

From Materials to Meaning: Translating Knowledge-Rich Curriculum to Knowledge-Rich Instruction

Dan Reynolds, Sarah Dec, Lauren Cassidy, Sara Rutherford-Quach, Anna Jennerjohn, and Katrina Woodworth

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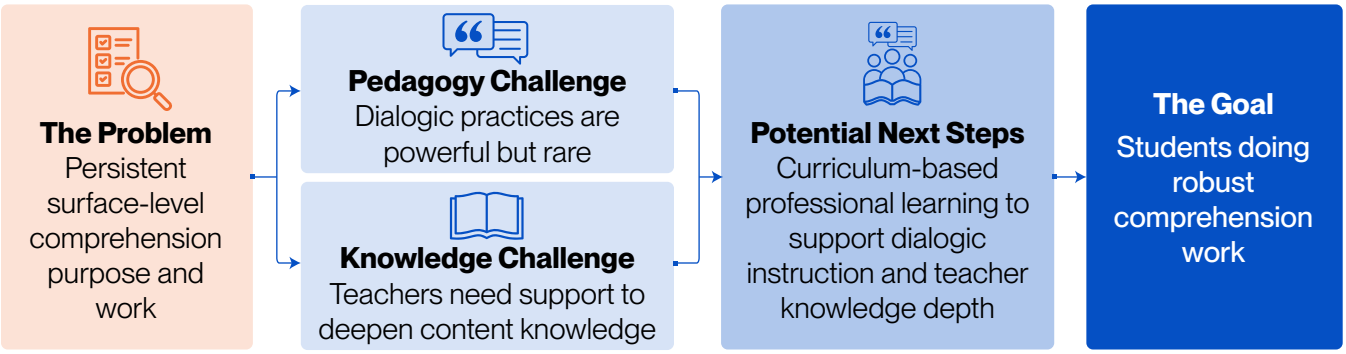
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Executive Summary

Research and theory have established the potential power of using knowledge-rich curricula that integrate social studies, science, and literary content with literacy instruction to improve students' reading comprehension. In practice, districts around the country have shifted towards knowledge-rich curricula, and many districts have invested heavily in implementation. This study is part of an ongoing effort to understand how those implementation supports translate to instruction.

We partnered with four districts to investigate the depth of their knowledge-rich comprehension instruction. Each district's curriculum offered regular opportunities for students to do robust work and include a mix of surface-level and robust purposes and discussion questions. However, across 231 comprehension lesson observations in grades K–5, we found that 60% of lesson objectives *aimed* for surface-level or no comprehension purposes and 77% of lessons *resulted* in students doing surface-level or no comprehension work. We identified two factors that may contribute to this problem: a pedagogy challenge and a knowledge challenge.



The **pedagogy challenge** connects specific instructional practices with students' robust comprehension work. We identified three such dialogic practices: students doing the bulk of the intellectual work, regular use of text evidence with explanation, and teachers using student contributions to advance comprehension. These practices were relatively rare in observed instruction. Supporting teachers to deliver dialogic instruction may help them build on surface-level tasks and sustain robust comprehension work.

The **knowledge challenge** names a tension that teachers experience daily: Knowledge-rich curricula contain topics not common in everyday adult life. Only about a third of teachers felt fully confident in teaching the historical, scientific, and literary content embedded in their comprehension curricula. Over half of teachers reported simplifying their curricula's content, texts, and tasks at least weekly. Interviews also suggested that standards and assessments may encourage teachers to focus on surface-level goals. Finally, districts' professional learning systems did not fully support teachers in building deep content knowledge.

We share recommendations for engineering systems around **curriculum-based professional learning** that would sharpen teachers' skills in delivering robust, dialogic lessons while also deepening their content knowledge.

Introduction

"Every day I would go home and I would sit with that book and read through the lesson, make sure I knew what questions I was asking, and if there's anything where I didn't know, I would Google it. I'd be like, 'Hey, Google, what is this?' Because I mean, I learned it myself as a student, but that was a long time ago."
–Teacher

Research and theory have established the "inarguably critical" role of knowledge in reading comprehension (Hattan & Lupo, 2020, p. S283). Rigorous randomized controlled trials have shown positive effects of specific knowledge-rich curricula on standardized reading comprehension outcomes (Cabell et al., 2025; Kim et al., 2024). Similarly, meta-analyses show a consistent positive impact of integrating history, science, and literary content with literacy instruction (Hwang et al., 2022; Kim & Cao, 2025). Literacy leaders have documented the importance of knowledge-building to enrich the intellect of readers of all ages and backgrounds (Muhammad, 2020; Neuman, 2026). Taken together, literacy research and practice have established a powerful rationale for using knowledge-rich curriculum to improve students' reading comprehension.

About School System Partnerships

The Charles and Lynn Schusterman Family Philanthropies invests in School System Partnerships to strengthen K–8 literacy across urban school systems. Schusterman supports school systems to build the vision and forge essential partnerships to improve the conditions that can significantly improve K–8 literacy results, including implementing instructional materials and aligned professional learning, and building literacy capacity across all educator levels. The theory of action undergirding these efforts proposes that improving district and school conditions, deepening implementation of instructional materials, and aligning professional learning opportunities will result in higher-quality instruction and improved student outcomes.

Studying School System Partnerships

In 2024, Schusterman commissioned SRI to conduct an independent study of districts supported by the foundation and committed to this theory of action. In 2024–25 and 2025–26, SRI researchers examined literacy instruction in K–5 classrooms and teachers' experiences with instructional materials, professional learning, and school and district supports. In each district, SRI researchers observed K–5 literacy instruction, surveyed teachers, observed professional learning communities (PLCs), interviewed teachers, instructional coaches, principals, and district staff, and examined student outcome data.

Sharing Learnings

This brief is part of a broader set of learning briefs coming out of SRI's study. A summary brief presents overall findings from the first year of the study. Two topical briefs explore the strengths and opportunities for robust comprehension instruction and bridging processes in foundational skills instruction. Forthcoming briefs will examine topics that could include supports for multilingual learners and teacher professional learning.

In practice, districts around the country have shifted towards knowledge-rich curricula that, over time, have the potential to improve comprehension outcomes at scale. This shift has come with a call to move away from skills- and standards-centered instruction and towards text- and knowledge-centered instruction (Liben & Liben, 2024). To support curriculum implementation, many districts have established professional learning communities (PLCs) and provide curriculum-specific coaching. Despite these efforts, comprehension outcomes have been inconsistent, and teachers can report that knowledge-rich curricula can be challenging to implement (Catts, 2022).

This brief examines whether knowledge-rich curriculum is reaching its potential in K–5 classrooms and unpacks factors that contribute to its success. Findings are based on a study of four districts receiving support through the Charles and Lynn Schusterman Family Philanthropies' School System Partnerships to improve their students' literacy outcomes. Each district adopted a knowledge-rich curriculum years before this study, and most teachers reported using it almost daily. However, as our first learning brief on comprehension instruction (*Beyond the Surface*) identified, many comprehension lessons resulted in teachers and students doing surface-level comprehension work.

Surface-level comprehension: "Indicates shallow comprehension of the text, fueled by an expectation that reading is about completing tasks; students do not develop a complete mental model of the text—their understanding is restricted to literal or inferential understanding with no synthesis" (Cohen et al., 2022, p. 5).

Robust comprehension: "Indicates deep comprehension of the text, fueled by an expectation that reading is about understanding; students develop a complete mental model of the text that includes both literal and inferential understanding" (Cohen et al., 2022, p. 5).

