# Teachers' Time: Collaborating for Learning, Teaching, and Leading 

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## SCOPRe <br> Opportunity Policy in Education

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## Part 1: Introduction

0ver the past decades, educational reformers have advocated for school-based accountability and the adoption and implementation of ambitious learning standards (see, for instance, Coburn, Hill, \& Spillane, 2016), high-stakes assessments (see, for instance, No Child Left Behind, 2002; U.S. Department of Education, 2009), portfolio districts (see, for instance, Hill, Campbell, \& Gross, 2012), and even school start times for middle and high school students, or reconfiguring elementary schools to K-8 schools (see, for instance, Jacob \& Rockoff, 2011). Yet research has rarely focused on how school place conditions influence teachers' use of time. At least in the United States, the use of teacher time in schools is an unexamined "regularity": rarely questioned or changed.

Compelling evidence shows that teachers are the most significant in-school factor affecting student learning (Kain, 1998; McCaffrey, Lockwood, Koretz, \& Hamilton, 2003; Rivkin, Hanushek, \& Kain, 2000; Rowan, Correnti, \& Miller, 2002; Wright, Horn, \& Sanders, 1997) and the effects they have on student learning are cumulative and long lasting (McCaffrey et al., 2003; Sanders \& Rivers, 1996). If, indeed, teachers are what matter most (Darling-Hammond, 1996), then how their time is organized within the school day should offer considerable potential to improve the quality of instruction and realize positive benefits for students.

This monograph examines four U.S. schools that organize teacher time to encourage educator collaboration to promote high-quality teaching and learning. The study is designed to help both practitioners and policymakers understand how using teachers' time differently in schools influences teaching and learning. The study examines:

- the schools' reorganization of teacher and student time within the school day;
- teacher and student activities within the reorganized time;
- the interaction between reorganized teacher and student time; and
- the enabling conditions for using the reorganized time well.


## Why the Use of Teacher Time Matters

While limited research exists on schools that have reorganized time (see Benner \& Partelow, 2017, for recent exception), a growing body of evidence offers lessons for ways to use time to support student and teacher learning-providing both a rationale for reorganizing teacher time as well as implications for the fertile use of teacher time.

For instance, the Teaching and Learning International Survey (TALIS) 2013 (Organisation for Economic Co-operation and Development [OECD], 2014) documented that the teaching occupation is structured and supported differently in various international jurisdictions, and the outcomes for teachers-what they know, what they do, and how teaching knowledge evolves-varies depending on those structures and supports. TALIS 2013 offered lessons on how the conditions under which teachers teach, such as time to plan curriculum and share expertise with other teachers, affects the quality of teaching. In addition, TALIS 2013 showed that teacher self-efficacy and job satisfaction are correlated with the frequency of teacher collaboration, including joint teaching, observing other teachers' classes and providing feedback, engaging in joint activities across classes, and taking part in collaborative professional learning.

Another line of research revolves around the construct of collective responsibility. Lee and Smith (1996) found that teacher collective responsibility, defined as teachers taking responsibility for all students' success rather than placing the burden of success solely on students, was associated with improved student achievement. Increased collective responsibility was also associated with decreased achievement gaps between students of differing socioeconomic status. Related research has demonstrated that collective responsibility is positively associated with teacher behaviors and attitudes that improve student outcomes. For instance, Whalan (2012) found that collective responsibility was positively associated with program coherence, teacher buy-in to shared goals, and relational trust-characteristics that improve student outcomes. Qian, Youngs, and Frank (2013) found that collective responsibility for student learning increased the frequency of interactions between senior and novice teachers in 11 schools in the Midwest. Similarly, new teachers in an "integrated professional culture," characterized by collective responsibility for student success, experienced strong support from leadership and professional collaboration, both tied to increased student success (Kardos \& Johnson, 2007).

A third line of research revolves around the construct of professional learning. For instance, strong teacher learning communities appear to positively impact student achievement and success by improving teacher instructional practices and student experiences (e.g., McLaughlin \& Talbert, 2001) Researchers report evidence that professional learning communities influence teaching practice by increasing studentcentered teaching, teacher collaboration, and continuing education. This improved teaching practice, they argue, increases student achievement as measured by proficiency on standardized tests (for a review of this research, see Vescio, Ross, \& Adams, 2008).

Critical to the development of strong professional communities and the resulting continuous improvement in schools is relational trust. This trust is developed when social interactions in schools are based on a common understanding of role relationships between different stakeholders (e.g., teacher-teacher or teacher-leader)
and consistent enactment of expected roles (Bryk \& Schneider, 2002; Bryk, Sebring, Allensworth, Luppescu, \& Easton, 2010).

In fact, research on teacher learning communities provides evidence that schools with "strong" professional communities-characterized by shared norms and values, a focus on student learning, social trust, deprivatization of practice, collective responsibility, and collaboration-show a range of valued outcomes from teacher learning (Grossman, Wineburg, \& Woolworth, 2001; Little, 2003; McLaughlin \& Talbert, 2001; Rosenholtz, 1989) to changes in classroom practice (Elmore, Peterson, \& McCarthey, 1996) and implementation of reform (Louis, Marks \& Kruse, 1996; Louis \& Marks, 1998; Newmann and associates, 1996; Newmann, King, \& Youngs, 2000). Furthermore, research on teacher collaboration demonstrates that students also benefit from opportunities that allow teachers time to work and learn together (Kraft \& Papay, 2014; Louis, Kruse, \& Marks, 1996; Rosenholtz, 1989). For example, Goddard, Goddard, and Tschannen-Moran (2007) found that, after controlling for student characteristics (e.g., race, gender, socioeconomic status, and prior achievement) and school context, schools with greater levels of teacher collaboration had higher test scores in 4th-grade reading and math. Moreover, other research shows the value of teacher collaboration for educators themselves. K-12 teachers cite feelings of isolation as a top reason for leaving the profession (Hirsch, Freitas, Church, \& Villar, 2008) and lack of collaboration time with colleagues as a reason for feeling less satisfied with their job (MetLife, 2012).

In short, when teachers are provided the time to learn with and from each other, they

- increase their own teaching capacity;
- increase the teaching capacity of their colleagues;
- improve the learning culture of the school;
- improve teacher retention;
- increase the growth of exemplary practices; and
- increase the capacity of the system to sustain improvement and continuously renew.

Additionally, in both international and U.S. studies, research correlates teachers learning with and from each other with improving outcomes for children.

Despite this evidentiary base, teachers in the United States have little time, especially when compared with high-achieving international jurisdictions, within the school
day to experience the types of learning opportunities associated with improved benefits for their own, and more importantly, their students', growth and development. According to Benner and Partelow (2017),
teachers in the United States spend far more time engaged in active instruction than teachers in other high-performing countries. Based on self-reported data, teachers in the United States spend 27 hours teaching out of 45 hours of work per week. Compare this with teachers in Singapore, who teach for only 17 hours per week, or teachers in Finland, who teach for a total of 21 hours per week. Schools in these countries prioritize time for planning and collaboration, recognizing that developing and executing lessons take time and preparation. According to a recent analysis of more than 140 school districts, the average length of a U.S. teacher's workday is 7.5 hours. In another analysis of more than 120 school districts, the most common length of time allotted for planning was 45 minutes per day. In this short time, teachers must grade student work, plan for future lessons, engage with families, and complete necessary paperwork. As a result, teachers have little time to plan or collaborate with peers.

