Creating Learning Environments in the Early Grades that Support Teacher and Student Success

Profiles of Effective Practices in Three Expanded Learning Time Schools

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Introduction

Research-based Practices and the Value of More Time

Over the last two decades, a robust consensus has emerged about the significance of providing quality early education to all children, especially to those from disadvantaged backgrounds. And with good reason. An impressive body of research has demonstrated that one of the most powerful influences on an individual's future success in school and life is having sustained opportunities for learning in supportive and enriching environments from infancy through age eight.[1]

Despite the nearly universal acceptance of the need for and value of early education extending up through at least second grade, however, most efforts to improve the quality of early education relate only to programs that serve the younger half of those with fast-developing minds (e.g., pre-K classrooms, daycare providers, etc.). Once children reach formal schooling in kindergarten, the focus tends to shift from inputs—*how do educators create a positive educational environment?*—to outputs—*what have students gained from being in the classroom?*

And yet, educators who work with children in early grades—kindergarten and Grades1 and 2—know that the only way to consistently lead students to achieve proficiency in high standards is by having structures in place that form a solid framework for such learning. It is not possible, in other words, to ignore the influence that inputs have on students' ability to grow. One of the structures that often hampers teachers' efforts to both nurture and educate their students is the traditional day of 6.5 hours, for it does not provide young children a sufficient amount or range of developmentally-appropriate activities to optimize cognitive, social-emotional, and physical development. In too many places, a conventional schedule simply does not consistently allow teachers to shape their classrooms to best meet their students' needs. Instead, they must make uncomfortable trade-offs which often leads them to focus primarily on cognitive growth, limiting time to promote other early development domains.

One of the most powerful influences on an individual's future success in school and life is having sustained opportunities for learning in supportive and enriching environments from infancy through age eight.

The schools profiled in this report offer an alternative to such trade-offs. Because Hill Elementary (Revere, Mass.), John Barry Elementary (Meriden, Conn.) and Centennial Elementary (Denver, Colo.) each operates with a substantially longer day than the norm, educators are better equipped to offer the kind of early education settings that can promote rich learning and the development of the whole child. Put another way, these schools aim to integrate the best of what early education for the youngest

children offers—a variety of cognitive activities, physical movement, individual play and creative expression, healthy social interaction, intermittent rest of brain and body, *and* prolonged opportunities to do all of these things—within the proscribed goals for learning that define public schooling.

The purpose of this report is to describe how schools that have converted to longer operational days—known as "expanded-time" schools—better support the development of young children. The National Center on Time & Learning (NCTL) has chosen to document the work of these three particular schools from among its network of over 60 expanded-time schools because, over the last few years, they have demonstrated in concrete, ever-evolving ways, how time can be leveraged to optimal effect in educating young students. Though the practices they have honed are not unique, these schools show a distinctive capacity both to be creative about how best to serve their youngest students and to put in place the structures that allow these innovative approaches to flourish. Still, the educators in these schools are quick to admit that their classrooms and other supports for students in the early grades are works in progress. As such, the insights we draw from them are intended as guideposts along a path toward excellent education in the early grades, rather than definitive portraits of the destination.

Following this introduction, which includes a review of key research on educational strategies for supporting younger students, we profile the three schools in some detail. Each profile endeavors to provide a flavor of the ways in which practitioners understand and implement their mission to meet the learning and developmental needs of their youngest students. In each, one can see how common, research-based programs and structures work together to foster successful learning environments for children in the early grades.

Promoting Child Development Through Ample and Purposeful Learning

In 2009, the National Association for the Education of Young Children (NAEYC) issued a position statement entitled "Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth through Age 8."[2] Intended for both practitioners and policymakers, NAEYC's summation of effective practices lays out a framework for how programs and schools can construct settings that maintain the highest educational standards as part of promoting the healthy development of children. This position paper provides a valuable starting point for understanding how we translate what we know about children's cognitive, physical and social development into practice in formal educational settings, especially in schools. To make its case, NAEYC methodically describes a dozen research principles that should undergird the approach to educating young children effectively, from the pacing of development to the lifelong implications of early childhood education.
(See box, p. 3)

In truth, each of the twelve research principles deserves its own exposition, but in this space it is sufficient to point out two ideas that underpin the whole set. First, child development is a highly complex phenomenon that both occurs naturally and

can also benefit from assertive intervention. Consequently, contributing positively toward the development of individual children takes a deep understanding not only of the process by which children grow across all domains—physical, social and emotional, and cognitive—but also of the "pressure points" which can be activated to shape such development in positive ways. As NAEYC explains:

> Meeting children where they are is essential, but no … teacher simply leaves them there. Keeping in mind desired goals and what is known about the children as a group and individually, the teacher plans experiences to promote children's learning and development…
>
> Clearly, such effective teaching does not happen by chance. A hallmark of appropriate teaching is intentionality. Good teachers [ie., those who are well-trained and supported] are intentional in everything they do—setting up the classroom, planning curriculum, making use of various teaching strategies, assessing children, interacting with them, and working with their families. Intentional teachers are purposeful and thoughtful about the actions they take, and they direct their teaching toward the goals the program is trying to help children to reach.[3]

The second foundational idea embedded in NAEYC's research principles flows from the first. Because the ultimate goal of a purposefully organized and attentively nurturing environment is to generate an ongoing succession of constructive experiences, the clear implication is that more is better. The more children play to learn and learn to play, the more they are challenged appropriately to discover new capabilities, and the more they interact with adults and peers to form healthy relationships, the more that the settings where these opportunities flourish stand to influence children's development in positive ways.[4]

Interestingly, most of the research on the correlation between quantity (also known as "dosage") and its possible effects in pre-school contexts focuses on "softer" outcomes like quality of social interaction, whereas research on dosage in public school settings (including kindergarten) looks at the impact of dosage on cognitively-

Principles of Child Development and Learning that Inform Practice

1. All the domains of development and learning—physical, social and emotional, and cognitive—are important, and they are closely interrelated. Children's development and learning in one domain influence and are influenced by what takes place in other domains.
2. Many aspects of children's learning and development follow well documented sequences, with later abilities, skills, and knowledge building on those already acquired.
3. Development and learning proceed at varying rates from child to child, as well as at uneven rates across different areas of a child's individual functioning.
4. Development and learning result from a dynamic and continuous interaction of biological maturation and experience.
5. Early experiences have profound effects, both cumulative and delayed, on a child's development and learning; and optimal periods exist for certain types of development and learning to occur.
6. Development proceeds toward greater complexity, self-regulation, and symbolic or representational capacities.
7. Children develop best when they have secure, consistent relationships with responsive adults and opportunities for positive relationships with peers.
8. Development and learning occur in and are influenced by multiple social and cultural contexts.
9. Always mentally active in seeking to understand the world around them, children learn in a variety of ways; a wide range of teaching strategies and interactions are effective in supporting all these kinds of learning.
10. Play is an important vehicle for developing self-regulation as well as for promoting language, cognition, and social competence.
11. Development and learning advance when children are challenged to achieve at a level just beyond their current mastery, and also when they have many opportunities to practice newly acquired skills.
12. Children's experiences shape their motivation and approaches to learning, such as persistence, initiative, and flexibility; in turn, these dispositions and behaviors affect their learning and development.