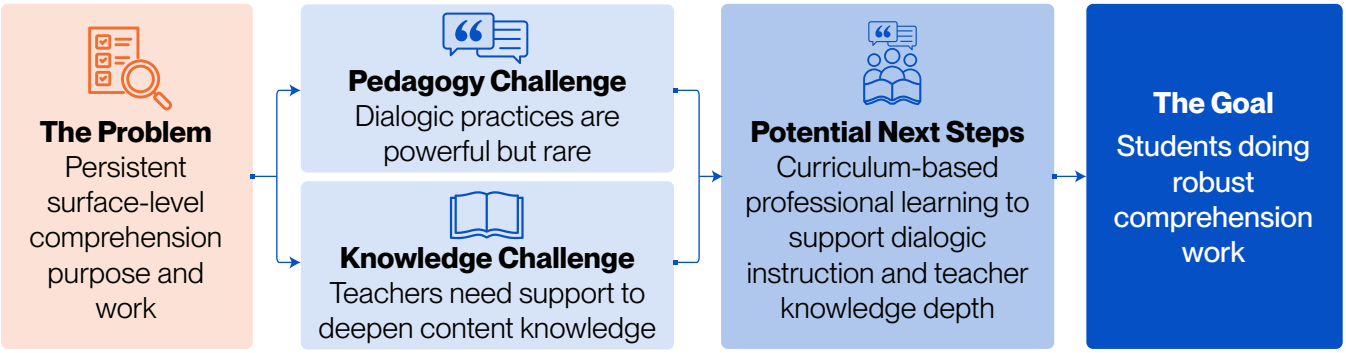
Each of the four study districts recognized the need to support teachers to deepen their comprehension instruction. During the past two study years, district leaders have taken steps to prioritize the depth of comprehension instruction. These included:

- Revising goals for comprehension instruction
- Instituting district-wide cycles of professional learning around academic discourse
- Collaboratively implementing new walkthrough tools with district and school leaders

And yet surface-level comprehension instruction has persisted. Two major challenges may be hindering robust comprehension work despite consistent implementation of knowledge-rich curricula:

1. The **pedagogy challenge**. Defining and implementing the instructional practices necessary for knowledge-rich curricula to build student comprehension is difficult. In study districts, *dialogic practices*—in which teachers and students collaborate toward comprehension—were rare. When present, however, they were strongly linked to robust comprehension work. Research also has linked them to student comprehension outcomes (Connor et al., 2020) and state English language arts achievement (Correnti et al., 2021).

2. The **knowledge challenge**. Knowledge-rich curricula require deep content knowledge. However, in study districts, teachers reported a lack of confidence teaching the historical, scientific, and literary content in their comprehension curriculum. They also reported regularly simplifying their curriculum's content, texts, and tasks. Moreover, educators noted few systematic supports for developing the content knowledge needed to implement their curriculum with depth.



In this brief, we first define the problem by examining the depth of comprehension instruction using classroom observations across the four districts. We then unpack the pedagogy and knowledge challenges to identify potential reasons for the high frequency of surface-level work. We conclude by discussing potential next steps for using curriculum-based professional learning to systematically embed supports for teachers' dialogic instructional practices and knowledge development. We suggest next steps for states, districts, coaches, and teachers to work alongside professional learning providers and curriculum developers to engineer reading systems that translate materials to meaning. Ultimately, these next steps may help translate knowledge-rich curriculum into knowledge-rich instruction.

Understanding reading comprehension instruction

The SRI research team examined reading comprehension instruction in over 30 schools across four large, urban districts during the 2024–25 and 2025–26 school years. Each of the districts used a highly rated knowledge-rich comprehension curriculum, including Core Knowledge Language Arts (CKLA), Wit & Wisdom, and EL Education, for several years before the study began. Over the two study years, we observed 342 comprehension lessons. In year 1, 111 observations focused specifically on grades 3–5; in year 2, our 231 observations expanded to cover all K–5 grades. We used the Tools for Equitable Reading Instruction: Text-Based Comprehension (TERI:TBC) observation protocol developed by researchers at the University of Virginia (Cohen et al., 2024) to observe instruction and gauge comprehension depth.

To complement the observations in our second year of data collection, we surveyed 422 literacy teachers (with an 80% response rate) in the study districts about their experiences with their district-adopted literacy curriculum and district-supported professional learning; observed 41 comprehension-focused PLCs; and interviewed 134 district leaders, principals, coaches, and teachers.

Understanding the Problem: Persistent Surface-Level Comprehension Purpose and Work

In *Beyond the Surface*, we described our observations of comprehension instruction in grades 3–5 during the first year of the study, finding that 34% of lessons aimed for a robust comprehension purpose and 24% of lessons resulted in students doing robust comprehension work. In the study's second year, we expanded the sample of observed comprehension lessons to the full range of K–5 grades. We saw the same pattern: Most comprehension lessons still aimed for a surface-level purpose and resulted in surface-level work.

The **lesson purpose** is the specific learning goal for students. Often, a teacher has a slide with goals or asks students to choral-read the day's "I can" statement. A surface-level purpose for a second-grade lesson on the water cycle might be, "I can label the stages of the water cycle." This goal builds vocabulary and scientific knowledge, but it does not target a complete understanding of the water cycle. A robust purpose for a similar lesson might be, "I can explain how water moves through the three stages of the water cycle." Though this may appear as only a minor difference, this shifts the goal from being about task completion to understanding and explaining the scientific content. It may be that not every lesson should have a robust purpose—students may at times explore texts without aiming to develop complete mental models. But a robust lesson purpose gives students a reason for reading and helps them integrate vocabulary, factual knowledge, and literal details toward a shared goal as they progress through the work of the lesson. In the study's second year, many K–5 lessons still did not target robust understanding of text. **Fewer than half of K–5 lessons (40%) had a robust lesson purpose.**

Across 231 comprehension observations in grades K–5:

60% of lessons aimed for surface-level or no comprehension purposes.

77% of lessons resulted in students doing surface-level or no comprehension work.

The **lesson work** is the comprehension activities that the teacher and students do. Lessons can target robust purposes but not convert those purposes into robust work. For example, if students struggle to answer surface-level questions about the nature of the states of matter (solid, liquid, gas), a teacher may be unable to carry out a robust discussion of the stages of the water cycle. In this case, if the teacher and students spent their time defining the states of matter of water, the purpose of the lesson could be robust, but the work of the lesson would remain at the surface level. Achieving robust work with knowledge-rich curriculum requires students to access relevant existing knowledge, learn new concepts, and demonstrate their new understanding. While surface-level and robust comprehension work can co-occur in a lesson, the TERI:TBC scoring determines whether, at any point during the lesson, students do robust comprehension work. **Only 23% of K–5 lessons featured students doing robust comprehension work.** While not every lesson needs to feature students doing robust work, increasing the percentage of lessons including robust work is a worthy goal for improving the quality of comprehension instruction at scale.

Do the district-adopted curricula provide opportunities for robust work?

In our discussions with literacy leaders about *Beyond the Surface*, we have often been asked if curriculum influences whether instruction is surface-level or robust. To investigate, we reviewed a sample of lessons across grade levels and content areas from the three district-adopted curricula to find factors that might contribute to the depth of instruction. We were unable to systematically review the lesson plans associated with all 231 observations.

Based on the sample lessons we reviewed, we found that the curricula have a mix of surface-level and robust purposes. Many ambitious lesson plans have multiple purposes, listing standards for reading, language, writing, and speaking and listening in a single 60- or 90-minute lesson. It may be that teachers, trying to achieve multiple purposes in limited time, gravitate towards surface-level work that can be quickly achieved. The curricula had a similar mix of surface-level and robust discussion questions. At times, curricula asked the most robust discussion questions near the end of the lesson plan. Teachers may omit the more robust questions if they run out of time.

The curricula also contain ambitious knowledge goals. Understanding the role of mammals, birds, and insects as pollinators (EL Education Grade 2), understanding the perspectives of the colonists and British during the American Revolution (Wit & Wisdom Grade 4), and understanding the significance of the Renaissance as a cultural revolution (CKLA Grade 5) all require in-depth content knowledge. If teachers have not had the opportunity to develop the depth of content knowledge required, they may steer towards safer, surface-level knowledge goals.

Ultimately, every lesson need not target robust comprehension. Indeed, literal and surface-level understanding is necessary for students to engage in deeper comprehension work. Research and theory are not explicit about a percentage of lessons that should feature robust work. **Students and teachers must discuss literal details or answer factual questions, but this work should be framed within a robust comprehension purpose and co-occur with robust comprehension work that targets a complete understanding of a text.**

To better understand the causes of the high proportions of surface-level purpose and work across lessons, we explored data from our surveys, interviews, and PLC observations. Our findings suggest that pedagogy and content knowledge challenges are roadblocks to comprehension instruction that supports students in developing robust understandings of text.