The squeeze for time to plan lessons and complete other administrative tasks shapes a school's professional environment and, ultimately, affects the quality of instruction. In a recent survey from the American Federation of Teachers, one of teachers' two most cited "everyday stressors" was time pressure. As teachers are largely separate from other educators during instruction, lack of time for collaboration can be very isolating. More than half of lower secondary school teachers in the United States report that they do not teach jointly or observe other teachers. (p. 1)

Although ongoing professional learning for teachers has been shown to be critical for improving teaching and learning, few schools structure teacher time and work in ways that create opportunities for teachers to learn with and from each other during the school day. Often, professional learning happens outside of teacher contract hours or during the summer, divorced from the classroom and the problems of practice with which teachers struggle. The four schools in this study exemplify how schools have organized teacher time and work, breaking with the unexamined regularities of schooling to provide teachers the time to learn with and from each other in service of enriched opportunities for student learning.

## Part 2: Methodology

The data for this study were gathered from four public schools across the United States that paid attention to, were intentional about, time -- especially within the school day for teachers to learn with and from each other. We used purposive sampling to identify and select the case study sites (Yin, 2003) because the primary goal of the study was to examine how schools implemented nontraditional schedules that promoted deeper learning practices for both teachers and students. We asked five prominent education leaders and education policy researchers to recommend schools that they knew were organized to allow for teacher learning and collaboration throughout the school day or week. We examined the publicly available student demographic and school information of 11 schools to understand the student population served. As criteria to inform the selection of schools, we used the percentage of students of color served, diversity of socioeconomic backgrounds, location, and/ or the presence of a unique philosophy to student learning. With these criteria, the list of schools was narrowed to five. Next, we conducted phone interviews with the principal at each school to gain a sense of how the schools organized teacher time and work in nontraditional ways. Following the principal interviews, we selected four schools: Hillsdale High School (grades 9-12) in San Mateo, California, International High School (IHS) (grades 9-12) at LaGuardia Community College in Queens, New York, Pagosa Springs Elementary School (grades K-4) in Pagosa Springs, Colorado, and Santa Monica Alternative School House (SMASH) (grades K-8), in Santa Monica, California.

Hillsdale is a large, comprehensive high school organized into small learning communities. In the 2015-2016 school year, Hillsdale enrolled 1,375 students in grades 9-12 (California Department of Education, 2016a). The school draws an ethnically diverse group of students. In the 2015-2016 school year, $26 \%$ of students identified as Hispanic, $15 \%$ as Asian, $6 \%$ as Filipino, $1 \%$ as African American, $1 \%$ as Pacific Islander, and $9 \%$ as being of two or more races. A small percentage of the student population is socioeconomically disadvantaged (12\%) or English Language Learners (ELLs) (8\%) (Education Data Partnership, 2017a). In 2014-2015, ${ }^{1}$ the school employed 78 teachers with an average of 8 years of teaching experience (Education Data Partnership, 2017a). Through the small learning communities structure, Hillsdale allocates time in service of very specific and intentional goals: creating personalized learning for students, supporting collaboration among teachers, and developing rigorous, cross-disciplinary units of study for students. As a result, the use of time at Hillsdale fosters deeper learning and development for both students and teachers.
${ }^{1}$ The most current year of data available for the school was 2014-2015.

SMASH is a K-8 school based on a constructivist educational philosophy of promoting greater involvement from students in directing their own learning. In 201516, the school enrolled 227 students (California Department of Education, 2016b). The student body is $60 \%$ White, $15 \%$ Hispanic, $4 \%$ African American, $3 \%$ Asian, $1 \%$ Native American, and $19 \%$ identified as two or more races. The school has few students that qualify for free or reduced-price lunch ( $5 \%$ ) as well as few students who are classified as ELL (3\%) (Education Data Partnership, 2017b). In the same year, $11 \%$ of the student body qualified for special education services (California Department of Education, 2016c). In 2014-2015, ${ }^{2}$ the school employed 11 teachers with an average of 10 years of teaching experience (Education Data Partnership, 2017b). It is a small school with just one class and one teacher per grade. Teachers, however, work with and support one another in multiple formats.

International High School primarily serves ELLs recently immigrated to the United States, with the school's 518 students hailing from 54 different countries and speaking 39 different languages (New York City Department of Education [NYCDOE], 2016). As of 2015-2016, the students were $49 \%$ Hispanic, $35 \%$ Asian, $14 \%$ White, and $2 \%$ African American. Fifty-nine percent of students were ELLs and $2 \%$ were students with special needs (NYCDOE, 2017). All students qualified for free or reduced-price lunch. In that same year, $77 \%$ of the teachers had 3 or more years of teaching experience (NYCDOE, 2016). Ninety-one percent of students graduate within 6 years, which far exceeds the citywide average (NYCDOE, 2016). Administrators and teachers attribute this matriculation rate to the school's strong emphasis on collaboration and a focus on small teams of teachers developing content and working closely with students.

Pagosa Springs is a K-4 school in rural Colorado. In 2015-2016, the school enrolled 542 students, of whom $55 \%$ were White, $38 \%$ were Hispanic, $1 \%$ were African American, and 6\% identified as other (Colorado Department of Education, 2017). In that same year, $58 \%$ of the students qualified for free or reduced-price lunch, $12 \%$ of students were ELLs, and $8 \%$ of students qualified for special education services. In the 2013-2014 school year, $90 \%$ of the teachers had 3 or more years of teaching experience, and all the teachers were fully credentialed (Civil Rights Data Collection, 2014, cited in GreatSchools, 2017). The school is organized so that teachers collaborate through whole-school and grade-level professional learning communities, engage in team teaching in grades 3 and 4, and are provided scheduled times for content development and peer observation.

[^1]
## Data Collection

Data collection at the schools took place between September and December 2016. At each site, researchers interviewed the administrators and teachers across a mix of grade levels and academic disciplines (e.g., math, science, English, humanities) as well as school staff directly involved in creating the master schedule (e.g., school counselor). In total, we conducted 39 interviews across the four school sites. In addition, we collected observational data from teacher collaborative meetings, classroom teaching, and whole-school professional development sessions. We also reviewed documents and artifacts from each site such as student and teacher schedules, personnel handbooks, district and school policy documents, and prior research.

## Data Analysis

We analyzed data, coding for relevant themes, using three research questions:

- How is teachers' work organized? How are the core activities scheduled and structured? What are the enabling conditions (or organizational policies, practices, resources) that allow for fertile use of teacher time?
- How is teacher learning structured and organized? What learning resources and opportunities are afforded to teachers and how? How does this use of teacher time support the development of teachers' knowledge, skills, and dispositions?
- In what ways does teacher learning interact with student learning? How does this use of teacher time support the growth and development of the students?