Source: National Association for the Education of Young Children (2009). *Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth through Age 8*, pp. 11–16.

oriented competencies, especially literacy and math. In both areas, evidence strongly suggests a direct relationship between amount of time in learning environments and outcomes, even as the effect of this quantity is thoroughly intertwined with the quality of the educational setting.[5]

Layered on top of the dual need for educational intentionality and maximizing children's exposure to such learning opportunities is the reality that access to programs that promotes healthy development is not spread evenly across the population. Children born to middle-class and affluent families are much more likely to be enrolled in quality daycare settings, but too many children growing up in poor families do not experience those environments consistently. According to Child Trends, in 2012 only 45 percent of poor children were enrolled in day care, compared to 72 percent of non-poor students. Related, but more dramatic, children whose mothers had less than a high school education were enrolled at a rate of 43 percent, while nearly 80 percent of children with college-educated mothers participated.[6]

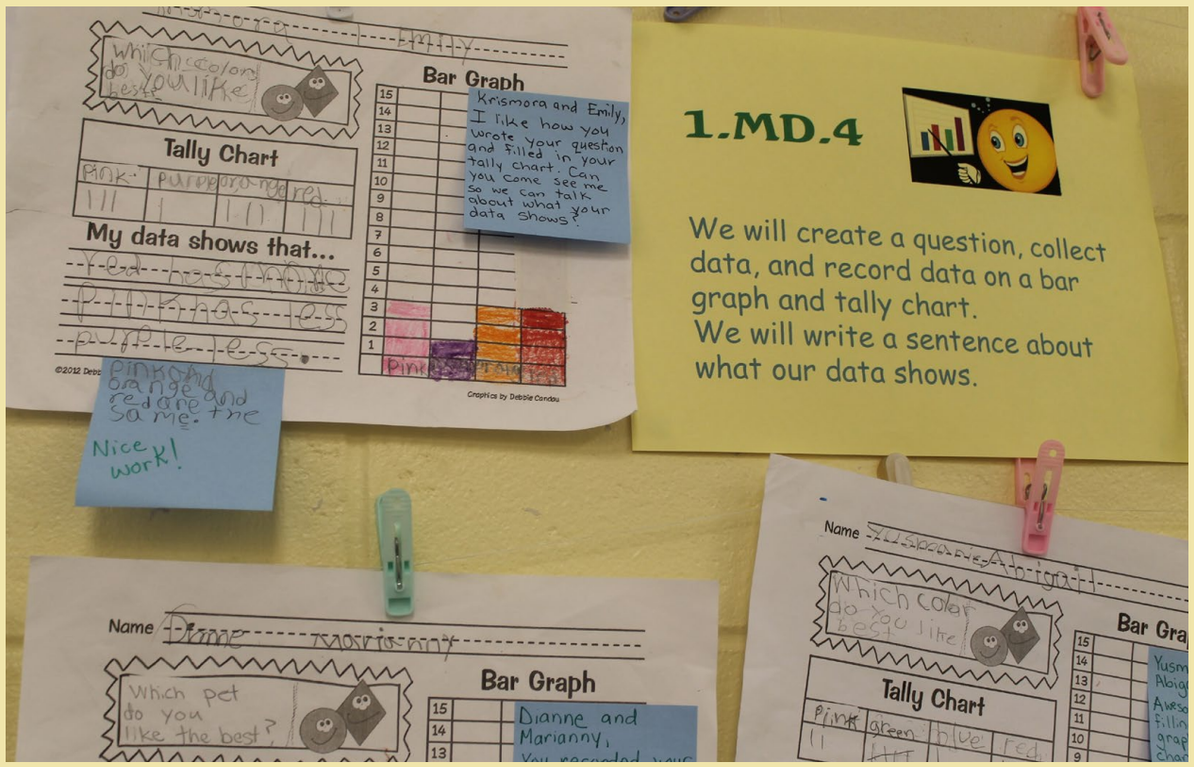
The traditional day does not provide young children sufficient developmentally-appropriate activities to optimize development.

And, aside from access to formal educational or daycare programs, the differences among socioeconomic strata in exposure to conditions that promote continuous learning are well-documented. One of the most famous studies in this field found that, by age three, children from welfare families hear roughly 30 million fewer words than their peers raised in families with parents who are professionals.[7] In her ethnographic study, sociologist Annette Lareau took the research even further by showing that the contexts and content of discourse in homes of different social classes also vary considerably, a reflection of differing styles of parenting. Specifically, children from homes with more educated parents benefit from what Lareau calls "concerted cultivation" or the deliberate effort to provide children with a multitude of enriching experiences, which includes involving children in conversations with adults that are more complex and encouraging. On the other hand, those raised in poorer households (read: with less educated parents) tend to be subject to an approach that emphasizes natural growth in which children "experience long stretches of leisure time… and clear boundaries between adults and children." One result of these contrasting styles is that the former are more likely to have the skills to progress in school than the latter.[8]

Consequently, the matriculation of poor children and children from less educated households to public school places added responsibility on elementary teachers of younger grades. Again, guidance from NAEYC is instructive and demonstrates how this third dimension of the early education challenge—the opportunity gap—plays into the first two:

> When children have missed some of the learning opportunities necessary for school success (most often children from low-income households), programs and teachers provide them with even more extended, enriched, and intensive learning experiences than are provided to their peers… To enable these children to make optimal progress, teachers are highly intentional in use of time, and they focus on key skills and abilities through highly engaging experiences.[9]

Put another way, we should not underestimate the potential influence educators can have on young at-risk schoolchildren. But without giving teachers a full array of tools through which to wield this influence, we risk shortchanging



the children in their charge. To understand how to develop such tools, we should study those schools that have demonstrated some success in promoting students' cognitive, social and emotional growth so that their systems and strategies might be replicated by educators in other schools.

Effective School Practices

So what are those things that the schools in this report—and high-quality schools, generally—do to serve the range of needs of young school-age children? NCTL's research has found a number of practices that can be generalized across sites. These include:

- Creating and adhering to a developmentally appropriate schedule – Teachers in the profiled schools organize their classrooms such that, across the day, they schedule time for a variety of types of learning and social interaction. These include: structured whole-group learning; more loosely organized periods of individual and small group play; academically-oriented instruction; activities that emphasize non-academic skills, physical movement, and social interaction; and sufficient times for rest. Of course, there is considerable overlap among and between these categories.
- Fostering interaction with a number of qualified adults throughout the day – All three schools maintain the conventional arrangement of self-contained classrooms, where one teacher is the primary instructor and caretaker of a heterogeneously mixed class of 20–25 students.* Significantly, however, children at these schools also have several regular opportunities throughout the day to form relationships with adults other than their single teacher, including enrichment specialists, classroom paraprofessionals, volunteer tutors, and language and math specialists.
- Carefully monitoring each student's academic and non-academic progress – The profiled schools employ traditional methods of tracking children's academic progress, using DIBELS and other normed tests. They also build in daily opportunities for teachers to assess student comprehension and, equally as important, their social and emotional development.
- Communicating with families frequently in order to address concerns and build support – To help assure that students feel comfortable in their classrooms, educators at the three schools welcome parents and other family members into their spaces regularly to convey that they are partners in each child's learning and development.
- Organizing teacher teams to drive excellence and continuous improvement – Each of the three schools has designated several periods each week when grade-level teachers meet to collaborate in order to: design rigorous, developmentally appropriate units and lessons; review individual student progress and identify ways to support their learning needs; and, more generally, to encourage each other and hold each other accountable to high expectations.

As noted above, nothing here represents a radically innovative practice. What makes these schools distinctive is that each of these practices is brought to higher level of impact expressly because educators have a school day of about eight hours long in which they can implement each practice more fully. With daily enrichment activities, in addition

*One exception is a subset of dual-language classrooms at Hill Elementary; these classrooms are jointly led by an English-speaking teacher and a Spanish-speaking teacher.

to more typical specials (e.g., art, music, PE), students actively engage in out-of-classroom learning while their teachers meet to plan lessons or strategize how to better support certain students. With 2.5-hour long literacy blocks, teachers can devote adequate time to whole-group instruction, to individualized support, and to cultivating social interaction, without feeling rushed or having to forgo pieces of the curriculum. Meanwhile, schools with conventional schedules often find it very difficult, for example, to carve out adequate time for teacher teams to meet regularly or even to build in sufficient rest time in class without compromising essential time to develop students' skills in literacy.