District spotlight: Systemic tools for improving lesson purpose and work

The four study districts are all working to support robust comprehension, even if it may not yet be readily apparent in widespread instructional practice. One district, however, did demonstrate substantial improvement in moving towards more robust purposes and work in its upper-grade classes from the 2024–25 to 2025–26 school years. In this district, the percentage of grade 3–5 lessons exhibiting robust purpose increased from 26% to 44%, and the percentage of lessons with robust work increased from 7% to 31%. Changes in instructional priorities and monitoring regarding how students read and respond to text may have led to changes in instructional practice.

Specifically, the district revised its walkthrough tool to focus on instructional rigor and included "look fors" around questioning strategies and instructional moves they identified as facilitating robust comprehension and productive struggle for students, including moving the intellectual work from teachers to students. District literacy leaders, literacy coaches, and principals all calibrated on and used the tool for their walkthroughs, ensuring consistent messaging across the vertical instructional spine. Data from the walkthroughs were held in a centralized system and informed district-wide professional development for principals and guided how school- and district-based staff supported teachers through PLCs and targeted one-on-one coaching.

The Pedagogy Challenge: Dialogic Instruction

"[Teachers] pose the question that's in the curriculum, and they get crickets. Then they drop… to very low-level questioning. And they try to ramp it back up but end up telling the kids what the answer to that high-level question is."

– Principal

> *"Participants in a **dialogic discussion** collectively formulate, defend, and scrutinize each other's viewpoints" (Reznitskaya, 2012, p. 448).*

In *Beyond the Surface*, we described broad pedagogical practices to support robust comprehension. In this analysis, we identified specific TERI:TBC practices strongly associated with robust comprehension work.[1] We found that many of the lessons that featured robust comprehension work were **dialogic**—featuring instructional moves that shift lessons from teacher-centric to reciprocal and collaborative (Murphy et al., 2018). These dialogic practices can be difficult for teachers to enact (Al-Adeimi & Lee, 2026) but have been linked to comprehension achievement (Connor et al., 2020). The practices complement, but do not replace, using high-quality content-rich texts and explicit instruction of necessary content knowledge. To lead dialogic discussions, teacher should have thorough knowledge of the text as well as deep content knowledge required for robust comprehension.

Three dialogic indicators were associated with robust comprehension work

Across our K–5 observations, three of the indicators most strongly associated with robust comprehension work all featured dialogic instruction:

- students doing the bulk of the intellectual work, with frequent opportunities to generate questions, predictions, or theories about a text,
- teachers and students regularly prompting for and providing text evidence with explanation, and
- teachers using student contributions to advance comprehension.

Exhibit 1 shows examples of these three dialogic instructional practices in observed classrooms across grades, content areas, and districts.

[1] Specifically, we examined TERI data to find which high-scoring instructional practices (i.e., indicators) were the most likely to occur in lessons that featured robust comprehension work. To be included, the practices had to score "high" on that indicator and the robust work indicator. To exclude rare outliers, we included only instructional practices that co-occurred with robust work in at least 10 lessons.

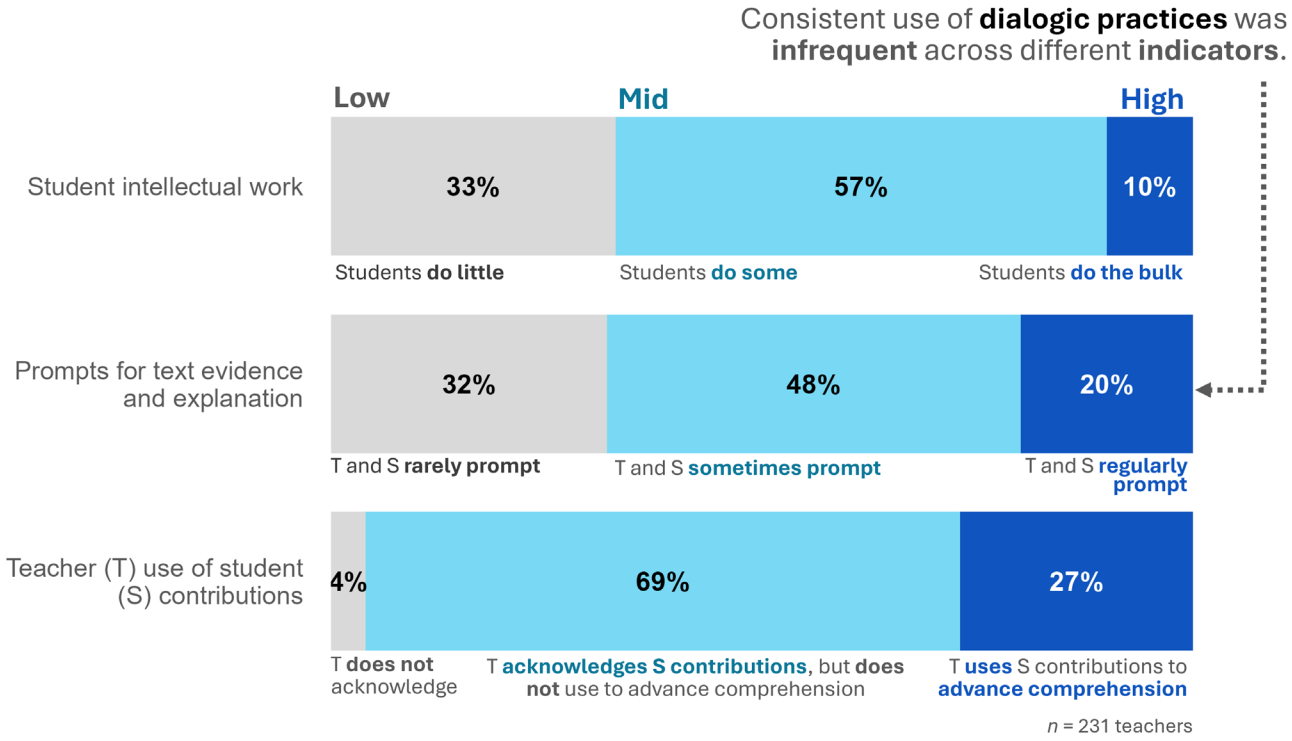
Exhibit 1. Examples of dialogic instructional practices in knowledge-rich curricula

Instructional practice	Example
Students do the bulk of the intellectual work	A second-grade class read a nonfiction historical account and a mythical legend about Johnny Appleseed. In small groups, students compared the texts using evidence to support their claims. After a share-out, the teacher asked students to return to their groups and synthesize their learning from the Johnny Appleseed stories with the other stories in their pioneer life unit. Students discussed similarities across texts in the whole unit, including pioneers moving on foot or via covered wagons, growing their own food, and having little access to medical care. Throughout the lesson, the bulk of the intellectual work happened in the small groups, with students doing the thinking and the teacher pressing for accuracy, depth, and synthesis.
Regular prompts for or use of text evidence with explanation	A first-grade lesson on the structure and function of birds' bodies investigated how a heron's body parts help it survive. The teacher told students to look in the text to identify how the beak helps the bird, prompting, "Find the words in the paragraph." The teacher circulated the room and supported students to circle accurate text evidence about how a beak helps the heron "reach deep into the water." The teacher then asked students to identify the shape of a heron's beak, prompting students to look at the adjectives "long" and "stabbing."
Teacher uses student contributions to advance understanding	A fourth-grade lesson asked students to consider how the social roles and allegiances of loyalists and patriots shaped their reaction to the Boston Tea Party. The teacher assigned students to work in groups to preview the text and predict characters' roles. The teacher consistently encouraged students to extend their thinking. For example, in response to a student saying, "I predict the kid will give newspapers to people about the unfairness of the taxes," the teacher pushed the student to indicate the character's allegiance, asking, "What perspective would he have, of the two main sides?" The student responded, "Colonists." The teacher used the student's contribution to help the class see how the newspaper boy's work aligned with the goals of Boston patriots.

Consistent use of dialogic practices was rare in the observed lessons

Though dialogic practices are powerful in advancing student comprehension, observation data revealed that consistent use of these dialogic practices was rare. This finding is consistent with current research that indicates dialogic comprehension instruction is difficult for teachers to enact (Wilkinson et al., 2017). Exhibit 2 shows the frequency of these indicators of dialogic instruction across 231 observations.

