent had no subject-matter content at all (defined as covering theories, facts, and information from typical elementary subjects, such as math, science, and social studies);

q 20 percent had content that was of a language arts nature—how words were formed, etc.;

q 20 percent had social science content (a third of which was “social themes,” concerning “enduring problems of individual and social life,” such as growing up, living with family members, etc.);

q 12 percent had science content; and

q Less than 6 percent had content in any other major subject-matter area, including art and music.

And, the lower the grade, the emptier it was of content. In second-grade books, 52 percent of the texts had no subject-matter

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Ruth Wattenberg is a former director of the AFT’s educational issues department and a former editor of American Educator. She is currently a trustee of the Core Knowledge Foundation. This sidebar is adapted, with permission of the Thomas B. Fordham Institute, from a longer book chapter in Knowledge at the Core: Don Hirsch, Core Knowledge, and the Future of the Common Core, edited by Chester E. Finn Jr. and Michael J. Petrill.

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**A Unique Pre-K Curriculum**

CKLA Preschool is a comprehensive language arts curriculum that explicitly supports the development of knowledge and skills identified as key to building skilled, fluent readers.* In addition to systematically building children’s knowledge of letters, sounds, and print, CKLA Preschool is designed to expose young children to content-rich, coherent, cumulative instruction. It does so by building and deepening background knowledge using teaching practices that are appropriate for young children and generally familiar to early educators. Students and teachers engage in activities like singing songs and nursery rhymes, playing games in small groups, creating extended dramatic play scenarios, making crafts, reading books, and listening to stories. These activities not only are fun and appropriate experiences for young children, but

*To learn more about Core Knowledge Language Arts Preschool, see the general overview at www.bit.ly/1bKZ2D. To download the entire CKLA program, preschool through third grade, for free, see www.coreknowledge.org/ckla-files.
are designed to create explicit opportunities for students to connect to specific content in the curriculum.

Infused throughout all grades of CKLA, but unique among preschool curricula, is the careful consideration given to the timing and sequencing of this content and how it contributes to students’ later learning. Topics and subtopics are presented in a deliberately planned order, so that basic information and larger concepts build over time.

The end result is broad academic knowledge and skills, but what is the starting point in early childhood? Since many, many students arrive at preschool without prior educational experience, CKLA Preschool begins with the child himself. Starting with students’ own experiences of themselves is a deliberate choice aimed at finding common ground for all students, regardless of socioeconomic or educational background. Moving all students forward together from this common place then becomes the aim of the first preschool domain, called “All About Me.”

“All About Me” begins with the vocabulary and content the child needs to talk about himself—age, body parts, hair color, likes and dislikes, favorite activities, etc. Teachers and students read aloud and sing favorite songs and nursery rhymes (e.g., “Head and Shoulders, Knees and Toes” and “Where Is Thumbkin?”) as they teach this content (see the sidebar on page 26). Strategically, they use these rhymes to teach and reinforce not only content, but also skills that prepare children to become fluent decoders in later grades. Essential early skills include

content at all. Some 11 percent had science content and 14 percent social science.18 Taken as a whole, U.S. elementary schools in the 1980s were woefully thin on content.

Since then, that has not changed. The content-poor curriculum remains a staple at the elementary level. In contrast to secondary schools, most of the reform energy at the elementary level has focused on beefing up instruction in basic reading and math skills, with no infrastructure for driving improvements in the content areas. Even the academic content standards developed by states were typically weakest in the elementary grades.

The Fordham Institute has evaluated state standards in science and history periodically since 1998. Its reviewers have often aimed their greatest criticism at the early-grade standards, finding that they contain virtually no content, are repetitious across grades, and fail to address either sequencing or rigor.9

Like standards, textbooks have continued to neglect the content that underlies reading comprehension. For example, 20 years after Schmidt’s study of basal textbook content, Kate Walsh, now director of the National Council on Teacher Quality, in 2003 reviewed the first- and second-grade texts from five top-selling basal-reader series. She found that they offered “mostly incoherent, banal themes that missed opportunities to develop word and world knowledge by offering and exploiting content-rich themes.”