We developed individual case studies and used them to conduct the cross-site analysis (see Ancess, 2017; Bae, 2017; Burns, Bae, \& Snyder, 2017; Reinhard, 2017). Themes for each case were identified inductively, starting with participants' descriptions of how the master schedule was created and implemented as well as their perceptions of the conditions that supported the organization of teacher time and work. We triangulated emerging themes with descriptions from school artifacts and observational data. To ensure that the identified themes represented the case study sites accurately, a key informant at each site reviewed the case report and their insights were incorporated into the final analysis (Eisenhart \& Howe, 1992; Miles \& Huberman, 1994). The cross-site analysis draws extensively from each of the four individual case reports and highlights the themes that emerged from two or more, but usually all four, schools to provide insight into how teacher time and work can be organized in ways that support student and teacher learning.

## Part 3: What the Schools Did

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he four schools we looked did things differently and to varying degrees because they served different students at different ages and were embedded in different district, community, and state contexts. Within those differences and degrees, however, they did several things in common as they adjusted the use of time to support student and teacher learning. In some ways, what they did in common is not all that surprising. What might be surprising is that what seems so obvious remains unusual.

Recently, the National Center for Teacher Quality analyzed data from their Teacher Contract Database ${ }^{3}$ and found that the majority of districts in the database ( $57 \%$ ) did not mention collaboration in their bargaining agreements or board policies. Of the $43 \%$ of districts that did, only about a third defined specific amounts of time for teacher collaboration (separate from planning or prep time), with the rest either stipulating collaboration as one use of general planning time or leaving the amount of time to the discretion of the principal or simply stating that collaboration is important. Moreover, of the 21 districts that allocated time specifically for collaboration, most only provided 45 to 60 minutes per week (Nittler, 2016). Time allocated specifically for teacher collaboration is often not a high priority for most districts and schools. In contrast, all four case study schools prioritized teacher collaboration and allocated time in the schedule to allow teachers to learn with and from each other.

At Hillsdale, teachers receive at least one collaboration period per day, amounting to 5.22 hours per week, on average. Hillsdale teachers collaborate in varied configurations, such as in disciplinary teams, cross-curricular partners (e.g., English and humanities partners), House teams (e.g., Marrakech grade 9 content team—English, math, science, humanities), and Advisory teams. During this time, teachers may engage in joint work that includes curriculum planning and alignment, developing integrated curricular projects, or discussing student progress.

Similarly, at Pagosa Springs, teachers collaborate in content teams or grade-level teams for 90 minutes, 3 days a week, to align curriculum, develop common assessments, and share instructional ideas.

At IHS, time is set aside for twice weekly interdisciplinary team meetings. Each interdisciplinary team meeting lasts 70 minutes and teachers work together to develop curriculum, discuss instruction and student needs, and provide peer support to one another. In addition, International teachers participate in monthly 70-minute disciplinary team meetings, where teachers engage in joint work to develop curriculum, share feedback on lesson plans, and build content and pedagogical content knowledge.

[^2]
# INTERNATIONAL HIGH SCHOOL (From Ancess, 2017) 

THREE TEAMS, named Shine, Stars, and Journey housing 9th and 10th graders comprise the Junior Institute. Two teams, named International Quest and International Dreamers comprised of 11th and 12th graders constitute the Senior Institute. Each of the five InterdisciplinaryTeams has a theme that frames a two-year course of study developed collaboratively by its teachers. The principal places incoming students into one of the three Junior Institute teams based on creating heterogeneous groups while ensuring that students have peers who can provide native language support. Ninth-tenth-grade counselors place students into Senior Institute teams again using the criterion of heterogeneity.

The 70-minute period aims to support student collaborative learning in small groups, deeper learning, English language instruction, and thematic projects. In the Junior Institute, each strand has the same program and travels together and each team is block scheduled, so that students' classes occur at the same time. Although there is no tracking and students attend classes in-team (taught by the teachers on their team), the three Junior Institute teams decided to parallel schedule math across all three Junior Institute math classes in order to create a math sequence of algebra and geometry so that students could take the math courses they need and have increased opportunities for in-depth study. The three Junior Institute teams collaboratively scheduled the time so that all Junior Institute students take math classes in 9th and 10th grade outside of their teams, and Junior Institute math teachers all teach at the same time. In the Senior Institute students' schedules are more individualized since they also take college courses, do internships, and work on individualized portfolios that are required for graduation.

Instructional time. Teachers spend a total of 20 hours a week involved in direct instruction -- 16 hours with whole classes and 4 hours with small groups in NYC DOE mandated non-credited enrichment classes or tutoring for students who need additional support. Four days a week, teachers are scheduled to teach three 70-minute content area classes per day plus the mandated 30-minute enrichment class, such as computer or Reading Plus to help students struggling with reading. In addition, teachers, each week. teach three other 70-minute periods called small group, devoted to individual or small group student support. Teachers use these small group instructional blocks (and two additional sessions scheduled for after-school twice a week) to provide support for students who are struggling and to mentor students on their portfolios, which are required at the end of 10th grade and for graduation.

Teacher meeting time. The Interdisciplinary Teams have autonomy akin to a mini-school which provides teachers with the authority and a formalized process for collective decision-making about instruction, school organization, and governance that is designed to support student success, faculty collaboration, collective responsibility, and mitigate against teacher isolation and alienation. The school's determination to create a structure that empowers teachers to collectively make organizational, governance, and instructional decisions, acknowledges the impact these decisions have on classroom instruction and teaching work and the importance of teachers having a voice about those conditions that affect them.

Interdisciplinary Teams are regularly scheduled twice weekly for 70-minute meetings, which enable teachers to effectively use their autonomy, as the principal explains, "To do what they see as best for kids to succeed." The Teams determine when students are ready to take college courses and which college courses are appropriate for them. The assistant principal pointed out that the student-teacher ratio of 75/80:4 safeguards against Teams being overloaded with administrative duties and ensures that they have sufficient time to devote to curriculum, instruction and student needs. The Interdisciplinary Teams create a sense of cohesion, caring, and connectedness, especially important for students who, as immigrants, may be separated from family members. "Students feel a sense of well-being; that they are cared for and connected to many adults in the school. Time for teachers to collaborate makes the caring culture here more feasible-it is an essential part of the caring culture," commented the assistant principal.

## INTERNATIONAL HIGH SCHOOL (From Ancess, 2017) continued

The principal explained that each week teachers have a total of 7 hours of planning and meeting time (including the Interdisciplinary Team meetings). Four days a week, they have one 70-minute individual preparation/planning period, which complies with the total number of minutes contractually required for planning. To facilitate teachers' collaboration on curriculum, these planning/preparation periods are scheduled for the same time block. During this time, teachers plan and revise lessons, provide and receive feedback from colleagues, locate resources, develop materials, organize students, design handouts, read, grade, and provide feedback on students' work. Teachers have their own spaces in beehive like team offices that support informal collaboration and collegiality.

Faculty members are also scheduled for monthly 70-minute disciplinary team meetings with colleagues within their discipline to address curriculum development, offer and obtain feedback on their plans for courses, instruction, assessment, and challenges, identify and solve problems, and engage in problem solving, build content and pedagogical content knowledge, and schedule teachers for student assessment presentations.