Exhibit 2. Percent of K–5 lessons featuring indicators of dialogic instruction across the four districts



Student intellectual work

Students did the bulk of intellectual work in just 10% of observed lessons and did little or no intellectual work in 33% of lessons. Our curricular examination showed that lesson plans regularly include both surface-level questions and factual recall alongside robust questions where students voice emerging interpretations and generate their own questions about the text. Yet our observations revealed that teachers often focused mostly on the surface-level questions, limiting students' opportunities to engage in cognitively demanding intellectual work and generate their own ideas. At times, teachers asked questions that invited students to do demanding intellectual work but then reduced students' cognitive load by answering their own questions or over-scaffolding student responses.

"There's four questions, and the teacher does 1 and 2 because they're more surface, but we avoid 3 and 4 because they're a deeper conversation."

– District leader

Prompts for text evidence and explanation

In almost a third of lessons, students rarely supplied text evidence and the teacher rarely asked for it, limiting opportunities for teachers and students to share responsibility for grounding their interpretations in textual evidence as they collaboratively construct meaning. In about half of lessons, teachers prompted for evidence sporadically and students sometimes supplied text evidence, often without an accompanying explanation. In a notable proportion of lessons—the remaining 20%—teachers and students prompted for or provided text evidence with explanation regularly. Pairing evidence with explanation keeps students anchored in the text while also challenging them to provide reasons for their claims.

Teacher use of student contributions

Teachers acknowledged students' contributions in almost 70% of lessons. However, in many lessons, teachers merely accepted student responses, often responding "Good job," or focused more on getting many students to participate rather than deepening student thinking. In one lesson, a fifth-grade teacher asked students how Isabella D'Este, a leading figure in the Italian Renaissance, acquired her power. A student responded, "She married a king." Rather than deepening students' understanding about how or why marrying into a royal family would enhance Isabella's power, which was the text's focus, the teacher responded, "Yes," and moved to the next question. Teachers *used* student contributions to advance text-based comprehension in 27% of lessons, highlighting many missed opportunities for teachers and students to co-create deeper understanding.

Given the impact of dialogic practices on building robust text-based comprehension, teachers need actionable strategies they can use with students to facilitate collaborative meaning-making. Exhibit 3 describes two dialogic instructional moves: initiating text-based open-ended questions and responding to students in ways that deepen their thinking.

Though consistent use of these dialogic practices was relatively infrequent, they still occurred in dozens of lessons across all four districts, across all K–5 grades, and across curricula and content topics. These exemplars may be foundations for district leaders who seek to improve teachers' dialogic instructional practices as a lever to systemically move towards more robust comprehension instruction.

Exhibit 3. Dialogic instruction in action

Initiating text-based open-ended questions	Dialogic instruction depends on every lesson including at least some open-ended questions that do not have a known right answer, but that can be answered using evidence in the text. Examples could include: ▪ **History:** "How might Paul Revere's depiction of the Boston Massacre have influenced citizens of Boston in 1775?" ▪ **Science:** "In what ways are animals' bodies shaped for pollination?" ▪ **Literature:** "Why does the father of the poem's speaker compare harmful comments to worms on the sidewalk?"
Responding to students to deepen their thinking	To deliver dialogic instruction, teachers must listen for students' answers to open-ended questions and respond in a way that deepens their thinking. Examples could include: ▪ **Intellectual work:** After posing an open-ended question, teachers must resist the temptation to over-scaffold. If students do not respond after ample wait time, teachers should provide a limited scaffold like, "It looks like we're having trouble remembering. Let's go back to our notes from yesterday." If a student responds inaccurately, the teacher should note any accurate parts of the response, correct inaccurate parts, and rephrase the question without simplifying. ▪ **Provide evidence:** Even if a student provides an accurate answer, prompting for evidence ensures communal accountability to the text. At times, a teacher might ask a classmate if they can provide evidence for a peer's claim. "How do you know?" is simple but powerful. ▪ **Extend student contributions:** Even if a student offers a satisfactory response to an open-ended question, a teacher can extend it: "And then what happened?" or "What did that reveal about the theme of our story?"

The Knowledge Challenge

"I wish I just knew more. They will have questions [about the circulatory system] and I'd be like, hold up. I have to Google it. I don't know. I don't know. I need a doctor in here."

– Teacher

Dialogic instruction can happen with any text, and many teachers intuitively understand that rich classroom discourse can build comprehension. We wondered, though: Are there deeper root causes for the high frequency of surface-level purposes and surface-level work? Examples of surface-level purposes are common:

- "Today, we'll list factors that inspired the Renaissance."
- "Students, please read today's 'I Can' statement: *I can identify steps in the water cycle*."
- "The goal of today's lesson is to explain what things are being compared in the poem 'Advice' by Dan Gerber."

These examples have the potential for depth. To anchor their comprehension, students do need to know water cycle vocabulary, factual causes of the Renaissance, and how to identify metaphors. But to keep lessons focused on robust purposes, the students must always be asked what the information *means*. As written, these learning goals are focused on task completion: identifying steps, listing factors, and identifying comparisons. Students need to go beyond task completion to build knowledge.

If a lesson is not set up with a robust purpose at the beginning, it is unlikely that dialogic discourse can re-orient the lesson towards robust comprehension work.

The knowledge challenge can be explained simply: Knowledge-rich curriculum requires a deep level of teacher content knowledge. Across districts, however, teachers were **not fully confident** in teaching the content in their elementary curricula. Correspondingly, teachers reported **frequently simplifying the content, texts, and reading tasks** in their district-adopted curriculum. Finally, from our interviews with teachers and school and district literacy leaders and observations of PLCs, we discovered that **districts' professional learning systems do not fully support teachers to deepen their knowledge** of the content in the knowledge-rich curricula.

Most teachers did not feel fully confident teaching the scientific and historical concepts or deeper meaning of text in their curriculum

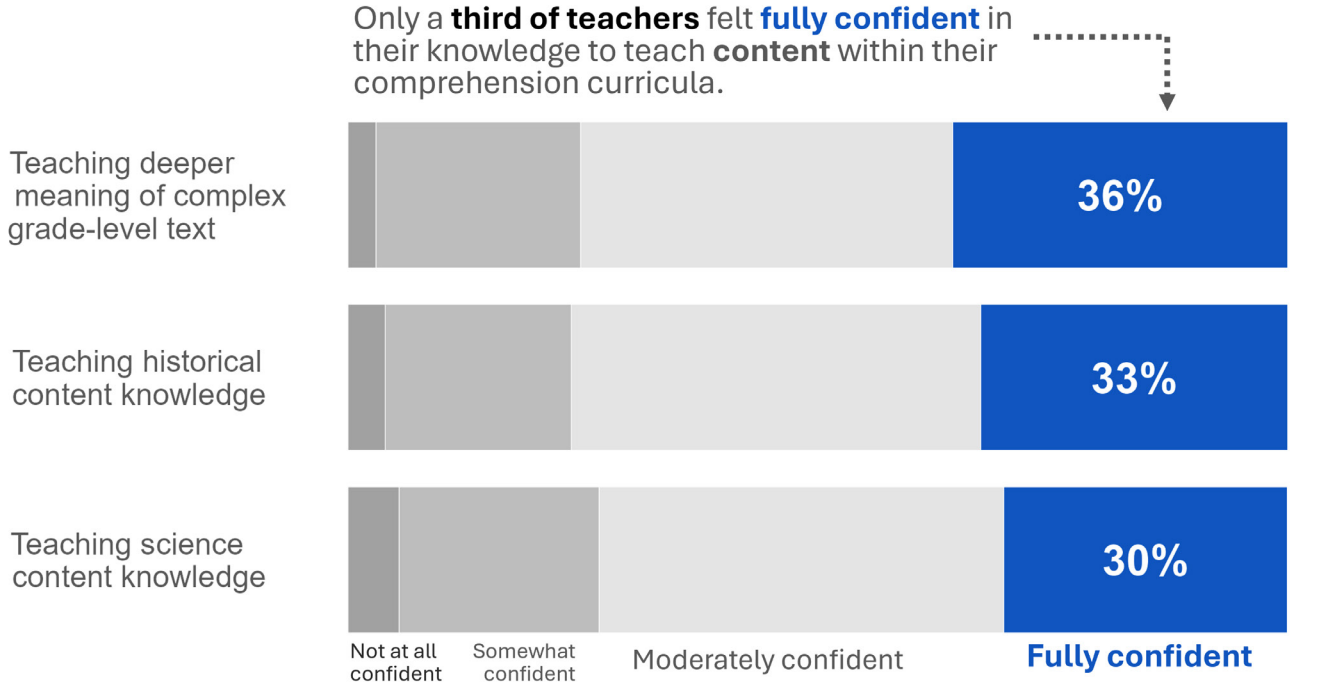
Elementary teachers are often trained as generalists, taking a broad mix of literature, social studies, and science content and methods coursework during their teacher preparation. The National Council on Teacher Quality (2023) found, however, that "while most teacher preparation programs have sufficient course options available, only 3% require aspiring teachers to complete courses in most of the social

studies and science topics an elementary teacher needs to know in order to promote students' literacy and learning" (p. 5). Moreover, the average U.S. public school teacher has approximately 14 years of experience (National Center for Education Statistics, 2021), and so they are far removed from their teacher preparation. It is likely that much of the content knowledge they currently draw upon comes from their on-the-job experience rather than their preparation.