The recent policy emphasis on reading skills has led schools to further increase the time devoted to the English language arts block, leaving even less time devoted to history/social studies, science, and the arts than in earlier years. As shown in the table above, according to the National Survey of Science and Mathematics Education, the total time spent in grades K–3 on both

<table>
<thead>
<tr>
<th>Minutes spent per day on science and social studies</th>
<th>1977</th>
<th>2000</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>K–3 social studies</td>
<td>21</td>
<td>21</td>
<td>16</td>
</tr>
<tr>
<td>4–6 social studies</td>
<td>34</td>
<td>33</td>
<td>21</td>
</tr>
<tr>
<td>K–3 science</td>
<td>17</td>
<td>23</td>
<td>19</td>
</tr>
<tr>
<td>4–6 science</td>
<td>28</td>
<td>31</td>
<td>24</td>
</tr>
</tbody>
</table>


In 2010, in a national survey of teachers conducted by Common Core* (an independent organization unconnected to—though supportive of—the Common Core State Standards), 63 percent of elementary teachers in self-contained classrooms indicated that social studies had been getting less “instructional time and resources over the past ten years” (or since they had begun teaching, if that was less than 10 years earlier). Fifty percent said that science had been getting less; and 49 percent and 37 percent, respectively, said the same of art and music.10

The squeeze on content was even tighter for struggling students. When elementary teachers were asked during what time period struggling students received extra instruction in English language arts or math, 60 percent said that these students were pulled from social studies class, and 55 percent said from science class.13 The bottom line: for decades, elementary schools have neglected to build the content foundation that students need and that the Common Core State Standards require for success. This reality is now ingrained in decades of elementary school practice.

To provide students with the necessary content foundation, the elementary curriculum must be thoroughly revamped so that history/social studies, science, and the arts are taught extensively and coherently. This will require that these subjects get more time in classes of their own and, at least as importantly, that they be heavily integrated into reading textbooks and instruction. Once revamped, curricular tools (curriculum frameworks, course outlines, etc.) and classroom materials that embody the new curriculum must be produced, and time, support, and training must be provided for teachers, so they can make good, smart use of the new materials.

(Endnotes on page 42)
Playful Immersion
Centers and Activities Reinforce Emerging Knowledge and Skills

CKLA Preschool kits come with an array of materials to infuse language-, vocabulary-, and knowledge-building opportunities throughout the various centers and activities typically found in a high-quality preschool setting. The materials include trade books, posters with nursery rhymes and songs, big books, and image collections, as well as detailed teacher guides to show how all of the materials work together. A sample of these materials is shown here; to see the complete program, download it for free at www.coreknowledge.org/ckla-files.

Trade Books
Familiar trade books are read aloud throughout CKLA Preschool. These books reinforce content covered in the domains and familiarize students with the conventions of print and book reading. The books shown to the left are read during the “All About Me” domain to highlight what makes people similar and unique, the parts of the body, and the five senses.

Learning Center Cards
CKLA Preschool includes two types of Learning Center Cards, as shown to the left: reference guides for adults and visual guides with labels for students. In “Doctor’s Office,” for example, students use their knowledge of body parts and descriptive words from “All About Me” as they engage in dramatic play. Meanwhile, the quick-reference poster for teachers and classroom volunteers reminds adults of key content and vocabulary as they facilitate the Learning Center.

Activity Pages
Activity Pages for use at home and in school provide a springboard for adults to facilitate conversations that reinforce domain-related concepts and vocabulary. Two examples are below. The one on the left, from the “All About Me” domain, asks students to point to illustrated body parts. The one on the right, from the “Animals” domain (which comes about halfway through the school year), reinforces code-related knowledge and skills in a developmentally appropriate way. Teachers have students count the number of syllables in the names of the animals. Students then record the number of syllables in each word by coloring in the corresponding number of empty squares.

Transition Cards
Transition Cards are provided to assist teachers in reviewing and reinforcing concepts and skills as they move students from one activity to another. For example, the Transition Card shown below on the right is designed for reviewing code-related skills taught in small groups. At the beginning of the school year, for example, a teacher might hold up two visually and phonetically distinct capital letters, such as M and P, and ask, “Matteo, which of these letters is at the beginning of your name?” Later in the year, a teacher might hold up the card shown here and ask what sound is at the beginning of “mittens,” “monkey,” “moon,” and “man.”

–C.G. and L.H.
grasp the concept of time and events that occurred in the past, they are introduced to Native Americans as part of the “Important People in American History” domain (see the sidebar on page 27). Through a read-aloud, a rich array of accompanying images, and related activities, children begin to conceptualize the first people to live in what is now the United States. The read-aloud begins with some content that will be familiar, weaving in the unfamiliar:

Long, long ago, long before your mother and father were born, and even long before your grandparents were born, the United States looked very different. ... In that time long, long ago ... there were trees and rivers. There were rocks and mountains. There were wild animals, like deer and birds. The only people who lived here way back then were the Native Americans.

Toward the end, the read-aloud becomes more specific: "The Native Americans we have been learning about have a special name. They are a group, or tribe, of Native Americans called the Wampanoag. A long, long time ago, there were many groups, or tribes, of Native Americans living all over the United States." To deepen understanding, the teacher reviews some of the read-alouds, then shows new images with modern-day information:

Native Americans still live in the United States today. This is a photograph of a Native American boy wearing clothing that is like the clothing some Native Americans wore long ago. This is a photograph of a Native American family. There is a mom, a dad, and a son.