On Wednesdays, the entire faculty is available for an 80-minute meeting, which can also be used for formal professional development as well as additional Interdisciplinary Team meetings. In the 20152016 school year, International HS recorded 62.33 hours of whole school staff professional development (IHS, 2016) that did not include the additional hours of professional development at the monthly 70-minute disciplinary team meetings or the regular twice-weekly 70-minute Interdisciplinary Team meetings or the 70-minute planning/preparation time, four times a week.

The focus of teacher learning is determined collaboratively by the faculty. Opportunities for teacher learning are organized and structured in two ways:events and embedded experiences. Events are experiences that have a finite time frame with a topical focus, such as quantitative literacy, and a prestructured format, such as a workshop or a conference, etc. Embedded experiences are integral to the school culture, contextually responsive at a granular level to authentic teaching and learning goals and experiences, and are routine, like monthly disciplinary meetings, Sharing effective practices in response to a teacher's query or problem generates individual and collaborative learning in response to a current and felt need. At events, teacher learning might be described primarily as information or knowledge transmission, whereas the embedded experiences engage teachers in an ongoing collective and collaborative inquiry or investigation into their own and their peers' practice. Both kinds of learning involve knowledge building and are seen as having value.

At SMASH, teachers typically receive two 60-minute periods per week for collaborative work. ${ }^{4}$ During this time, teachers examine assessment results, revise curriculum and make instructional adjustments, create project-based learning units of study, and discuss student progress. A regular part of the school calendar at SMASH is time set aside for learning walks (also known as instructional rounds). These take place on 2 days every year, one each semester in both literacy and mathematics. Learning walks at SMASH involve hiring substitute teachers for four of the eight teachers for a morning, The four teachers walk with the principal in small groups in and out of classrooms, observing teaching, taking observational notes, and holding hallway conversations to compare observations. Feedback is then provided to teachers to help inform instruction. The groups then switch, and a similar process is conducted the following day for the classes of the other half of the staff. Information from learning walks informed topics for discussion at staff inquiry times as well as individual lesson planning. The organization of teacher time and work at SMASH supported student learning in three salient ways: addressing individual student needs, adapting instructional strategies, and developing a deep understanding of students.

In addition, all four schools organized the schedules so that students are dismissed early 1 day each week so that the staff can engage in professional development as a collective group. The length of the weekly professional development session ranged between 1 hour and 15 minutes to 2 hours and 15 minutes. All four schools devoted time for to professional learning that is collaborative, ongoing and connected to practice, focused on student learning, and aligned with the school's goals and priorities - the critical components of high-quality professional development (DarlingHammond, Wei, Andree, Richardson, \& Orphanos, 2009; King \& Bouchard, 2011; Newmann et al., 2000).

Three of the four schools viewed time not solely as a daily or weekly issue but as a longer-term resource extending over years. Hillsdale and IHS both organized teachers and students in 2-year cohorts with different daily and/or weekly student and teacher schedules to better address the strengths, interests, and needs of those students. SMASH organized teachers and students into multi-age groupings. A teacher there explained that the multi-age structure of the cores ${ }^{5}$ gave greater opportunity for teachers to form relationships with students and families:

We love our students and our 3-year relationship that we have with them, so we really use each other as resources as we're discussing kids

[^3]and families and relationships working with parents... We can have those dialogues for that 3-year relationship. [And] often we'll have parents for multiple cycles.

Teacher-student relationships are further aided by the looping of students with teachers over years, in which teachers are better able to know students' prior knowledge and areas of strength and difficulties. As one teacher described,
[I]t is a team model so that children have many different adults to connect with and relate to... Even though we teach 50 kids, the idea of this means that we know all the kids, K through 8 in a very intimate way.

The fact that these schools organized teacher time and work to provide time for collaboration within the workday and over time is significant. Indeed, multiple research studies suggest that organizational structures influence how teachers form collegial relationships by enabling or limiting the level of contact teachers have with one another as well as through institutional expectations for collaboration (Coburn, Choi, \& Mata, 2010; Siskin, 1991). The schools communicated that they valued formal opportunities for teachers to work together and learn with and from each other. As Little (1990) concluded in her review of the literature on teacher collaboration, "the value that is placed on shared work must be both said and shown. The opportunity for shared work and shared study must be prominent in the schedule for the day, the week, the year" (p. 188). By carving out time in the schedule for teacher collaboration, the schools facilitated ongoing professional learning and development of teachers and, more importantly, set institutional expectations for collaboration as a means to promote high-quality instructional practice.

## SMASH (from Burns, Bae, and Snyder, 2017)

WITHIN EACH CORE at SMASH, there are multi-age classes. Although some activities do take place in single-grade groups (e.g., mathematics), most learning takes place in a multi-age setting. Peer learning is an important element of schooling at SMASH with older students learning alongside and mentoring younger students. Students also 'loop' with their teachers, having the same pair (or trio, in the case of Core 1) of teachers for the two (or three) years that they spend in each core before progressing to the next. The schedule is not only conceived of as a "daily or weekly" construct, but rather as a variable to consider over multiple years.

The multi-age classes move between teachers within the core throughout the day, so that across the approximately 50 (or 75 ) students in each, students spend nearly equal time with the other teacher(s). Although each teacher is formally a Teacher of Record for one grade, teachers viewed themselves as responsible for all students in the core, with one teacher commenting:

It's multi-age, but it's more of a philosophy that we see us as all three of us [two core teachers and an instructional aide] working with all 50 children and getting to know them and collaborating and maybe giving each other insights, valuing their different learning styles more so than their age, if that makes sense. Working wherever they are, moving them forward.

A common feature across the schedules are block periods. In Core 4, for example, the day is roughly divided into morning, middle, and afternoon blocks, each of around 1 hour 45 minutes. On Mondays, the first block is divided into two 50-minute periods, in which two groups of students alternate between mathematics and physical education. The major purpose of block scheduling is to allow sufficient time for extended learning in the workshop model.
The use of block periods by each core is reflective of the school's emphasis on project- and inquirybased learning. The school uses the Writers' Workshop model, in which there is considerable time for independent student work, combined with small group work and teacher modeling. In the Core 1 and 2 classes we observed, this generally took the form of a teacher-led mini-lesson, followed by independent or group work time, and then a 'share' where students discuss their progress, or something they observed or learned to reinforce the learning objectives of the mini-lesson.

Teachers emphasize the importance of the block periods in facilitating student learning. One Core 4 teacher explained that these longer blocks of time were particularly important in subjects such as Engineering. Visiting this class, we observed students engaged in a design project using computer software to render 3-D images of mechanical components, casting 2-D projections of the object, and applying labels to indicate their physical dimensions. The teacher explained these block periods were important for students to have sufficient time to experiment. This could involve students tinkering with mechanical and electronic components to build physical models, and requiring in-class time for student trial and error.

Time thus organized facilitates both formal and informal interactions among teachers. This includes common planning time within each core, professional learning as a whole staff, biannual learning walks, and regular lunchtime conversations. In addition, the physical layout of the school permits a considerable amount of informal teacher collaboration that further supports teaching and learning. The school's principal described the rationale for the allocation of time for teacher collaboration as follows:

We all deeply ascribe to social learning theory - that your most dynamic and most powerful learning happens when you have moments [not just] when you think and write and reflect, but when you share those 'AHAs' with other people and have feedback. It doesn't matter what your age - that's where the most powerful and innovative things happen.