At the same time, the content included in knowledger-rich curricula is rigorous and requires teachers to possess deep knowledge on a wide range of topics such as the War of 1812, the human circulatory system, or the poetry of Emily Dickinson. Curriculum materials often provide overviews of unit or module content, but without substantial depth or explicit attention to building teachers' knowledge beyond that which is expected of their students.

Even though most of the surveyed teachers had several years of experience with their specific grade-level content, only about a third of teachers felt fully confident in their knowledge to teach the social studies, science, or literary content within their comprehension curriculum (Exhibit 4). These results suggest teachers are not fully confident across all subjects—not just the history or science topics less common in daily life, but also the deeper meaning of K–5 grade-level literary texts such as *The House on Mango Street* (CKLA Grade 4), *Peter Pan* (EL Education Grade 3), or *The Phantom Tollbooth* (Wit & Wisdom Grade 5). Without confidence in their own depth of understanding, or sufficient support to deepen their knowledge, teachers may simplify content and engage in surface-level work.

Exhibit 4. Teachers' confidence in their knowledge of content in comprehension curricula

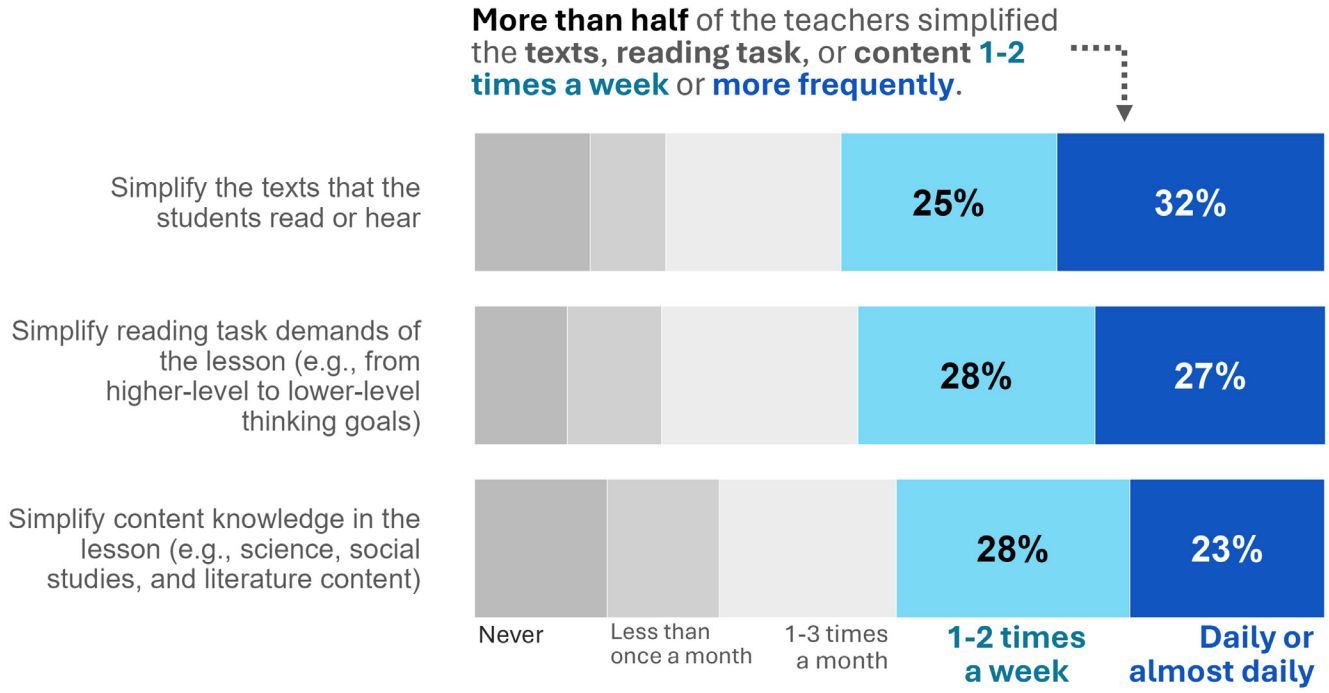


n = 409 teachers
Average percentage across districts. Each district contributes equally.

Teachers reported regularly simplifying curricular content

Our survey directly asked teachers how often they simplify the texts students read, the reading task demands, or the content knowledge in their comprehension curriculum. On average across districts, more than half of teachers reported making these three simplifications at least weekly (Exhibit 5). These responses suggest that the intended curriculum adopted by these districts may be diluted before it reaches students.

Exhibit 5. Teachers' reported simplification of curricular content



n = 323 teachers
Average percentage across districts. Each district contributes equally.

Additionally, the frequency of teachers' simplification was *not* associated with the number of years they had taught their grade level with a particular comprehension curriculum. In other words, teachers did not simplify less if they had taught the content for multiple years. This suggests that teachers, on average, do not naturally increase the rigor of their instruction over time, even when they have more experience with the content. Intentional professional learning systems may be necessary to support teachers with depth of knowledge and to avoid content simplification.

More years of experience in teaching a specific grade's knowledge-rich curriculum was not linked to less frequent simplification of text, tasks, or content.

Our interviews and surveys provided insights into factors that may contribute to why teachers simplify knowledge-rich curriculum during instruction.

Standards focus



Over-focusing on standards and assessments may contribute to the problem of persistent surface-level purpose and work.

District literacy leaders regularly voiced support for a text-centered approach to literacy instruction, but our data showed the persistence of standards-centered approaches. Centering lessons around specific comprehension standards can encourage teachers to focus on completing narrow standards-aligned tasks, which is characteristic of surface-level work, without attending to the knowledge necessary to comprehend the text (Liben & Pimentel, 2019). In surveys, between 45% and 68% of teachers across the four districts reported modifying their comprehension curriculum at least weekly to align with state standards. In interviews, teachers expressed concern, at times reinforced by school leaders, that their curricula would not help students master state standards purportedly tested on state assessments. In describing their team's planning process, a teacher said, "We just pull out those standards that we know that they're going to be tested on and work that way."

Moving away from standards-centered planning is difficult, however, when comprehension assessment data are regularly shared with teachers broken down by standard. These data practices invite teachers to target isolated standards. Across districts, 70% of surveyed teachers reported consistently or often using comprehension data to choose specific skills or standards to target in instruction, often based on benchmark or state test data. In one district, educators analyzed and planned for instruction by isolated standards in 10 of 13 (77%) of the observed PLC meetings. Across all districts, 27% of the observed comprehension-focused PLCs (*n* = 41) focused on test preparation.[2]

Benchmark and state comprehension assessments do not validly assess individual comprehension standards, because there are too few items about each standard, and so each standard is not psychometrically distinguishable from the others (Rupp & Lesaux, 2006).