As the National Center on Time & Learning has emphasized in other studies, a schedule with meaningfully more time than the norm is no guarantee that schools serving a primarily low-income population will be able to leverage a higher-quality education. Educators at expanded-time schools must not only have the resource of time at their disposal but they must also it wisely and in diligent service of focused objectives. Yet, absent the opportunities that more time affords, overcoming the steep learning and development challenges intrinsic to a student body of mostly poor children is much more difficult because there are simply fewer avenues through which to ensure all children are provided the careful support they need.

What the three profiled schools put into sharp view is that when educators combine a nuanced understanding of the needs of children—especially those from lower-income families and neighborhoods—with the commitment to do what it takes to meet these needs by providing focused interventions and cultivating rich learning environments, the impact is readily apparent (and, some research suggests, lasting). And, with the resource of more time, this will and capacity to generate impact are made much stronger because teachers can integrate more naturally into the course of the day those elements of instruction and guidance that are core to positive social and cognitive development. These schools teach us that their work with young students is no less challenging and complex than anywhere, but, with the opportunities that more time brings, it is made that much more feasible and rewarding.

Profile One

John Barry Elementary School, Meriden, Connecticut

Grades: K–5

Enrollment: 475

Low-income population: 85%

Daily schedule: 7:50–4:00

For years, John Barry Elementary School embodied the classic story of a chronically underperforming public school. The school not only had the lowest achievement rate among elementary schools in Meriden, a small city in central Connecticut, it was one of the lowest-performing schools in the state. But, in the last few years, the tide has begun to turn. Elsie Torres-Brown took over the principalship of John Barry in Fall 2012, just as the school embarked upon an ambitious effort to add 300 hours to its academic year. As she took over, Torres-Brown led an effort to redesign the day to better meet the needs—and, in her words, to raise the expectations—of both its students and teachers.

The expansion of the schedule was, in large part, made possible through a major state initiative to raise the quality of low-performing schools. In 2012, with the backing of new funding and authorities granted by the legislature, the Connecticut Department of Education created a network of "Alliance Districts," those that had been identified as the 30 lowest-performing in the state. The network set out a straightforward arrangement: Alliance Districts would receive additional state dollars for the public schools therein, under the condition that the district leadership developed clear reform plans and goals. As an Alliance District, Meriden Public Schools opted to leverage a portion of its three-year grant to direct more resources to John Barry in the form of financing a longer school day, and the district has been supportive throughout the process of whole-school redesign.

In order to take full advantage of the extra resources and to meet the accompanying accountability structure, Torres-Brown and her team spent the 2012–13 academic year developing (with support from NCTL) a comprehensive plan to integrate more time for core academics, targeted interventions for all students and enrichment activities.

From the start, the plan paid special attention to the school's younger students. Given her background as a first-grade teacher, Torres-Brown, perhaps unsurprisingly, saw potential in her K–2 classrooms to lead the way in the school's improvement efforts. Her decision to focus reform efforts on these grades first was based as much in psychology and culture as in educational priorities. For the

older students who were already used to the existing school schedule, the transition to more time and higher expectations would be challenging and could meet with resistance. For the younger students, however, the Barry school experience and the corresponding high expectations would essentially be all that they knew. As such, as the school has continued its improvement efforts, administrators and teachers have tended to judge their progress primarily by how younger students are responding. And what becomes evident in the classrooms of younger students is a pervasive belief among students and teachers alike that a high level of learning and achievement is well within reach.

In studying John Barry's work to expand and improve learning time for students in the early grades, a number of key success factors emerge, including: building a developmentally-appropriate school schedule; strengthening school culture, an effort articulated as "The Barry Way"; intensifying instructional support for kindergarteners; engaging students in tracking their progress; and integrating STEM across academic and enrichment activities.

Developmentally-appropriate school schedule

At John Barry, teachers have been thoughtful about developing an expanded day to support their youngest students and help them grow. The design is about not only the schedule itself, but also the structures associated with the ways in which schools are traditionally organized. Indeed, Barry educators are shifting typical primary grade education approaches to create a rigorous, Common Core-aligned educational experience. They focus on cultivating an engaging setting that meets their students where they are—most enter kindergarten behind key literacy benchmarks (e.g., letter recognition, letter sounds)—and then lifts them to greater proficiency.

In purely mechanical terms, the Barry schedule for younger students may not seem that unusual. Kindergarten features a 2.5-hour, uninterrupted English Language Arts (ELA) block, while students in first, second and third grades spend nearly as much time in ELA. These grades also have 60 minutes every day dedicated to math. More distinctive, perhaps, is what happens beyond these core academic classes; every student (in all grades) participates four times a week in a 45-minute small-group ELA or math intervention session with a certified teacher, and all students also have 70 to 90 minutes of daily enrichment activities, with an emphasis on integrating physical activity.

What really sets Barry Elementary apart, however, is the teachers' approach to learning. As kindergarten teacher Veronica Germe describes, "We need to redefine our concept of school. My students are learning, they're moving, they're playing. In a single day, a kindergartener rotates between literacy centers, meets with me in a small group, interacts with other teachers, participates in hands-on science activities, has movement breaks, and any number of other activities including arts & crafts, mindfulness and ST Math. They are not sitting on a carpet listening to a teacher all day."

As the schedule above details, Germe's classroom includes hands-on, small group and independent center-based opportunities to build literacy and math skills, in which students circulate throughout the room to these centers. In half of the centers, they work with an adult—either their teacher, or a support staff member who is in their classroom every day; in the other centers, they engage in independent or small-group

Typical Kindergarten Schedule

7:50 am	Morning Work & Breakfast
8:15 am	Read-Aloud and Mini-Lesson
8:40 am	Literacy Centers
9:40 am	Read-Aloud
9:50 am	Interventions
10:15 am	Snacks
10:30 am	Specials (art, music, PE)
11:15 am	Imagine Learning
11:45 am	Recess and Lunch
12:15 pm	Math Mini-Lesson and Centers
2:15 pm	Enrichment Activity (STEM, art, etc.)
3:00 pm	Snack
3:15 pm	Independent Reading
3:50 pm	Dismissal

practice. The day also includes whole-group learning opportunities via mini-lessons and read-alouds. Importantly, students have two sessions every day for physical activity, arts, science and other enriching activities, in addition to recess. Barry educators often describe this schedule as "full"; every day, students are interacting with a set of experienced, trained adults, engaging in a diverse set of academic and enrichment activities, and learning a broad range of skills.

Positive culture of achievement

John Barry Elementary has undergone tremendous change in the last three years in the form of new leadership, an expanded school day, and new partner organizations providing in-house enrichment to students. Partly as a result of these major transitions, attention paid to establishing and upholding common norms and expectations of behavior initially waned and, in turn, the degree of inappropriate behavior reached unhealthy levels. Between September 2013 and December 2014, the school issued 22 suspensions and reported a total of 1,375 referrals to the main office for behavior issues. Moreover, for a long time, the school's status as a low-performing school detrimentally shaped the beliefs of faculty, students and families that Barry students could not really be expected to do much more than get by in school, and that their education should be adequate, but not excellent.

In the winter of 2014, Principal Torres-Brown and her team recognized the need and opportunity to hit the "reset button" on their school's culture. They immediately put in place a new system of rewards and consequences in order to convey to students and teachers alike that, from hereon in, demonstrating only the utmost respect for one another would be acceptable. They coined the term "The Barry Way," a school mission that communicates that Barry students have the right and responsibility to excel in all areas of school life. The theory of action behind the culture shift is simple: in fostering a belief in all students' ability to learn and in their right to be treated fairly and equally, students will develop a sense of pride and belief in themselves, their peers and the entire John Barry community. In turn, this pride should translate to hard work and, ultimately, gains in learning and achievement.