## Part 4: Themes and Enabling Conditions

T
ime created for teachers to learn with and from each other does not magically promote student and teacher learning. That time must be used well. The four schools provide lessons regarding conditions that support reconfiguring the use of time as well as how to use the time created to the benefit of students and their communities.

## An Inviolable Focus on a Holistic Vision for Growth and Development

The four schools all started, and continue their work, with what they wanted for their students. Importantly, the schools aspired for their students to grow and develop across all the domains of human endeavor. It was the whole child, not solely standardized measures of canned content curriculum, that was the raison d'etre for how schools designed their use of time. The schools' schedules were organized according to what would work best for the students and, importantly, how teachers could best help each other support their students.

Each school was guided by specific goals and pedagogical approaches to student learning that drove the design of their respective master schedules. As a Hillsdale administrator expressed, "It was very conscious, very early, that what was driving the structural changes and the development of collaboration time was a desire to do something in terms of teaching in classrooms."

At Hillsdale, the reorganization of teacher time and work was fueled by the desire to personalize learning for students through the small learning communities structure and to develop rigorous, interdisciplinary units of study for students. One teacher noted,

With the amount of time we have to both collaborate on our own content and talk to one another about who our students really are as individuals and learners, we're better able to help support their learning. We can go deeper. We can ask more critical thinking questions. We can develop projects that are more interdisciplinary and allow students to have more flex in their own learning or take more ownership or to have creativity in what an outcome might look like for a particular project. That is really the core of it.

A Hillsdale administrator shared a story told by a parent at a school board meeting. The parent's daughter was a freshman at the University of California, where in one of her classes, she was required to give an oral presentation. The parent reported that the professor singled out her daughter and said to the class: "This is for every-
body who wants to see what an oral presentation looks like, this is what you should be doing.' He took her aside, said, 'How did you develop those skills?' She's like, 'That's what you do in high school.'" The administrator added, "That's rewarding and that doesn't show up in anything, but kids do say this. They come back and say, 'We know how to interact with our professors, we know how to give presentations, we know how to cite evidence.'"

At SMASH, the teachers started with a vision of developing students who are active and engaged learners with a voice in their learning, and a philosophy of teaching and learning that sees social and emotional learning as a foundation for academic success. This led to structuring extended blocks of time for more opportunities for exploratory learning that is project-based and connected to the real world, and to provide authentic learning experiences outside of the classroom. Additionally, a strong emphasis on social and emotional learning is a foundational element to this approach, as one teacher described:

We are a whole-child school, so our philosophy is that the children are very dynamic, they have social, emotional, and academic needs, and that each of them are equally important, and that equal amount of time and attention needs to be put into each.

Some teaching partners at SMASH reorganized student groupings throughout the week to provide students with opportunities to work with and learn from different combinations of peers. One teacher explained,

Something that we've realized for the seventh- and eighth-graders is that they need more mixture among themselves. So instead of just having one advisory, they have two advisories. So on Monday and Wednesdays they have a group, and on Tuesday and Thursdays they have a group. So everybody can get a little bit of everybody.

Groups are then reshuffled again for the second half of the year. Teachers viewed this variety of peer interactions as valuable to student learning: "I can tell you, as a teacher it's a pain in the butt to have to regroup kids and reschedule, remake who fits with whom. But the kids benefit from it, so it's worth it."

This same philosophy was carried over into the organization of teachers' time. This ascription to social learning theory was reflected in the different blocks of time in which teachers interacted and worked together. There was intentionality in the use of time to develop personal relationships that in turn supported professional collaboration.

## HILLSDALE HIGH SCHOOL (from Bae, 2017)

AT HILLSDALE HIGH SCHOOL, teachers' time and work are organized in ways that support teacher collaboration and ongoing learning and development for both students and teachers.

Three versions of the bell schedule are used at Hillsdale. The "regular" bell schedule, which is in place on Mondays, Tuesdays, and Fridays, consists of seven 50 -minute periods, a 10 -minute "brunch" break between periods 2 and 3, a 25-minute advisory period, and a 30-minute lunch break during the middle of the day (see Tables 1 and 2). On Wednesdays and Thursdays, the school implements a block schedule, wherein the odd periods $(1,3,5,7)$ are held on Wednesdays and the even periods are held on Thursdays. The block schedule allows for longer 88 -minute classes and facilitates the implementation of integrated projects among the academic core team members. In addition, the longer block periods are coupled with a 38-minute advisory class and brunch and lunch breaks. On Thursdays, the students have a 45 -minute tutorial class and are dismissed at $1: 49 \mathrm{pm}$ rather than at $3: 15 \mathrm{pm}$ to allow for weekly, school-wide professional development sessions.

The master schedule is designed to facilitate the school's collective mission and goals. Specifically, it is designed so that teachers have a common collaboration period with their colleagues, students can take classes from a team of four subject area teachers within their Smaller Learning Communities (SLCs), and the conditions of the teacher contract are met. The school counselors and an administrator work together to develop the master schedule or the schedule board. The teachers may state their preferred teaching periods, but those preferences take a back seat to the priorities embodied in Hillsdale's SLC structure and commitment to the Cornerstones, which is a guidance document that provides a set of common goals for the SLCs focused on commitments to equity, personalization, rigor, and shared decision-making. Thus, the master schedule is not created simply to divide time within the day but to realize Hillsdale's vision of a student and content focused school by dismantling the egg crate school and promoting teacher collaboration.

SLCs divide the school into smaller, more intimate learning environments for students and teachers and emphasize the Cornerstone of personalization. At Hillsdale, the staff prioritizes keeping students in a cohort to personalize their learning environment so that they know their fellow classmates and teachers well, even if this means that a snag in a student's schedule could dismantle the schedule and require the creators to start the process anew.

In addition, the schedule prioritizes meeting the conditions of the teacher contract. For instance, according to the labor-management agreement, the teacher workday at Hillsdale is $71 / 2$ hours long. On a typical day, the bell schedule for students begins at 7:45am with period 1 and ends at $3: 15 \mathrm{pm}$ with period 7. Teachers, however, need to be at the school 15 minutes before the start of their first class. So if a teacher teaches period 1 , her day begins at 7:30am and ends at $3: 00 \mathrm{pm}$. If she does not teach period 1 , then her day begins at 7:45am and goes until $3: 15 \mathrm{pm}$. Thus, given the stipulated $71 / 2$ hour workday, a teacher is not permitted to teach periods 1 and 7 or else she would be in violation of her contract.