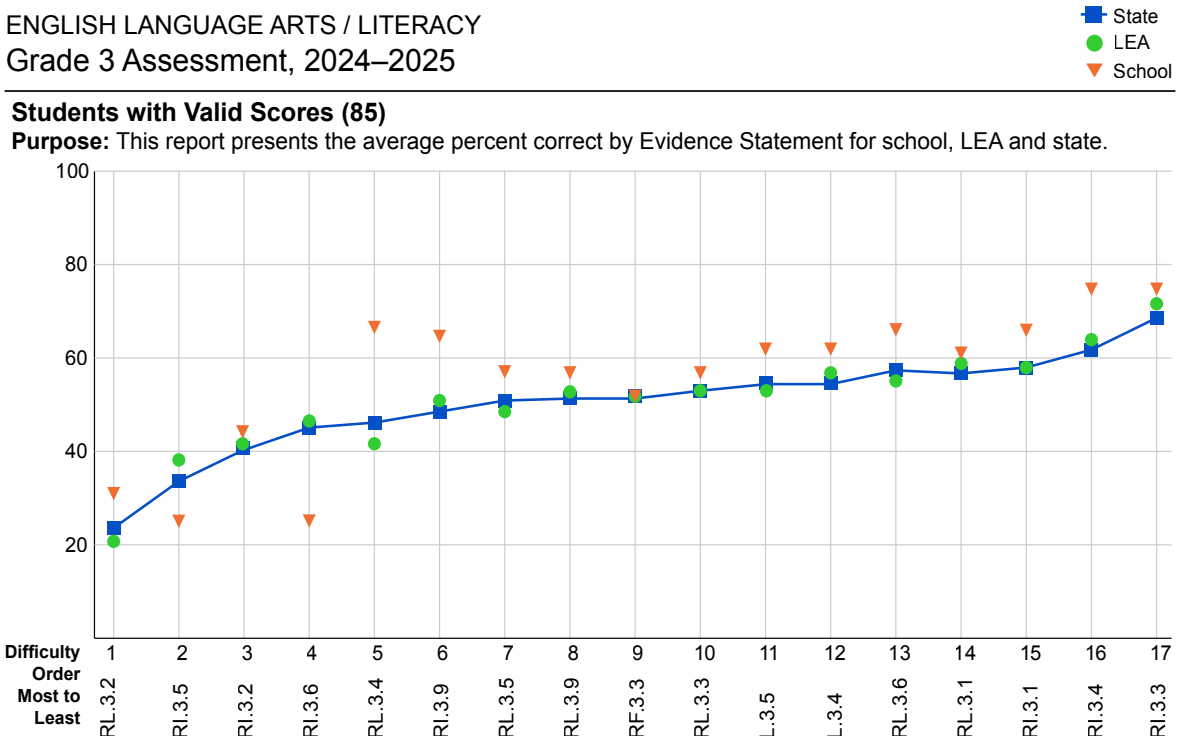
Exhibit 6 shows an example of a standards-centric data dashboard that we observed in use during a PLC meeting.[3] The dashboard was provided by a state and shows results from the previous year's third-grade state English language arts (ELA) test, providing school-specific results (orange triangles) compared to district (green circles) and statewide results (blue squares). Each standard is listed on the x-axis in order of state-level difficulty. Data dashboards like these are used in at least three of the four districts. Such dashboards attribute the difficulty of the test items solely to a standard, without reporting on the texts and content knowledge also required to correctly answer comprehension questions (Catts, 2022). When shown this dashboard, educators often respond by isolating specific comprehension standards for their instruction instead of focusing on robust, knowledge-rich instruction.

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[2] Our PLC observations were conducted between December and May. PLCs may have been more likely to feature test preparation in the spring semester leading up to state testing than they would have in the fall semester.

[3] Exhibit 6 is a replica of the dashboard sourced from the state's guide to interpreting ELA scores. During the PLC, we observed teachers using their school's version of the dashboard, but the dashboard notes that school versions are not for public release.

Exhibit 6: A replica of a state-provided dashboard of comprehension broken down by standard used during a PLC



The use of this data dashboard during the observed PLC illustrates how a focus on standards and assessments can narrow instruction toward surface-level goals. Prior to this PLC, we observed a fourth-grade teacher delivering a robust, dialogic, knowledge-rich lesson, described in Exhibit 1 above, about patriot and loyalist perspectives at the time of the Boston Tea Party. Thirty minutes later, in the PLC, this teacher was presented with her school's version of the data dashboard in Exhibit 6. The coach stated that the day's PLC objective was to identify standards in which their school scored low, and then to identify how each standard could be added into a lesson in the upcoming unit before the state test. The teacher who had just delivered robust, knowledge-rich instruction vowed to do a state test "bootcamp." Her fellow fourth-grade teachers identified released practice tests she could use and discussed which isolated comprehension standards would be best to target. This example shows how it can be challenging for teachers to focus on robust, text-based instruction when the system consistently reinforces a focus on standards.

The teacher who had just delivered robust, knowledge-rich instruction vowed to do a state test "bootcamp".

Perceived mismatch between curriculum and students

In interviews, many teachers perceived a mismatch between the curriculum's content and their students. They often reported that the curriculum was too challenging or that the content was not relevant to their students. For example, one teacher stated, "Definitely just some of the content is really hard. It's just very dry. I feel like there's so many topics that you could teach a first grader about, as far as science and even social studies, that you're still getting those points, that are a little bit more, connected to them."

To address these concerns, 84% of teachers reported adding scaffolds to help students access grade-level curriculum at least weekly, and 72% of teachers reported adjusting examples or content to be more relevant to students at least weekly. Teachers often described adding videos, dramatizations, visuals, real-world examples, sentence starters, graphic organizers, and hands-on activities to support students in accessing content.

84% of teachers reported adding scaffolds to help students access grade-level curriculum at least weekly.

72% of teachers reported adjusting examples or content to be more relevant to students at least weekly.

While these types of scaffolds can support students' access to text and content, teachers also spoke about simplifying. For example, a third grade teacher described planning for a lesson on the role of phytoplankton in ocean ecosystems: "I talked to other teachers, my colleagues, and said, 'Okay, how are we going to approach this? How's it easy to water it down?' I know we have to read the text, but what can we focus on?'" Another teacher described reducing the reading demands of the lesson: "Sometimes I have to take texts and knock it down a few Lexiles, but keep key vocabulary, keep the main focus." Our data show that teachers often experience tension between making the material accessible for students and preserving the complexity of the content.

Additionally, teachers' own perceptions about the content likely influence how students experience it and how engaging the lessons are. As one school leader put it, "The kids are going to experience it how you present it." Building teachers' content knowledge may help make lessons more dynamic and engaging for students and reduce how often teachers simplify the content.

> **"It's not easy, but it has been successful. I can speak for myself because I'm passionate about it, I went to Toledo in Spain to go to see where *Don Quixote* got inspired so I could bring it so they could see it."**
>
> **– Teacher**

Limited visibility into the overall design of the curriculum

Knowledge-rich curricula typically are designed to systematically build content knowledge in history, science, and literature across grades K–5. In interviews, the extent to which teachers indicated understanding the spiraling nature of the curriculum varied widely. Some teachers described understanding that content knowledge builds over time, sometimes due to prior teaching experience in other grades or informal conversations with colleagues. A fifth-grade teacher noted that cumulative knowledge building is "not something that we're asked to know or focus on," but also said that "I will reference what they're doing in sixth grade, I think that's because I already have that knowledge, since I've taught it."

A second-grade teacher described her curriculum's content across grades as "a bunch of individual topics."

On the other hand, multiple teachers across grades and districts described grade-level siloing that limited visibility into their curriculum's knowledge-building design. A second-grade teacher, when looking at her curriculum's map of topic knowledge across grades, noted that the map "seems like a bunch of individual topics." A fourth-grade teacher said she feels "like I'm starting from scratch" with content knowledge when she begins a unit focusing on the human circulatory system. A kindergarten teacher remarked that she assumed that knowledge-building was part of the design but also said, "I'm honestly not sure because I've never taught first, second, or third. And when we collaborate, we just talk about what we're focusing on in kindergarten."

These teacher voices suggest an opportunity for districts to raise awareness of cumulative curriculum design and for curriculum designers to make these connections more explicit and coherent across grades. Some curricula do contain references to cross-grade knowledge-building, but it does not appear that teachers are widely aware of these references. Ultimately, without awareness of the cumulative curriculum design, teachers may be more likely to simplify, not realizing that doing so has lasting implications for students' ability to access content and engage in robust comprehension work in future grades.



Professional learning structures targeted improving instruction but did not support teachers with the content demands

Across all districts, leaders described systemic attempts to improve the depth of comprehension instruction through PLCs. For example, one district supported the use of a lesson internalization protocol that helps teachers focus on critical ideas and concepts students need in order to be successful with a lesson, such as clear reading tasks, text complexity features, key vocabulary words, and critical text-dependent questions. District leaders regularly modeled for literacy coaches how to use this protocol with teachers. Several teachers described it as deepening their preparation for comprehension instruction by analyzing the student-facing text and anticipating misconceptions.