The team at John Barry decided to tackle their school culture head-on, setting up systems to build a common set of beliefs among all students and faculty. They also focused on aligning their systems, structures and policies to strengthen their human capital, operations and strategic planning efforts. The leadership team, led by Torres-Brown and her Assistant Principal, Dan Crispino, paid special attention to how to fit the expectations to young students. They understood that their Positive Behavioral Intervention and Supports (PBIS) system needed to be simple in order to resonate with their youngest learners. Indeed, as Torres-Brown anticipated would be the case with younger students' ready adaptability to higher expectations, the K–2 teachers are leading "The Barry Way," described by the school as follows:

> "The Barry Way" teaches the attitudes and skills for a lifetime of sustainable change and success. The Barry Way is committed to designing, implementing and monitoring the best practices of PBIS so that all of the needs of our students are acknowledged, and met, so that they feel a sense of purpose and self-worth.

Differentiated instructional support for kindergarteners

In Connecticut, the cut-off date for kindergarten enrollment is December 31st and, as such, many students enter kindergarten at four years old. Indeed, some kindergarten classes span ages four to six. Multi-aged classrooms, especially when developmental stages shift so dramatically at younger ages, necessarily require differentiation in order to adequately meet all students' needs. Such differentiation cannot be managed lightly and takes a tremendous amount of planning.

"We need to redefine our concept of school. My students are learning, they're moving, they're playing. They are not sitting on a carpet listening to a teacher all day."

Consider the teaching of writing, for example. In Ms. Germe's class, the most advanced students are already writing paragraphs and need practice using full sentences and adding details. Meanwhile, other students are still practicing spacing words correctly. The goals for these students ultimately need to be the same, but their paths to this end differ considerably. Germe's method for steering all students toward the same objective is by using a single writing rubric for all students, which covers the basics, is incorporated into students' writing paper, and has pictures and examples to meet students at varying reading levels.* But, to differentiate instruction, Ms. Germe also has created customized writing rubrics to support the work of small groups. The group working on adding details and writing full sentences, for instance, will use a customized rubric that addresses those areas.

The different groups are supported by full-time paraprofessionals in every classroom, (the cost of which is drawn from Alliance District funding). The paraprofessionals hired to support kindergarten at Barry already had relationships with the faculty and were familiar with the school culture, as they first served as enrichment teachers at the school. This instructional support is key to supporting student growth; with the extra instructors in the room, differentiation is made much more concrete, especially as students get to work closely with a teacher at two of the four centers they circulate through during math and literacy blocks.

* In kindergarten, the whole-class rubric includes the following criteria: I can begin my sentence with an uppercase letter; I can put finger spaces between words; I can punctuate each sentence; My sentence makes sense; My handwriting is neat; I can add picture details.

Concrete ways to engage students in tracking their progress

At John Barry, all stakeholders—faculty, administrators and students alike—use data to drive improvement. Teachers use data to track to what degree their collaboration teams achieve their shared goals. They also set math and reading goals for their students every six weeks—goals shift based on students' progress—and use various sources of data to verify student learning. Meanwhile, administrators track school-wide achievement data as well as behavior-oriented data, setting concrete goals of decreasing office referrals and suspensions and increasing attendance rates.

Perhaps most impressive, students set their own learning goals and track them on a regular basis. The tracking is visible throughout the school; students, parents and teachers see child-friendly data displays throughout the K–2 classrooms and halls. In one kindergarten classroom, a teacher has posted targets for the number of sight words

Connecting Science, Literacy, and the Joy of Learning

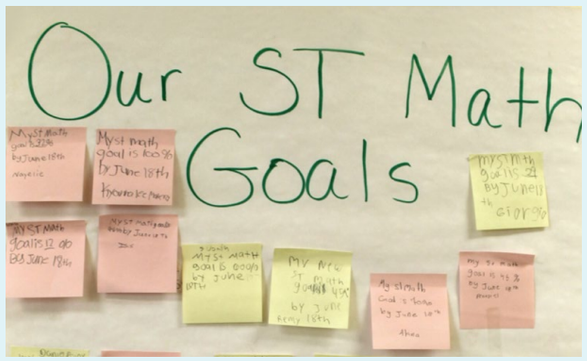
After lunch, Ms. Summa's second graders gather on the carpet for read-aloud. The students pass a small paper cup from one to the next, peering in to see a single sunflower seed. Ms. Summa asks the students to explain why seeds might be important, integrating vocabulary words from the story they are about to read—and science vocabulary from the afternoon's upcoming enrichment activity. She asks students to explain their answers, citing evidence to support their claims. The students talk about how roots sprout from seeds, and how teeth have roots too. One student shares that the trees in her grandmother's yard are blooming and didn't have leaves all winter long. Ms. Summa supplies a new vocabulary word: "Trees without leaves are barren," she says.

Ms. Summa then introduces the day's reading lesson, framing the discussion with a set of questions: What is the problem? What does the character do about the problem? What does the character learn? What does the author want us to learn? After thinking through what they can learn from the book's cover and practicing more vocabulary words along the way—emperor, exile, plucked, to name a few—they begin the read aloud.

A couple hours later, these second graders see that seeds are the common thread today. Ms. Summa, whose content expertise is in science, rotates among the second grade classrooms to lead science enrichment activities. Today, she is with her own students. At one table, students observe the similarities and differences between pumpkin seeds and strawberry seeds, and they consider how each fruit grows. At another table, they carefully take seeds out of their packets, pick up magnifying glasses and record their observations.

her students should know each month, along with the list of words students are expected to know by the end of September, October, etc. Every student is aware of his or her own personal list; their motivation to learn is thus spurred by recognizing the gap between their current knowledge and their goal. As students trace their words in a small sandbox and use Play-Doh to build their words, they proudly talk of their progress. "I am done with the May list!" one kindergartener shares enthusiastically. "I need that first grade list."

In another classroom, each student places Post-it notes with his or her name next to the writing goals s/he is working towards; after achieving a goal, the student moves the Post-it to another goal. Goals include "use finger spaces," "write sounds," "use word wall," "tell more," and "make the words easy to read." Outside another room, a teacher has decorated a bulletin board with a "Sight Word Raceway." Flags along the racetrack feature sight words, and students have drawn themselves as owls moving along the track. Students move their own owls along to the next flag each time they have learned that new word. Another bulletin board



sports hot-air balloons representing students' rising reading accuracy.

Integration and alignment of STEM across academic and enrichment activities

Additional time means that elementary school teachers do not have to choose between science and reading, and they do not have to sacrifice academic enrichment activities in order to make room for the arts. At John Barry, not only are teachers integrating science and enrichment into the school day, but they are making particularly powerful connections between reading lessons and science enrichment activities. That is, on top of their core science coursework (about two hours per week), all students participate in STEM enrichments. Each semester, the primary grades have a session once per week (for 90 minutes) that is led either by a Barry teacher or an instructor from Barry's community partner, the YMCA. The hands-on curriculum is aligned to grade-level science standards and includes engineering/design and environmental ecology.

Second-grade teacher Kelli Summa is one of the chief architects of the curriculum. She is particularly proud of a unit she calls the "Construction Zone," in which students design, plan and build shelters using a range of materials. Projects include using toothpicks and mini-marshmallows to form a giraffe, and building boats of aluminum foil that can float up to 100 pennies. Students tackle a new design challenge each week for seven weeks. Project roles are assigned: students are engineers and contractors. Engineers communicate about their design and contractors learn how to understand and execute on the design drawings. Every student has multiple opportunities to play both of these roles. Every week, students draw upon the analytical skills they apply in math and literacy classes (e.g., citing evidence to support arguments). (See box, page 10, for an additional lesson and its alignment to core instruction.)

* * *

John Barry's journey from a perennially struggling school to one with a growing record of success in moving students to proficiency is promising. Not only have educators begun to put sound educational practices in place, but the focus on instilling good habits of learning in younger students suggests that growth will accelerate as these students move into the older grades, where standardized assessments become the primary measure of school effectiveness. Already, formative assessments of younger students show significant growth.

Perhaps even more impressive is how the

educators at Barry have designed a learning environment that is authentic and rich. Standardized tests will likely show growth, not because teachers are "teaching to the test," but because students are consistently building skills and knowledge. This notable success, even in the early stages of transformation, is why the Connecticut Association of Schools chose to recognize Barry Elementary's progress in 2013, naming Torres-Brown the state's Outstanding First-Year Elementary School Principal.