The way schools organize the master schedule has a significant effect on how much time teachers interact directly with students and how much time they spend on other professional responsibilities such as collaborating with colleagues, planning curriculum, and assessing student work. At Hillsdale, teachers work with five classes daily, generally translating into four academic core classes and one advisory class. Because of Hillsdale's commitment to personalization, the staff added an advisory class to the school schedule, which meant increasing the typical seven-period day into an eight-period day. One administrator reflected, "You add advisory, and I don't think we really thought about it, but in effect, that creates an eight-period day. Where other schools are teaching five out of seven, we've created eight-period days, so our teachers are teaching five out of eight." Interestingly, even though the number of periods increased, the teachers at Hillsdale spend fewer hours interacting directly with

TABLE 1: HILLSDALE HIGH SCHOOL, 9TH-GRADE SOCIAL STUDIES TEACHER SCHEDULE, MONDAY/TUESDAY/FRIDAY

| PERIOD | TIME | MONDAY | TUESDAY | FRIDAY |
| :--- | :--- | :--- | :--- | :--- |
| $\mathbf{1}$ | $\mathbf{7 : 4 5 - \mathbf { 8 : 3 5 }}$ | World History <br> Intro. | World History <br> Intro. | World History <br> Intro. |
| $\mathbf{2}$ | $\mathbf{8 : 4 0 - 9 : 3 0}$ | Individual Prep | Individual Prep | Individual Prep |
| - | $9: 30-\mathbf{9 : 4 0}$ | Brunch | Brunch | Brunch |
| - | $9: 45-10: 10$ | Advisory | Advisory | Advisory |
| $\mathbf{3}$ | $10: 15-\mathbf{1 1 : 0 5}$ | Marrakech House <br> Meeting | Marrakech House <br> Meeting | Marrakech House <br> Meeting |
| $\mathbf{4}$ | $11: 10-\mathbf{1 2 : 0 0}$ | World History <br> Intro. | World History <br> Intro. | World History <br> Intro. |
| $\mathbf{5}$ | 12:00-12:30 | Lunch | Lunch | Lunch |
| $\mathbf{1 2 : 3 5 - 1 : 2 5}$ | World History <br> Intro. | World History <br> Intro. | World History <br> Intro. |  |
| $\mathbf{7}$ | $\mathbf{1 : 3 0 - 2 : 2 0}$ | World History <br> Intro. | World History <br> Intro. | World History <br> Intro. |

TABLE 2: HILLSDALE HIGH SCHOOL, 9TH-GRADE SOCIAL STUDIES TEACHER SCHEDULE, WEDNESDAY/THURSDAY

| PERIOD | TIME | WEDNESDAY | PERIOD | TIME | THURSDAY |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 7:45-9:13 | World History Intro. | 2 | 7:45-9:13 | Leadership Team Meeting |
| - | 9:13-9:23 | Brunch | - | 9:13-9:23 | Brunch |
| - | 9:28-10:06 | Advisory | - | 9:28-10:13 | Tutorial |
| 3 | 10:11-11:39 | Marrakech House Meeting | 4 | 10:18-11:46 | World History Intro. |
| - | 11:39-12:09 | Lunch | - | 11:46-12:16 | Lunch |
| 5 | 12:14-1:42 | World History Intro. | 6 | 12:21-1:49 | World History Intro. |
| 7 | 1:47-3:15 | Individual Prep | - | 2:00-3:15 | Whole Staff Professional Development |

## HILLSDALE HIGH SCHOOL (From Bae, 2017) continued

students in a class than a typical teacher in the United States does. According to the Organisation for Economic Co-operation and Development (OECD) Teaching and Learning International Survey (TALIS) 2013, international lower secondary school ${ }^{6}$ teachers spend an average of 19 hours per week teaching students, while U.S. teachers have been found to spend an average of 27 hours per week (OECD, 2014). Notably, teachers at Hillsdale, similar to their international peers, spend an average of 18.5 hours per week teaching students. ${ }^{7}$ The restructuring of teachers' time with students to prioritize teacher collaboration permits Hillsdale teachers to have both a common preparation and a collaboration period each day. Moreover, on the regular bell schedule days (3 out of 5 days), teachers have an additional period for preparation and collaboration. Hillsdale does not simply "add" more time to the schedule, but rather organizes existing time differently.

Because teacher time and work at Hillsdale prioritizes the school's commitment to personalization and teacher collaboration, common preparation and planning times for teachers are embedded into the daily schedule. Specifically, teachers are afforded three common preparation periods per day. Teachers use those periods to meet in various team configurations, such as content teams, which typically involves disciplinary collaboration across houses. Thus, a math teacher who teaches 9th-graders in the Marrakech house will meet with the two other math teachers who also teach 9th-graders in the Florence and Kyoto houses. During this time, the teachers engage in curriculum planning where they discuss and align the curriculum across the houses so that all 9th-graders are afforded equitable and coherent opportunities for learning.

In addition to disciplinary teams, teachers use the common planning time to meet in cross-disciplinary teams. These planning meetings typically involve collaborations between social studies and English within the same house. Thus, the 11th-grade English teacher in Cusco house would collaboratively plan, with his 11th-grade social studies partner, to develop integrated curricular projects and units. An example of a cross-disciplinary project is a humanities project called the American Journeys Immigration Narrative. Students interview an immigrant to the United States and then write a story about the person's immigration journey. Through this project, the students learn about narrative techniques such as flashbacks and incorporating details to convey the immigrant's story as well as the history of immigration, push and pull factors, and nativism. An English teacher explained:

I have weekly if not daily collaboration with my humanities partner in history. We're constantly going back and forth figuring out how we tailor our units to overlap as much as possible time wise. We were working jointly on units about immigration, so as [my humanities partner] is covering Angel Island and Ellis Island, and exclusion acts, and waves of immigration and emigration, I was reading with my students immigration narratives from across the periods of time. And then that dovetailed into this project where every single junior on campus then went into the community and interviewed an immigrant to collect their personal journey and then in English we turn that into a piece of narrative writing using narrative technique... It's just the kind of project you couldn't pull off if you didn't have somewhere to share the labor between two collaborative partners.

[^4][^5]
## HILLSDALE HIGH SCHOOL (From Bae, 2017) continued

The cross-disciplinary collaboration between history teachers and English teachers is a long-standing tradition at Hillsdale. Integrated projects that were developed 25 years ago as a result of a strong collaboration between history and English teachers, such as the Trial of Human Nature and the Truth and Reconciliation Commission Hearing, are still being implemented today. In fact, it was the innovative cross-disciplinary work in the humanities that spurred the restructuring process and paved the way for the embedded teacher collaboration time the current staff enjoys today (Lance \& Vasudeva, 2006).

Teacher collaboration time also facilitates collaborative work among house members. For example, Marrakech house, which consists of four freshmen and four sophomore teachers who teach the core subjects-math, science, English, and social studies-at each grade level, organized themselves to meet as a large group once a week. In the Florence house, the teachers meet as a group once a month. When all the teachers in a house meet, they often discuss and address issues that affect all the students in the house, which allows the staff to grow coherence within the house. Since students stay in a house for 2 years, it is critical that all members of the house are clear about their expectations for students and how best to nurture student learning and development from year to year.

In the house team meetings, teachers also set aside time to engage in "kid talk." Kid talk is when grade-level teams of teachers meet to discuss the students they share. As one administrator described, kid talk is when teachers "thoughtfully have conversations about students, students' needs, student progress, student success and have time to share best practices about what is working for our students." A teacher observed, "We will talk about students and interventions and that kind of thing, share strategies for how to work with certain kids." Within those conversations, teachers communicate with each other about what they are seeing from students and strategize how to provide the supports they need. Another administrator related, "There's communication about, 'so-and-so, he's not handling his business. You, advisor, you're also the English teacher. Can you help take care of this, help this kid? Urge this kid to come to office hours or get to the after-school program?'" The Hillsdale teachers value the time they have to discuss students with their colleagues. Engaging in kid talk ensures that all the teachers who work with a student know how the student is doing in class as well as at home. These conversations allow teachers to address their students' strengths, interests, and needs more effectively, in both academic and social-emotional domains. A teacher reflected, "In terms of the personalization for students, having that time to do kid talk, time to discuss what the students are needing is just so important to everything we're doing."