PLC observations across all four districts, however, uncovered limited evidence of addressing the depth of content knowledge required to teach with knowledge-rich curricula. Across 41 PLCs that focused on text-based comprehension, only six featured teachers and coaches deeply discussing the content knowledge necessary for robust comprehension. The remaining PLCs either discussed only surface-level facts or mentioned knowledge only in passing or not at all—and in some cases treating the unit's knowledge as an obstacle to student success or as an unworthy objective.

Only 15% of observed PLCs that discussed reading comprehension included discussions of the content knowledge needed for robust comprehension work.

For example, in one PLC, a coach led a discussion about an upcoming Norse mythology unit. After a brief discussion about the unit's knowledge and vocabulary, the discussion quickly pivoted to standards and testing. The coach listed the standards on the previous year's state test and asked teachers how they could add tested standards to the Norse unit. In another PLC, kindergarten teachers preparing for a unit on Native American culture described the content as "boring," and the principal confirmed this impression. These cases represented missed opportunities for teachers and coaches to deepen their own knowledge of the curricular topics and texts.

Similarly, during interviews, few teachers described PLC time being leveraged to build their own content knowledge, and no district leaders described systemic professional learning to build teachers' knowledge of the history, science, or literature necessary for their specific curriculum. Interviewed teachers commonly said they had to independently develop their own knowledge to the level required to successfully teach their curriculum.

> **"I'd learned about different Native American cultures, but I had never learned about the Nez Perce ...I sat down and I read the book and looked up what I needed to look up and that wasn't encouraged. I just did that over the summer."**
>
> **–Teacher**

A teacher from a different district described a similarly informal system: "I have to educate myself all over again and just do my own research and find kid-friendly books, ask ChatGPT to show me some books that are friendly for first graders about the Boston Tea Party." Other teachers said they relied on the curriculum, including the unit front matter, to learn the content. These teachers' efforts suggest both a need and a desire to deepen their knowledge to help their students explore the richness and depth of the topics covered in knowledge-rich curricula.

Supporting teachers in developing deeper content knowledge could be a strong start towards more robust comprehension instruction, but teachers will also need support with pedagogical practices that guide student knowledge building. Knowledge and pedagogy are inseparable.

Building Upon Exemplars of Knowledge-Rich, Dialogic Lessons Across All Four Districts

Our classroom observations revealed exemplar lessons where dialogic instruction and knowledge-rich curriculum brought challenging content to life. These exemplars can help chart a direction for the work ahead. Each of these lessons included *all* four of the following:

- The lesson resulted in students doing robust comprehension work.
- Students did the bulk of the intellectual work by generating theories, predictions, and interpretations of the text.
- Students regularly provided text-based evidence and explanations for their claims.
- Teachers used student contributions to advance comprehension.

Exemplar lessons that were robust, dialogic, and knowledge-rich occurred in all four districts. The next challenge is to engineer the systems to replicate these lessons.

These lesson exemplars came from all districts, grades, and content areas. Knowledge-rich curricula set the contexts for teachers to expertly support students to interpret implied metaphors in poetry, analyze Revolutionary War propaganda, trace stories of Underground Railroad journeys, and research animal pollinators. Curious students and knowledgeable teachers worked together to bring historical issues into present-day America, illustrate scientific concepts in their everyday lives, and share their interpretations of poems.

District A: A fifth-grade poetry lesson focused on "Advice" by Dan Gerber. The teacher structured the conversation to allow students to respond to each other's ideas, underline textual evidence for their interpretations publicly on the smartboard, and disagree respectfully. As the students journaled, the teacher challenged them to combine literal and figurative meanings—using students' written responses to advance collective robust comprehension work.	**District B:** Fourth graders explored Paul Revere's engraving of the Boston Massacre. Under the teacher's guidance, students analyzed Revere's detail choices, including colors and facial expressions. Then, in small groups, students chose a detail from the engraving and explained its significance to the work. Afterward, each group passed their paper to another group, who built on the first group's response, ultimately synthesizing the details into a robust understanding of Revere's pro-revolutionary propaganda.
District C: In a second-grade lesson, a teacher read *Henry's Freedom Box*, a story of an enslaved man who mailed himself to freedom in a wooden box. The discussion built on prior lessons about the Underground Railroad. Students explored Henry's courage, the mechanics of the box, and the meaningful themes of family and perseverance despite the evil of slavery. The teacher orchestrated the conversation to remain anchored in the text while incorporating students' emerging ideas. The lesson culminated in an exit ticket asking the students to define the story's main theme.	**District D:** A second-grade class read a text, "What is Pollination?" Having already learned about insect pollinators, the class explored additional pollinators—lizards, bats, and opossums. They discussed how animals' feet, beaks, and bodies transfer pollen before students chose a specific pollinator to research. When a student proposed researching cats, the teacher turned the question back to the class to consider whether cats were pollinators. Ultimately, the discussion of the text and the ensuing research ensured students shouldered the intellectual work.

Next Steps: Curriculum-based Professional Learning for Robust Comprehension Instruction

In addressing the **pedagogy challenge**, teachers will benefit from practicing the dialogic approaches that can lead to robust comprehension. To address the **knowledge challenge**, teachers need more than content-agnostic professional learning about the importance of knowledge to comprehension. They need curriculum-specific professional learning to deepen their own knowledge. Our recommendations for curriculum-based professional learning address the pedagogy and knowledge challenges and provide a vision for building the strongest possible systems to ensure that every reader receives robust comprehension instruction.

Addressing the Pedagogy Challenge: Supporting Dialogic Instruction

> **"I do too much teacher talk completely... I get to that point and I'm like, I don't know how to get anything else out of you. And I know you know something. I wish I had a better answer."**
>
> **– Teacher**

Districts' existing professional learning may already be starting to address dialogic instruction. We offer further suggestions for districts to support teachers in navigating the shift towards more dialogic classrooms.

Showcase homegrown examples

Teachers need opportunities to see dialogic practices unfold in real classrooms and with their curricula. Curriculum-aligned videos, demonstration lessons, peer observations, and collaborative lesson study can make these practices more concrete. As one teacher put it: "[We] want to watch videos of other people teach... my whole team feels like that. We always really value watching teaching rather than just hearing ideas." Viewing examples should be paired with opportunities for teachers to collaboratively reflect on the shifts necessary for changing classroom discourse (Walsh et al., 2020; Wilkinson et al., 2017).

Examples can feature key practices linked with robust comprehension work:

- **Students do the bulk of the intellectual work.** Show students—not teachers—actively making meaning from text, monitoring their understanding, working through confusion, and thinking critically about content. Illustrate how teachers use small groups, question prompts, and wait time to support students without taking over the thinking.
- **Teachers and students provide text evidence with explanation.** Feature students specifically and directly referencing text evidence during a discussion, using different physical and verbal strategies that support their interpretation or understanding. For example, students might use certain colors to highlight evidence, then use shared sentence stems to spark explanation (e.g., "On page 5, it says...").

- **Teachers use student contributions to advance comprehension.** Highlight teachers listening closely to students' ideas and building on them to shape subsequent questions and discussion. This may include connecting contributions across students, surfacing differing interpretations, or returning to earlier ideas.

Examples should also include skilled dialogic instruction with multilingual learners (MLs). MLs' conceptual understanding may initially outpace their ability to immediately participate in fast-paced classroom discussions, but their contributions can be amplified by skilled teacher language support. Viewing and reflecting on skilled dialogic instruction with MLs would benefit even teachers with relatively few MLs—and inspire them to see the potential in every student's emerging contribution to complex knowledge-rich discussion.

Showcasing dialogic instruction in classrooms with many multilingual learners will benefit even teachers with relatively few multilingual learners.

Provide feedback to teachers on their dialogic discussions

It may be difficult for veteran teachers who have been leading classroom discussions for many years to re-envision their classroom discussion practices and shift the intellectual work to students (Al-Adeimi & Lee., 2026). After observing teachers striving to improve their dialogic discussion, coaches and principals might debrief and provide feedback on the extent to which they engage their students in dialogic practices. Additionally, PLC time could be used to rehearse lessons with a focus on including opportunities for dialogic instruction.