Keys to Success: K–2 at John Barry Elementary School

1. Developmentally appropriate schedule
2. Positive culture of achievement
3. Intensified, differentiated instructional support for kindergarteners
4. Students engaged in tracking their progress
5. STEM aligned and integrated across academic and enrichment activities

Profile Two

Centennial Elementary School, Denver, Colorado

Grades: PK–5

Enrollment: 500

Low-income population: 70%

Daily schedule: 8:00–3:50

Three years ago, Centennial Elementary school was among the lowest-performing elementary schools in the district. Not only were test scores low, morale was, as well. The school was then designated for turnaround by Denver Public Schools and a new principal was appointed. When Laura Munro arrived, she worked quickly to reset how the school educated students and, importantly, to redefine its expectations for teachers. One of the most significant changes was to form a relationship with EL Education (formerly known as Expeditionary Learning), which promotes hands-on learning and offers a curriculum that engages students in multi-disciplinary projects. In alignment with the EL Education model, Centennial administration and staff became focused on incorporating units and lessons with experiential, exploratory activities. The EL model also emphasizes teamwork and a culture focused on supporting one another. At Centennial, classrooms are known as "crews," and each one establishes a set of rules and norms designed to foster positive, joyous learning opportunities.

A second key innovation, which began in the 2014–15 school year, was the school's conversion to a daily schedule of nearly eight hours. The additional time facilitates the integration of EL curricular units, as well as a designated period for academic support for all students. For the younger students in the school, teachers and administrators have been deliberate in combining the dynamic lessons that characterize the EL model with the awareness of their needs as learners within the context of a longer school day.

The early success of Centennial's conversion to a place of excellent education, especially for younger grades, is the result of several key factors including: scheduling aligned to student needs, systems to encourage positive behavior, a methodical approach to meeting students' individual learning needs, academic rigor, and a strong ethic of teacher collaboration that helps to pull all these elements together.

Scheduling strategies to support young children

At Centennial, high expectations permeate the building; walking through the classrooms at Centennial Elementary, daily schedules and even lesson structures are remarkably consistent across grades.

Regardless of the age of the students, all teachers regularly use the workshop model of a group lesson, followed by small group and independent work, and a whole-class check-in at the conclusion of a subject. As an EL Education school, all teachers emphasize interdisciplinary learning, especially during a designated period when teachers implement EL's curricular units called "Expeditions." Still, within this uniformity of practice, teachers of younger grades have subtly adapted the EL model to best meet the needs of younger students.

One of the key adaptations incorporated into the school day for early grades, for example, is frequent movement throughout the course of the day. While older students might be expected to sit for 45 to 60 minutes at a time, teachers in kindergarten and Grade 1 (and even, to some extent, Grade 2) build in "brain breaks" every 20 to 25 minutes. Students move to another section of their classroom, for instance, stand up and sing a song, or do stretches. Incorporating these breaks, teachers tend to be transparent with students about their need to "get up and move around." Some teachers assign specific students to choose the song or exercise. Other times, movement is integrated more subtly, as students use gestures like pointing to their heads when they have an idea or snapping their fingers when they agree with the comment of a fellow student.

Another key aspect of the longer day for young children is dedicated time for students to rest. This rest period is not intended for sleep *per se*, but rather for students to relax their minds and bodies so that they are ready for the latter half of the day. At Centennial, this rest period takes place after recess and lunch and typically takes the form of a "read aloud." That is, the down-time still involves learning, but teachers generally do not expect the same levels of participation or concentration as they might during other periods of the day.

Managing behavior by emphasizing the positive

Centennial uses the term "Crew" to, as stated on its website, "instill a sense of responsibility, participation, and cooperation among individuals, the student body, the school community, and the greater community." In practice, Crew means holding morning meetings during which students and teachers engage in honest conversations about any anxieties or tensions among students, in order to build teamwork and social bonds. Issues might involve teasing or lack of sharing and the like. At these meetings, too, students and teachers regularly assess the health and productivity of their Crew.

The Crew structure is the foundation upon which Centennial builds school-wide and classroom expectations. Crew's emphases on building community and on developing positive relationships between students are integral to the school's asset-based approach. The intention is for teachers to focus on what students are doing right. The most concrete representation of this approach, especially in the younger grades, is the marble jar. Each positive act or series

Typical Grade 1 Schedule

8:00 am	Books & Breakfast	*Families are invited into the classroom to read with their children; food available*
8:30 am	Morning Meeting	*Lays out the learning agenda for the day*
8:45 am	Crew	*Social-emotional/team-building structure implemented across the school*
9:00 am	Expedition Block	*Implementing an interdisciplinary lesson from the EL curriculum*
10:00 am	Reading Block	*Vocabulary, comprehension, grammar, etc.; struggling students pulled for intervention*
11:00 am	Recess/Lunch	*Switched order—initially lunch first—to promote better eating*
12:00 pm	"Peace & Calming"	*Small-group conversation or read-alouds*
12:15 pm	Writer's Workshop	*Individual work time; "sharing out" circle to practice constructive criticism*
1:15 pm	Specials	*Gym, Art, Science; classroom teachers meet in Professional Learning Communities (PLCs)*
2:15 pm	Snack	
2:30 pm	Math	*Whole-group lesson; individual work time; small group support*
3:15 pm	"Open Explore"	*Students complete unfinished work from day*
3:35 pm	Closing circle	*Review learning from day; work out any unresolved social conflicts*
3:45 pm	Dismissal	

Crew emphasizes the asset-based model of behavior management by having teachers focus on what students are doing right.

of positive acts—such as paying attention, being kind to one another, etc.—is recorded by dropping a marble in a jar. When the jar is filled, the whole class earns a prize, like an ice cream party or extra time at recess. The school also combines the small marble jars from each classroom into a much larger school jar; once it is filled, all Centennial students win an award. (Coming to school in pajamas is always a favorite).

When interpersonal conflicts arise, teachers work with students to resolve them in proactive, constructive ways. First-grade teacher Susan Calkin, for example, has built in 15 minutes after lunch to facilitate student conversations—as needed—to resolve conflicts and to solve problems together. "If I spend this time discussing with students how they can work out their disagreements, it ends up saving time. I don't have to discipline them during learning circle. As the year has gone on, students are getting better and better about solving these problems on their own. They've found their own voices, and have discovered ways of talking through their frustrations not only in social contexts, but in learning ones, as well."

Making interventions effective

Centennial is committed to using data to determine which students need additional support, and then applying the necessary resources to help these students to overcome their particular roadblocks to success. In the early grades, those resources consist mainly of pull-out sessions with a learning specialist assigned to kindergarten and Grade 1. (Another specialist works with Grades 2 and 3.)

The specialist pulls out a small group of students from their main classroom every day for 30 minutes to work on strengthening specific literacy skills (e.g., reading fluency, phonemic awareness, etc.). Most students meet with the specialist at least three times per week. Students meet with the specialist when their peers are engaged in independent work. Specialists also pull out students to support math learning at another period during the day (also during peers' independent work time). Students

Problem Solving in First-Grade Math

The 25 or so students are seated quietly in a circle on the classroom mat as their teacher, Susan Calkin, writes a word problem on the blackboard. "If Jose has 8 donuts and gives 3 to Julia and another 2 to Jamie, how many will he have left?" Rather than asking for a show of hands for the answer, the teacher takes a different approach. "Who can tell me what kind of problem this is?" she asks. Many hands shoot up. "Subtraction," responds the student called upon. "Great. Now what does 'subtraction' mean?" she asks, and calls on another student. After the girl articulates her understanding of subtraction, Calkin says, "Thumbs up if you agree, thumbs down if you disagree." To a student with a thumb down, the teacher pushes "Why don't you agree? How would you explain subtraction?" And she repeats this cycle of soliciting instant student feedback at each step.