Of course, preschoolers do not understand exactly how or how long ago Native Americans lived prior to European exploration or the series of events that led to modern-day life, but they begin to get a sense of the past and that things were not always the
Preschoolers to Presidents

CKLA Builds Knowledge Step by Step

As described in the main article on page 19, CKLA Preschool is carefully designed to build knowledge and vocabulary. Across the year, children participate in interactive read-alouds and enjoy activities grouped in five core domains: “All About Me,” “Families and Communities,” “Animals,” “Plants,” and “Habitats.” The school year intentionally starts with the child, so that everyone has equal learning opportunities (regardless of how much academic preparation they have had at home), and then the domains are sequenced such that each builds on what has been learned. This approach not only facilitates comprehension, it also provides ample occasions for review. In addition, two more domains are interspersed throughout the school year. One is “Classic Tales,” which contains a dozen cherished stories, and the other is “Important People in American History.” Here we take a closer look at “All About Me,” and show how its content is expanded upon in the “Animals” and “Important People in American History” domains.

Body parts are an essential component of the knowledge and vocabulary students acquire during the “All About Me” domain. They acquire this knowledge in class, as teachers show images during an active read-aloud in which students point to and move their body parts as they listen to a rhyme. As shown in the CKLA images on the left, the program also offers materials for a related activity students can enjoy at home with their families, reinforcing what they have learned in school.

In the “Animals” domain (see the top images to the right), children draw on what they have learned about their bodies to think about how they are similar to and different from animals. These images are shown as teachers read aloud text that combines content knowledge and rhyme:

You are an animal. This bird is too.
Yes, you are an animal—
But you don’t have a pointy beak like some animals do.

You are an animal. This dog is too.
Yes, you are an animal—
But you don’t have a furry body like some animals do.

The “Important People in American History” domain is taught in association with national holidays (i.e., Thanksgiving,
Before the American experiment, “nation” was determined by place and birth. ... American patriotism is inherently different. It’s ... not based on birth but on a set of Enlightenment ideas, ... ideas of equality, freedom, and tolerance. ... Core Knowledge ... tries to strike the right balance between loyalty to ideals and historical truth. ... Nationalism defines one group ... against others. It sees differences as inherent and essential. ... It is nativist, and uses terms that imply contamination and infiltration. That of course goes against the universalism of our founding ideals. The trans-national patriotism of the United States, symbolized by the flag, can accommodate all tribes within a larger conceptual loyalty learned in childhood.

From preschool through third grade, CKLA is carefully designed to plant the seeds for future studies and future responsibilities. By holding firm to the highest goals for education, CKLA demonstrates one way educators can develop the broad academic knowledge, vocabulary, and skills that really do matter most. We would never deprive our children of the oxygen they need to live. Why would we deprive them of the coherent, cumulative, content-rich curriculum they need to become educated citizens and lifelong learners? □

(Endnotes on page 43)
Elementary Curriculum Content (Continued from page 23)

Endnotes
6. Perhaps this inattention to other subjects was not such a great loss, considering the often trivial quality of the little that was offered. Diane Ravitch reported in 1987 in The American Scholar on the state of the elementary social studies curriculum: “[T]here exists a national curriculum in the social studies. Regardless of the state or the school district, children in kindergarten and the first three grades study home, family, neighbors, and the local community.” Yet this curriculum “is virtually content-free. … It contains no mythology, legends, biographies, hero tales, or great events in the life of this nation or any other. It is tot sociology”—known more popularly in the education world as “expanding horizons.” Diane Ravitch, “Tot Sociology: Or What Happened to History in the Grade Schools,” American Scholar 56, no. 3 (Summer 1987): 343–354.
8. Schmidt et al., Educational Content, 16.
12. See Common Core, “Learning Less: Public School Teachers Describe a Narrowing Curriculum,” complete survey findings, http://commoncore.org/maps/documents/reports/CommonCore-FDR-CompleteFindings-111208.pdf. The figures cited here are from cross-tabulations that are not included in the public report or published dataset but were provided by Common Core.
13. It is important to note that 53 percent of these elementary teachers believe that, as a result of the extra attention and resources to English and math instruction, student learning in one or both of these subjects has “improved.” These teachers are not saying that the English/math focus is an unmitigated disaster or a waste of time. Rather, they are saying that there are serious tradeoffs. These tradeoffs exist at all grades but are most palpable and extreme at the elementary level, where a single teacher is typically responsible for addressing all the subjects—English and math, plus all the rest. “All the rest” simply does not get a lot of attention in American elementary schools.
Taken for Granted
(Continued from page 27)

Endnotes
4. To read more from Jena Peluso, as well as quotes from other teachers using Core Knowledge Language Arts, see www.bit.ly/1mFUHQs.