Finally, Hillsdale teachers make time to meet in advisory teams, which are made up of teachers in the same grade level who teach an advisory class and serve as an advisor to students. In advisory team meetings, teachers plan the advisory curriculum together. Developing the advisory curriculum in collaboration with other teachers ensures they are not left to figure out it out on their own.

Hillsdale structures ongoing learning and development for teachers by providing weekly professional development time in addition to daily collaboration time. Every Thursday, Hillsdale staff engage in an hour-long professional development (PD) experience when students are dismissed early. The school has a teacher on special assignment ${ }^{8}$ who coordinates and plans PD sessions in collaboration with the administration and the school's PD committee. In previous years, the PD focus has centered on the development of a graduate profile (i.e., what students should know and be able to do upon graduation) and the types of questioning that teachers can use to engage students' metacognitive processes and support critical thinking in their senior defenses. The PD sessions, at the time of data collection for the study, were focused on equity and "what it means to be, often, a white teacher in a diverse classroom,"

[^6]
## HILLSDALE HIGH SCHOOL (From Bae, 2017) continued

shared an administrator. This has led teachers to read material in common to gain a better understanding of what equity means and then engage in conversations about implicit bias, how teachers talk to students, and how students "read" teachers. The PD Coordinator described how the staff role-played dialogues with students and wrote reflections on uncovering the implicit biases in their verbal and nonverbal interactions with students. After the collective readings on equity, the PD sessions moved from a whole-staff orientation to professional learning communities (PLCs). The PLCs are organized around subject matter departments, and each PLC was tasked with designing a project for students that will be examined with an equity lens. For example, the upper division social studies teachers brainstormed ideas for a new unit that they were developing. Teachers shared what they thought had worked previously with other classes and suggested ideas for project topics that would be both relevant and interesting to students (e.g., election issues, supreme court nominations). As teachers offered their ideas, colleagues asked clarifying questions and expanded and enriched one another's ideas. After the projects are collaboratively designed in the PLCs, teachers are expected to implement the unit with their classes. The goal, according to the PD Coordinator, is for teams to "have students work from it to use in the last cycle where they're going to do an analysis of student work and look at actually how the students did on it and think about how it ties to the grading piece." Thus, the PD that Hillsdale teachers experience is ongoing and not divorced from the act of teaching so that teacher learning and development is not an afterthought or something that happens outside of the workday. Instead, teachers engage in collaborative work that is focused on making teaching practices and student work visible with the goal of improving instruction and ultimately supporting the growth and development of students.

The teachers at IHS supported the learning and development of their student and community population of English Language Learners and ensured smooth transitions to postsecondary options of the students' choosing. The teachers attributed student success to their commitment to a vision and philosophy of school as a collaborative community. They believed that attending to students' social and emotional needs creates a sense of cohesion, caring, and connectedness, which is important for immigrant students who may be separated from their families. "Students feel a sense of well-being, that they are cared for and connected to adults in the school," shared a teacher. IHS's use of time is organic, growing out of the school's need and commitment to creating particular opportunities that were vital to the realization of their school vision about educating its student population of recent immigrants.

At Pagosa Springs, the teachers supported changes to the schedule so that they could provide more uninterrupted learning time for students as well as address their students' social and emotional learning needs. In fact, all four schools purposely promoted the development of students' social and emotional skills through the creation of advisory periods. A key purpose of advisory was to create strong, trusting relationships between students, their teachers, and their peers as well as to develop students' social awareness, self-awareness, and self-management skills. Notably, researchers have found that students' ability to establish and maintain positive relationships with others can have desirable effects on students' social competence,
behavior, and academic achievement (Durlak, Weissberg, Dymnicki, Taylor, \& Schellinger, 2011). Thus, the case study schools deliberately organized teacher time and work with a specific purpose in mind, to focus on the whole child to improve student learning.

## Coherent Shared Philosophy

Organizing teacher time and work well necessitates a clear conception of why and for what purpose it is being done. Without the guidepost of shared values, this type of school that supports the complex and challenging task of addressing student and teacher learning will likely fail to meet its desired goals for students. All the schools had a clear coherent philosophy that was more than words on the wall. The contexts in which they were embedded, as well as the students and communities they served, varied so too did the schools' shared philosophy. But that shared philosophy, like their commitment to children, was known and followed like a guiding star.

At International, for instance, their shared philosophy was:

1. Limited English proficient students require the ability to understand, speak, read, and write English with near-native fluency to realize their full potential within an English-speaking society.
2. In an increasingly interdependent world, fluency in a language other than English must be viewed as a resource for the student, the school, and the society.
3. Language skills are most effectively learned in context and emerge most naturally in purposeful, language-rich, interdisciplinary study.
4. The most successful educational programs are those that emphasize high expectations coupled with effective support systems, as mirrored in our portfolio presentation requirement for graduation.
5. Individuals learn best from each other in heterogeneous, collaborative groupings.
6. Career-oriented internships facilitate language acquisition as well as contribute a significant service to the community.
7. The most effective instruction takes place when teachers actively participate in the school decision-making process, including instructional program design, curriculum development and material selection (http://ihsnyc. org/about/mission).

The principal explained this as: "Open the door to the American Dream and success in society and in a global world for immigrant students. We are a school for immigrants, and in everything we do we are designed to help our students academically, emotionally, and socially in academics and language." She discussed the importance of teaching students collaboration for problem solving and success in life and emphasized that faculty and administration model and mirror collaboration for students and each other.

At SMASH the school ascribed to a clear set of principles around which it organized teaching and learning, and that provided anchor points for decisions about the allocation of time in the school. The multiage classrooms, emphasis on real-world connected activities, Reggio Emilia-inspired philosophy of children having voice in constructing their learning, creative exploration and social learning as part of the process, and projects lasting several weeks necessitated the organization of time for extended hands-on learning and discovery. Together with the writers' workshop model, engineering, and field trips, this drove the use of longer teaching blocks as a core element of the schedule. The school's emphasis on social and emotional learning also directed the use of time within that structure, with attention to developing students' emotional and social competencies, and facilitating positive working relationships among students.

The school philosophy also provided a touchstone for decisions on teacher collaboration. Teachers required adequate time with their teaching partners to facilitate logistics for the out-of-school learning trips, and to share notes on individual students to reflect on and guide their growth. This approach to teaching and learning also helped shape the way whole-staff collaborations were organized, with an emphasis on mirroring the same learning approach taken with students to the learning of adults. This meant creating blocks of time for staff inquiry in which teachers engaged in hands-on activities and learned in a social fashion with peers.