This deliberate, meticulous unpacking of this simple word problem to uncover the mathematical concepts that lie behind the method of solving it is, Calkin explains, known as "metacognition," or the process of reflecting on how one thinks. "Common Core insists that students not just solve problems in math, but also explain how they solve them. So it's critical from a very young age to instill in students the habit of thinking through why they are taking certain steps. It takes a lot of time to walk through a problem like that, but developing deep comprehension cannot be done quickly." Even as the impulse may be to rush through to the answer, Calkin demonstrates the real value in letting students deeply grasp the thought process.

Throughout the discussion, the students sit attentively, respecting their peers' responses and even encouraging each other to contribute. At one moment, an eager child interrupts another, and Calkin gently reminds him, "James, remember what we talked about in Crew this morning. We all must take turns. If you have an idea to share, you can point to your head, so we all know you're thinking."

Twenty minutes after the students first saw the word problem on the board, they jubilantly solve it together, explaining in unison the steps their teacher should take. Jose's three remaining donuts were sweet, indeed.

are identified for the specialized support by virtue of their formative test scores (e.g., reading levels), as well as through teacher assessment of their in-class work. Every six weeks, the teacher and support specialist review the roster of students identified for pull-out sessions to see if they continue to need them or not.

The effect of these small-group intervention sessions is evident to Hannah Stevenson, the specialist for kindergarten/Grade 1. "After a year of having this intervention system in place, I have only a couple of first graders who are still learning at the kindergarten level, a much smaller proportion than I had last year."

Another support comes in the form of the Reading Partners, a group of retirees who come into Centennial two times per week to practice reading with students, one-on-one, for about 45 minutes. This individualized attention from trained volunteers adds another layer of support (and mentorship) in Centennial's efforts to boost literacy skills. According to teachers, this program is having a noticeable effect on student reading fluency.

Embracing academic rigor

Centennial's adoption of the EL Education model has not only introduced a multidisciplinary approach to learning, layered with a focus on social-emotional classroom dynamics; the curriculum is also quite rigorous. It deliberately adheres to Common Core standards to which Colorado has incorporated into their state's academic standards.

An underlying theme of Common Core is developing classroom instruction that pushes students to think and analyze, not just to regurgitate information, a focus evident even in early grades.

An underlying theme of Common Core is the developing of classroom instruction that pushes students to think and analyze, not just to regurgitate information. Such a focus is evident even in early grades. In Susan Calkin's first grade class, for example, students will almost daily work through math problems together, discussing how they came up with certain techniques to solve them. Calkin will often throw out questions like "How did you know that you needed to subtract one number from another?" or "Can someone give me another way we might solve this problem?" Math facts are embedded into the curriculum, for sure, but they are not the focus; developing mathematical thinking is. (See box, page 14.) Likewise in literacy, students are continuously required to explain what it is they are reading. Comprehension is the key; the techniques of reading and writing (like phonemic awareness and spelling) serve that end.

Calkin explains how the expanded school schedule has complemented the adoption of the EL model and Common Core standards. "I intend for [my students] to identify how they relate to content and to communicate what particular skill can be used to solve a problem. This process of learning is difficult and it takes time. As such, kids can get frustrated. You can lose them if they hit these roadblocks, so they need lots of opportunities to succeed to offset those challenges. Within the longer day, I'm able to build in experiences in which they can find the kind of success that transfers. I can ask them to name another experience in which they did succeed, even if it took a while. I want them to say, 'OK, I've been here before and I know I can do it.'"

Interestingly, as of Spring 2015, EL Education offered a curriculum for only Grades 3–8, which meant that teachers in the primary grades had to adapt EL lessons for their classrooms. These lessons may include more age-appropriate activities,

but they still draw from the content of EL curricula. The result is that the lessons themselves can seem above grade level, both in concept and vocabulary. A first-grade class, for example, learned about the defense mechanisms of worms, including using terms like "predator," "threaten" and even "coelomic fluid," while they were learning about the life cycle of simple animals.

Principal Munro is unapologetic about raising the bar for her youngest students. "If they struggle a bit with comprehension or with certain concepts now as they learn, they will only be better students as they grow older."

Teacher collaboration to support instruction and teamwork

Underneath Centennial's classroom practices and curricula is the faculty's commitment to collaborative planning, both horizontally and vertically (i.e., with fellow grade-level teachers and with teachers of other grades, respectively). Together, teachers seek to increase rigor and better serve student needs. The multiple opportunities per week for teachers to collaborate are vital, particularly since many have been at the school for two years or fewer. To make sure that students are held to consistently high expectations across classrooms and grades, teachers check in frequently with one another. Teachers of early grades find such planning particularly useful as they seek to adapt the EL curriculum to their own classrooms.

Grade level teachers meet at least two times per week while their students are participating in specials (e.g., physical education, art, etc.). During these sessions, grade-level teachers will discuss the learning goals for the week, how these goals fit into the larger learning units, and how individual lessons can support these goals. They also discuss individual students to be sure that they are receiving the additional support that they need. For teachers in primary grades, where assessments tend to be created by teachers (rather than standardized), these discussions are crucial. That is, for teachers to be certain that their own students are achieving at appropriate levels, each teacher needs to be aligned to what expectations are and should be. The classroom teachers will also check in frequently with the specialist teachers on individual students, typically through e-mail or "on the fly" conversations, but occasionally in more formal meetings, if the challenges are particularly significant.

Centennial also holds a weekly whole-faculty professional development session for two-and-a-half hours, while the students are involved in enrichment activities run by external partner organizations. These sessions are organized by the administration; in addition to providing leadership around curricula and managing logistics, teachers engage in vertical planning.

* * *

Principal Munro admits that there is much improvement still to be made at Centennial. Scores are still relatively low, and, despite the positive reinforcement of Crew practices, behavior issues still arise with some frequency. And, yet, the academic and social progress that most students have made, especially students in the lower grades, fills the principal with a good deal of hope about the longer-term trajectory of her school. As teachers become more familiar with the EL Education model and tailor their instruction to promoting deep thinking—even at younger ages—the achievement record and spirit of learning that has emerged strongly already will continue to blossom.

Keys to Success: K–2 at Centennial Elementary School

1. Scheduling strategies to support young children
2. Managing behavior by emphasizing the positive
3. Making interventions effective
4. Embracing academic rigor
5. Teacher collaboration to support instruction and teamwork

Profile Three

Hill Elementary School, Revere, Massachusetts

Grades: K–5

Enrollment: 665

Low-income population: 41%

Free/reduced lunch rate: 84%

Daily schedule:

Kindergarten: 8:00–3:10
Grades 1-5: 8:00–3:40

On a day in spring of 2015 at Hill Elementary School—which was then known as McKinley Elementary—the 110-year old building is buzzing with learning.* Despite the fact that the school (then) lacked a gym, cafeteria or even a playground, students and teachers alike find the school to be overwhelmingly conducive to a positive educational experience precisely because the focus is not on the space in which the learning takes place, but the relationships that make learning happen.

Key to the Hill's model has been the additional 300 annual hours added to the schedule in 2012, an annual hour increase that translates to about 90 minutes more per day of learning. For grades K–2, the additional time means five-year-olds receive supplementary instructional support from retired community members who volunteer in their classroom every day; first and second graders participate in weekly, small-group math and ELA interventions (called AIMs, an acronym for Achieving Instructional Mastery); all students have two specials and one enrichment activity every day; and teachers meet daily as grade-level teams to plan lessons, analyze student data, and conduct parent outreach—without compromising their daily individual preparation block.