Revise observation tools

As we noted in *Beyond the Surface*, districts also may need to reevaluate their classroom observations and walkthrough protocols to avoid inadvertently capturing only superficial features of comprehension instruction. Districts might consider an explicit rubric category on their comprehension observation tool for text-centered knowledge-building and another for the quality of dialogic discourse.

Addressing the Knowledge Challenge: Providing Curriculum Guidance and Knowledge-Building Professional Learning

"There's an assumption that we all already know the answer rather than like, let's go back and look at it and … unpack it."

– Teacher

The scope of the knowledge challenge can appear vast: Improving teachers' content-specific knowledge across the K–5 grades with multiple topic-specific units is no easy task. Our data provide insights about productive next steps to address the knowledge challenge through grade-specific professional learning and curriculum guidance.

Build grade-specific content knowledge within and across schools

Districts, professional learning organizations, and curriculum developers should develop formal systems for deepening content knowledge. While knowledge-building resources for teachers already exist in curricular materials, they are insufficient for building teachers' confidence in their content knowledge. Deep content resources with expert-led study sessions could be first steps. The study sessions could take place in coach-led PLCs: In our surveys, 83% of teachers agreed that their PLCs are run by a coach or school leader with literacy expertise. However, these leaders may also need support to deepen their content knowledge to support K–5 teachers to teach dozens of units and modules across grades. Targeted investment in coaches' ability to build teachers' content knowledge might amplify the impact of PLCs to support teachers toward more robust comprehension instruction. This responsibility for intellectual leadership could also be shared between coaches and teachers: Teachers could be invited to lead specific PLC content knowledge discussions based on units for which they have passion and expertise.

Within districts, connecting to same-grade teachers across schools could help build intellectual community, especially in schools with only one teacher per grade. For example, first-grade teachers may need expertise in bird anatomy that is not required of second-grade teachers. First-grade teachers across schools could participate in a district-led cycle of professional learning with examples from local bird life.

Connecting to same-grade teachers across schools could help build intellectual community.

Provide curriculum-specific modification guidance

A consistent framework for acceptable modifications may help teachers negotiate the difficulties of enacting curriculum. Guidance should distinguish nonnegotiable knowledge-building and robust comprehension goals from elements teachers can productively adapt. Guidance could also name specific content knowledge necessary for comprehension and support teachers in directly teaching needed knowledge.

Guidance might also help teachers navigate the complexity of written curriculum. Lesson plans for a single 60-minute lesson can be 10 pages or more and include multiple standards teachers are expected to teach. With this length and complexity, teachers may face mixed messages about the truly nonnegotiable aspects of their curriculum. Districts can provide clarity by precisely naming the assumed preexisting conceptual and factual knowledge and the essential knowledge students should gain from the unit.

The curriculum-specific guidance framework should also highlight how scaffolds can provide access, especially for MLs, without simplifying content. Ultimately, defining essential content *knowledge* alongside essential literacy skills could help teachers avoid simplifying the content knowledge.

A Path Forward: Building Better Systems



As we noted in our opening paragraph, extensive theory and evidence supports the use of knowledge-rich curricula. Literacy systems, however, have not equipped teachers with the depth of knowledge required to deliver it. Our interviews uncovered stories of curious, motivated teachers embracing the intellectual demands of knowledge-rich curriculum and doing their own research to build the expertise they knew their students deserve. This is an opportunity to for curriculum developers, districts, and professional learning organizations to channel that individual research into systemic collaborations to deepen content knowledge.

Opportunities for Curriculum Engineering:
Next Steps for Curriculum Developers and Curriculum Review Criteria

Recently, Tipton and Patton-Terry (2026) called for an "engineering of reading" to accompany the Science of Reading. They advocate for a human-centered design approach that rigorously considers variation in implementation of reading curriculum—not just its architecture. Across our data sources, we see that the same curriculum can look very different even in the same school. An engineering of reading approach would consider not only the design of the lessons but how they are used—in some ways akin to how engineers design cars and cell phones to be used by anyone. This approach shifts the responsibility for implementation from the user (i.e., the teacher or district) to the engineer, who must account for real-world conditions. This framework could help curriculum designers evaluate how their curricula are implemented across diverse classroom contexts (e.g., to better understand user experience) rather than interpreting widespread curricular modifications as "user error."

Curriculum developers also face the challenge of meeting multifaceted criteria in the rubrics used by state curriculum committees and external reviewers (e.g., EdReports). In designing those rubrics, reviewers may wish to consider not only the content of curriculum but also its approach to enactment, or the degree to which its design has been field-tested to offer evidence that its approach is engineered to be delivered by a real-world teacher.

As an appendix to this report, we offer an Action Steps guide for how states, districts, curriculum developers, professional learning providers, principals, coaches, and teachers can contribute to a collective engineering of reading.

Our observations revealed exemplar lessons that displayed the richness of dialogic instruction. These teachers brought texts to life, channeling eager students' contributions in back-and-forth classroom discussions and advancing whole classrooms of learners towards deeper understanding. This is an opportunity to build systemic supports to replicate these rare cases and make them regular practice.

Improving systemic supports for reading comprehension can be a complex and daunting task. To help literacy leaders crystallize the knowledge and pedagogy challenges, we offer one possible formula for strong comprehension instruction that brings together the ideas we have shared in this brief:

Start the lesson with a robust comprehension purpose anchored in knowledge-rich content and include, when needed, direct instruction of key facts or concepts to build a foundation for dialogic discussion to carry out robust comprehension work.

As literacy leaders continue to refine their vision and goals for meaningful comprehension instruction, they could use this sentence as a first draft to guide their efforts to translate materials to meaning in every classroom.

In the end, we invite researchers, curriculum developers, district leaders, and professional learning organizations to reimagine the systems that will catalyze learning and understanding. We envision a future where teachers build deep knowledge through supported intellectual communities, in turn enabling the robust, dialogic comprehension work that will allow children to thrive as readers. We can all work together to engineer the systems that bring knowledge and literacy to life for every reader.



Action Guide:
Next Steps to Translate Materials to Meaning

Stakeholder	Potential Action Steps
States	✓ Review curriculum adoption guidelines to ensure a focus on robust, dialogic, knowledge-rich instruction ✓ Leverage funding mechanisms to support districts and curriculum developers to partner on curriculum implementation studies ✓ Update continuous improvement tools to monitor the depth of comprehension instruction across districts ✓ Ensure that assessment reporting, data dashboards, and guidance reinforce robust, knowledge-rich, text-centered instruction rather than isolated standards
District Literacy Leaders	✓ Create formal systems within and across schools to deepen teachers' curriculum-specific content knowledge ✓ Augment existing approaches to supporting dialogic instruction using real-world examples (including video and peer observation) across a wide range of student populations ✓ Revise observation tools and practices to capture and reinforce robust, dialogic, knowledge-rich instruction
Principals and Coaches	✓ Build content knowledge depth and dialogic instructional expertise to model intellectual leadership to teacher communities ✓ Provide teachers with feedback on the dialogic aspects of their instruction ✓ Ensure observations last long enough to capture the extent to which teachers deliver robust, dialogic, knowledge-rich instruction
Teachers	✓ Engage with grade-level teacher teams to deepen collective knowledge about curriculum topics ✓ Build classroom routines to support dialogic instruction ✓ Bring daily enthusiasm for all content knowledge across historical, scientific, and literary texts and content

Stakeholder	Potential Action Steps
Professional Learning Organizations	✓ Create intellectual community around grade-specific content and build knowledge-rich learning experiences for teachers, coaches, and leaders ✓ Build video libraries of dialogic, knowledge-rich lessons ✓ Coach teachers toward dialogic instruction with cycles of learning, observation, feedback, and reflection
Curriculum Designers	✓ Expand unit plans' attention to building teachers' depth of knowledge ✓ Create core discussion protocols and embedded routines that make it easier for teachers to engage in dialogic instruction ✓ Collaborate with professional learning organizations and districts on engineering-of-reading initiatives to build curriculum optimized for teacher usability

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333 Ravenswood Avenue
Menlo Park, CA 94025
+1.650.859.2000
education@sri.com

Washington, DC
1100 Wilson Boulevard
Suite 2700
Arlington, VA 22209
+1.703.524.2053
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