The whole-school redesign, led by Principal Ed Moccia and a strong team of faculty, has been fully supported by the district administration of Revere, which highly values the capacity of expanded schedules to strengthen educational impact, especially as the schools undertake to adapt instruction to the Common Core State Standards. Hill Elementary has taken this adaptation very seriously, including figuring how to infuse new curricula throughout the primary grades. Furthermore, a culture of feedback permeates the building: administrators, teachers and students are all responsible for giving one another authentic, productive feedback in order to facilitate continuous learning and improvement. In addition to this feedback, Hill's success in expanding and improving learning time for students in the early grades grows from a few other success factors, including: daily common planning time for all teachers; aligning with Common Core standards; the inclusion of a corps of volunteers in the academic life of the school; and daily enrichment. Most important, perhaps, even as Hill teachers and students are doing great work, they are committed to always improving upon their accomplishments.

* Research for this report was conducted in Spring 2015. In September 2015, McKinley Elementary was renamed Staff Sargent James J. Hill Elementary School and moved into a newly constructed, fully-equipped building one block away.

Daily Common Planning Time for all teachers

In addition to a daily preparation period, all Hill teachers also have a daily Common Planning Time block. They meet every day for 40 minutes while their students are in specials (e.g., art, music, library, PE, and technology) and enrichments. This feature of the teachers' schedule is consistent across grade levels, and has tremendous influence, for it promotes alignment of curriculum and expectations across classrooms and grades. In the early grades, teacher teams spend Mondays discussing parent concerns, scheduling parent meetings and making parent calls as needed. Tuesdays are dedicated to curriculum and data analysis and Wednesday's agendas cover math planning. Teams use Thursdays to focus on ELA plans, while Fridays are used to partner with staff responsible for non-instructional supports (i.e., the nurse and the adjustment counselor, who teaches students problem-solving skills, conflict resolution and coping strategies, etc.).

The dedicated time for teacher collaboration is thoughtfully planned so that it supports teachers' work in the classroom. "We have an agenda for every meeting and that focuses our discussions; it really prevents us from wasting time," says K–2 ELL Specialist Valerie Paez. "I see the effect in our classrooms. The planning we do together ultimately helps our students to be prepared."

Each meeting is led by a facilitator, (either a teacher or an instructional coach), who is responsible for building the agendas. The ELL and Special Education teachers join each of the Common Planning Time meetings, which allows these specialists to engage in the planning discussions and modify lessons in concert with the classroom teachers.

School redesign aligned to support shift to Common Core

When Moccia and his team redesigned the Hill schedule, they did so knowing that the school—like all schools in Massachusetts—would need to undertake the challenging work of shifting instruction to meet the rigorous Common Core State Standards. They understood that they, should thus prioritize teacher learning time, as much as they did more learning opportunities for students. The shift may have been particularly challenging for teachers of younger grades because two central features of the new standards—more non-fiction texts in literacy, and explaining mathematical thinking in math—were almost completely untried in classrooms for younger students.

To facilitate the transition to Common Core, Hill's administration ensured that every teacher had dedicated time with their grade-level teams, and that those teams would each be supported by a math and ELA coach. Coaches help teams to align unit and lesson plans to Common Core, observe teachers and offer feedback, and help teachers to analyze formative data to tailor instruction.

Melody Holmes, a second grade teacher at Hill, shares that the combination of additional time and intensive coaching support has helped her to make the transition to the new standards. "Every Wednesday, our team meets with our math coach, and every Thursday we meet with our ELA coach. We spend a lot of time unpacking the standards with their support. They build the agendas for both of those meetings, every week." And she continues, "I feel more prepared, no doubt. And because we have more time during the school day, I don't have to sacrifice my individual prep period."

The faculty's focus on Common Core-aligned instruction is evident across classrooms. In Holmes's second-grade dual-language classroom, for example, Holmes and her co-teacher each lead centers during the literacy block. In particular they focus on re-telling a story in chronological order, an activity that directly addresses the Common Core standard of understanding craft and structure of a narrative account.*

Typical Grade 2 Schedule

8:25 am	Specials/Enrichment
9:05 am	Math
10:05 am	Literacy
12:05 pm	AIM Math
12:48 pm	Lunch
1:10 pm	Math
2:05 pm	Specials/Enrichment
3:00 pm	Social Studies
3:40 pm	Dismissal

* RL2.5 states that second graders should be able to "describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action."

Trained volunteers provide daily literacy support

To provide additional support to its youngest learners, Hill Elementary has forged a partnership with Experience Corps, an initiative of the AARP Foundation that trains older adults to tutor K–3 students in disadvantaged schools. At Hill and at two other schools in the district, Experience Corps volunteers spend two hours a day, five days a week, in K–3 classrooms. Each volunteer is assigned to one classroom for the entire academic year, and she or he often continues to serve in that room beyond the first year. Hill hosts 10 volunteers, each of whom leads small group activities during the school's two-hour literacy blocks.

What makes the volunteers particularly effective is the ways in which they are integrated into each classroom's culture. Indeed, there is an element of a familial relationship; the students have a warm rapport with the volunteers that appears akin to a grandparent-grandchild dynamic. During one small-group session, for instance, an older student from another classroom briefly interrupts an Experience Corps volunteer, Mrs. Rogers, so that she can give her a hug and tell her how things are going in second grade. Mrs. Rogers smiles proudly, even as she quickly insists that she needs to focus on helping the students at her table.

The Experience Corps tutors provide these young students with individualized attention and support their development of literacy skills. In one kindergarten class, for example, a volunteer works with three students in a literacy center to "fix the sentence," practicing capitalization and punctuation. The volunteer holds high expectations for students. When students complete the activity, they each receive a sticker. If a student is off-task, s/he does not earn this reward, no matter the degree of cajoling from the student. Volunteers, just like teachers, hold firm to high expectations.

Enrichment activities throughout the day

In addition to rigorous core academics—longer math and literacy blocks, weekly ELA and math interventions, writing three times a week and either social studies or science daily—the longer school day allows Hill students to participate in a wide variety of engaging enrichment activities. In fact, enrichment has been a cornerstone of Hill's plan since the school adopted an expanded schedule in 2012. "We intentionally built a non-traditional school day," Principal Moccia says. "Our students have lots of instructional time, and our teachers are helping them meet the standards. But we also create opportunities for students to use their energy and to try new things, to expand their horizons."

Every student in every grade—including

A Teacher Collaboration Meeting in Action

In early May, Hill's first-grade team gathers around a guided reading table in one teacher's classroom with a clear agenda: planning the math and ELA intervention blocks (AIMs) for the next cycle (which runs 4–6 weeks). They begin with ELA, where the objective is to build understanding of theme. The substance of the discussion revolves around the various resources—from video clips to PowerPoint presentations to in-class activities—teachers have brought with them to share, review and, ultimately, select for use during their intervention blocks. As part of the selection process, differentiation also holds a prominent place as teachers determine which resources would be best for which student groups. More advanced activities, for instance, are designated for the "blue" groups, which serve the highest-performing students.

With ELA resources selected, the teachers promptly turn their attention to math and how to structure the AIM sessions on the unit topic (money). Because teachers have already begun teaching about money during their daily math class, they focus initially on sharing common challenges and problem-solving strategies. Teachers ask their colleagues how they are ordering their instruction: "Do you think I should start mixing pennies and dimes," one teacher asks, "and then incorporate nickels?" Others agree this approach is proving most effective, acknowledging that students are more familiar with counting by ones and tens than by fives. Then, like with ELA, the team goes on to review resources, including a series of short videos with catchy tunes like "Penny, You're the One." In the course of their discussion, they make decisions about whether to draw upon the resources in the classroom, in interventions, or in both settings. In the end, the educators decides to use the proposed activities in both settings, with the understanding that increased familiarity will help to scaffold new learning on top of these base skills.

kindergarteners through second-graders—participates in two 40-minute enrichment blocks, Monday through Friday. These activities, which include karate, a boot camp, poetry, and the "Footsteps2Brilliance" literacy program, ensure that students have a well-rounded and developmentally appropriate experience. In the course of a single week, a first grader goes to music three times and art, technology and PE twice each; she also spends a period in the library once a week. The integration of diverse and often movement-based activities into the day is particularly important to meet the developmental needs of young children. A longer school day cannot simply mean more time to build cognitive skills; teachers need collectively to offer multiple opportunities to support children's social, emotional and physical development.

In order to bridge the divide that can emerge between classroom and enrichment teachers, enrichment teachers sit in on a Common Planning Time meeting for each grade-level team every week. This regular communication fast-tracks enrichment teachers' understanding of where students are in ELA and math, and gets the ideas flowing as to how an art class, or a technology session, can further support students' growth. At an ELA meeting, for example, kindergarten teachers at Hill discussed strategies to help students better understand rhyming; recognizing and producing rhyming words is an expectation embedded in the Common Core State Standards, and many students were struggling to master this skill. Because the school had aligned schedules to ensure that enrichment teachers could attend ELA and math planning meetings, Hill's music teacher, Mr. DiBenedetto, participated in the discussion—he listened, he asked probing questions, and then he proposed ways he could help. Shortly after that meeting, he incorporated rhyming exercises into music classes; this led to a series of fun, silly activities for students—and it helped improve their ability to rhyme.

"Our students have lots of instructional time, but we also create opportunities for students to use their energy and to try new things, to expand their horizons."

Culture of continuous improvement

"I've got no strings to hold me down, to make me fret, or make me frown. I had strings, but now I'm free. There are no strings on me!" a classroom full of 25 first graders sang gleefully. The students were standing up, in two large groups on opposite sides of the room. This was by design. After they finished singing, the music teacher paused to give

A thirst for data and a willingness to give and receive feedback permeates Hill's early grades.

students time to share constructive feedback.

"I want you to think about what you noticed about the group on the other side of the room," he said. "What one thing they could do better?" The students immediately jumped in: "Everyone is not singing," one student said. "Some students are doing their own dance moves," another shared (this was a problem, as the corresponding dance moves were choreographed). The teacher nodded his head after each response. "Mistakes are okay," he said. The dynamic in the room was clear: in this classroom—and, it turns out, in this school—students do not wait to get feedback from their teachers. They support each other, recognizing successes and identifying ways to get better.

A thirst for data and a willingness to give and receive feedback permeates Hill's early grades. In one kindergarten classroom, Ms. Ciano begins morning circle by recognizing the eight students who made progress on Lexia, an online reading skills development program, over the weekend. "We've got to continue to pass these levels," Ms. Ciano says, "so you're ready when you get to first grade." This focus on feedback and evidence manifests itself in ways big and small. After Ms. Ciano's class breaks into small groups, she leads a small group that is working on writing upper and lower case letters. A student carefully writes "Vv" on her personal whiteboard, and then shows it to Ms. Ciano, who briefly nods and then moves the group on to the next activity.

* * *

Principal Moccia and Assistant Principal Nancy Martel share that this culture of feedback—and more broadly, of continuous improvement—is something that they have worked hard to build throughout the school. "We want our students to try their best. They do not have to be perfect, but they do have to work hard every day to get better," Moccia says. "Our kids have a sense of pride in what they do. I think this is because they have input, they are helping each other—their voice is heard."

This approach has started to reap its own rewards. All Hill students, starting with those in the early grades, are gaining a clear understanding of what it means to succeed. And more than ever are meeting those success objectives.

Keys to Success: K–2 at Hill Elementary School

1. Daily Common Planning Time to address full range of instructional and student issues
2. School redesign aligned to support shift to Common Core
3. Trained volunteers provide daily support during literacy block
4. Enrichment activities throughout the day
5. Culture of feedback

Conclusion

There is little question that starting children off well in school is pivotal to their future success and, so, educators of early grades hold tremendous responsibility. Such a role is potentially that much more influential in connection with children from disadvantaged backgrounds where formal schooling may well represent the best opportunity for productive learning. Consider what teachers of early grades must do. In addition to teaching the children in their charge how to read, apply the rules of writing and grammar, and develop mathematical thinking, they must facilitate their students through several domains of development (physical, social-emotional, cognitive, etc.) to effectively build the foundation for learning and growth yet to come. Teachers in these early grades must function not simply as instructors, but as coaches, social workers, and role models. Moreover, because children are developing so rapidly and their learning curves so steep, each moment that educators spend trying to cultivate young minds is filled with the potential for meaningful impact that could last throughout their lives.

Of course, the expanded-time schools profiled in this report stand to generate a lasting effect to a greater degree than conventional schools not simply because they have quantitatively more moments in which to do so, but, more importantly, because they are able to leverage a longer day to foster a qualitatively superior educational experience. With a daily schedule that taps into children's fundamental needs for deep learning, for rich social interaction through play, for adequate rest of body and brain, and for physical movement, these schools have built an educational program that is well poised to foster healthy development. Further, by emphasizing interactions with multiple adults and by involving families in the classroom, not to mention their strategy of having students track their own progress, the educators appreciate how nurturing children must be a team effort. Finally, by embedding collaboration time within the school day, educators in these schools demonstrate both an acknowledgement that they must continually work together to improve upon what they have already done and the necessity of having a robust

structure in place through which to execute on this goal.

Though they are hardly alone in implementing effective education in the early grades, these schools have honed practices that can surely be adopted and adapted by other elementary schools in search of methods to enhance their approach to supporting younger students. What these schools also make crystal clear is the high value of an expanded schedule. Having more time in school makes the daunting undertaking of educating young elementary students, especially children from largely poor families, that much more achievable. In the end, these schools teach us that, as our nation pursues efforts to boost early grades education so as to improve the prospects of the next generation, providing teachers and students more time in school can be a key that unlocks future success.

Notes

1. See National Research Council and Institute of Medicine, Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education. Shonkoff J.P., Phillips D.A., eds. *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academies Press; 2000; and Hand, A.J., Nourot, P.M., *First class: A guide for early primary education* (Sacramento: California Department of Education, 1999). Also see Heckman, J. (2011). The economics of inequality: The value of early childhood education. *American Educator*, pp. 31–35.

2. The National Association for the Education of Young Children had originally issued a statement in 1986 and has periodically updated the position paper since.

3. National Association for the Education of Young Children. (2009). *Developmentally appropriate practice in early childhood programs serving children from birth through age 8*. Position Statement, p. 10.

4. As noted, there is no shortage of research to back up the notion that high-quality early education settings can have a marked impact on the lives of individual children in both the near and longer-term. The most famous study of the bunch, the High Scope Perry Preschool evaluation, examined a cohort of 112 individuals, about half of whom had been randomly assigned to attend a certified pre-school program and half of whom did not. Among other things, follow-up tracking of these individuals over several decades showed that program participants had dramatically higher graduation rates (especially among females), much lower incidence of criminal activity (especially among males), and much higher rates of employment and earnings. (Schweinhart, L.J. et al. (2005). *The High/Scope Perry preschool study through age 40 summary, conclusions, and frequently asked questions*. Ypsilanti, MI: High/Scope Press.)

5. Wasik, B.A., Mattera, S.K., Lloyd, C.M. & Boeller, K. (2013). *Intervention dosage in early childhood care and education: It's complicated* (OPRE Research Brief OPRE 2013-15). Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. See also R. Chetty, et al, "How does your kindergarten classroom affect your earnings? Evidence from Project Star," *Quarterly Journal of Economics* 2011, 126(4), 1593–1660.

6. Child Trends Data Bank, Indicators on Children and Youth, April 2013, downloaded at: http://www.childtrends.org/?indicators=early-childhood-program-enrollment

7. Hart, B. & Risley, T.R. (2003). The Early Catastrophe. *American Educator*, Spring 2003, pp. 4–9.

8. Lareau, A. (2003). *Unequal childhoods: Class, race, and family life*. Berkley, CA: University of California Press, esp. pp. 1 – 8.

9. NAEYC statement, p. 19.

The National Center on Time & Learning (NCTL) is dedicated to expanding learning time to improve student achievement and enable a well-rounded education. Through research, public policy, and technical assistance, NCTL supports national, state, and local initiatives that add significantly more school time to help children meet the demands of the 21st century and prepare for success in college and career.

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