## Collaboration

All four schools used time to support teacher collaboration in multiple formats and multiple domains. As Ancess (2017) noted of IHS,

In contrast to typical hierarchically organized, factory-model schools that divide faculty into management and workers, IHS organizes itself as a collaborative community that seeks the commitment of faculty and students rather than the conventional compliance sought by factory-model counterparts. As a collaborative community, IHS distributes leadership and governs by consensus with representation and active participation from all constituent groups. Collaboration is at the heart of IHS's beliefs about how life in school should be lived, and how teaching and learning are most effective., and how teach-
ing and learning are most effective. Collaboration is at the core of Collaboration is at the core of the school's organization of teachers into interdisciplinary teams that teach the same heterogeneous cohort of students, as well as the process for hiring, supporting, and evaluating teachers, the roles teachers take, and relationships IHS has with multiple external partners.

IHS's's commitment to a vision and philosophy of the school as a collaborative community that gives teachers a powerful role in collaborating on decisions governing the conditions of their teaching, students' learning, and the faculty's professional growth, support and evaluation has encouraged teachers to support, engage in, and indeed, author innovations required to evolve the enactment of their shared philosophy over time.

All four schools also offered less officially structured opportunities for collaboration. At SMASH, for instance, informal collaboration among teachers was facilitated through shared lunchtimes for each core. Although not contractually obligated to do so, regular lunchtime meetings were a part of the shared norms and culture at the school, and each core typically met several times a week during lunch periods. In addition, each Thursday lunchtime was designated as an opportunity for classroom teachers from all four cores to meet informally and build relationships across cores. This gathering was made possible by the principal and instructional aides covering lunchtime yard duty. One teacher noted,

I think that social community part that we're here together, that we're responsible for each other, that is a key part of what works. We're smaller so you can know everybody, that also helps. Structurally, yes, there has to be time so, the administrator has to give time for teachers to be able to meet together, even unofficial time. Like Thursday lunches, [the principal] makes sure that nobody has lunch duty so, $\ldots$ [Y]ou don't have to, but we all have lunch together and it's more social, but it also can be a place where a teacher can make an announcement.

SMASH, like IHS, also organized space to support collaboration. As a teacher there noted, "Because of the physical set up, it at least allows the teachers to physically be close. There's an accordion wall so, it's easy to communicate... If I need to talk to him about something real quick, it's easy to touch base at break or at lunch." Another SMASH teacher confirmed, "I think the physical space makes a huge difference. Because when you are self-contained physically, you're emotionally selfcontained as well."

## Shared Governance

Collaboration was also structured into the marrow of the schools' structures and processes through multiple approaches to shared governance. Shared governance seeks to increase the authority of teachers through the governance and decisionmaking structures of schools. It is based on the belief that teachers possess the expertise and commitment necessary to make critical decisions about the school and that participation in the process increases satisfaction, commitment, and involvement.

At Hillsdale, for instance, the governance structure of the school was deliberately created as a way for teacher voices to be heard in all decisions that pertain to the running of the school and that the administrators were "chosen" by the staff with that particular goal in mind. One teacher commented that something the school faculty felt exceptionally good about:

One thing we have achieved is you don't hear a lot of people at Hillsdale complaining about the administration, "The administration is doing this to us"... You don't hear that here... you heard that at other schools, "Principal's out to get me." You don't hear that here. [One of the administrators is] a great person, but it's not because [he's] a great person. It's because of the structure and the culture that we tried to create.

The structure referred to is the school's commitment to shared decision-making, one of the four Cornerstones that guides the school. All members of the faculty are welcome to join any of the school committees (e.g., leadership committee, sustainability committee, governance committee, assessment committee, professional development committee, equity committee, interview committee, SLC council, etc.). As an example, teachers actively participated on interview committees to select new hires with teacher representatives from the house that had the opening as well as from teachers who taught the same content. A teacher reflected,
[It's] valuing, respecting, enabling the shared decision-making that we do. That's one of our cornerstones. That's something that is very essential to all that we do, that we don't get top down dictates... It's letting us, at the most local level, figure out how to be successful, to accomplish what we need to.

At IHS teachers participated on one or more of the six committees that comprise the school governance structure (steering committee, guidance committee, early college committee, teaching and learning committee, student life committee, and personnel committee). Committee meetings occurred during the school day. Those committees and the Coordinating Council demonstrated the school's commitment to collaboration at every level as they provided an opportunity for voice from the diverse members of the school community.

At SMASH, the cores were allowed to function with some independence of each other, including primary responsibility for scheduling. Teachers in each core developed (within some constraints) their core's schedule including how time was apportioned for learning within the overall bell schedule and when they wished to collaborate. Each core also had significant authority over the curriculum, with teachers (and students) providing input regarding the themes studied, projects undertaken, and out-of-school learning experiences and field trips taken. Each of these decisions shaped both the way each core structured its schedule as well as the way it used time on a day-to-day basis. Each core team developed its own schedule, which they then discussed and confirmed with the principal.

## Continual Learning

It requires time to figure out how best to use time. In the four schools the schedules, and what happened within the schedules, evolved continually - in the more established schools, schedules continued to evolve over a decade after the initial set of changes. Schedules were not fixed once and checked off the to do list, but rather as Elmore and McLaughlin (1988) say, it was "steady work."

SMASH provides an example of how a school created an institutional culture that supported collaboration and an environment of continual learning. Teachers were provided opportunities to collaborate frequently, grow relationships, learn with and from each other, and plan learning opportunities for students. Teachers had agency over how time was structured to best facilitate learning for their students and used time flexibly to account for changing circumstances. This flexibility allowed teachers to test new instructional strategies and support individual student growth and wellbeing. As one teacher described, "The thing about time that works here and the way it's structured is that it's intentional and flexible and evolving." There were opportunities, even obligations, for each core to try scheduling classes in new ways, learn from that experience, and make changes to the schedule each and every year to best address student strengths, interests, and needs.

Hillsdale provides another example. As its popularity grew and the student population began to increase, the schedules, budgeting, and personnel had to change. An administrator at Hillsdale pointed out, "That's been the ongoing challenge... It turns out that the bigger you get, there are not efficiencies. It doesn't scale up in a way that it's cheaper, which we had hoped." Thus, the school was constantly adjusting the schedule, the budget, and the use of personnel to enact the instructional model the teachers felt would best support their students. One colleague said of an administrator there: " $[\mathrm{He}]$ has done everything. He has pulled rabbits out of more hats than most people understand how to do. It's amazing what he's been able to do."

## Professional Capacity

All four schools hired well-prepared teachers, teachers who were good at what they did to start with, and who all were willing to work and continue to develop within the learning culture of the school. In selecting teachers, the schools hired people who were a good fit for the students and the school's guiding philosophy/shared vision. At IHS, for instance, professional capital and experience was an essential ingredient undergirding its effectiveness in using time to benefit teachers’ work. Seventyseven percent of IHS's teachers had 3 or more years of experience. Careful vetting of teachers to ensure a philosophical and pedagogical match with the school contributed to the value teachers found in their multiple opportunities to collaborate and learn from one another. IHS's ability to select its teachers has been critical to its sustainability, as its power over teacher hiring decisions increases the likelihood that faculty will support the school culture, policies, and practices, and cohesively enact them. For over 30 years, IHS has also been able to select effective leaders, including its principals, from within the school, which has sustained its culture, promoted necessary growth and change, and avoided stagnation and group-think.

Likewise, teachers who apply to work at SMASH are aware of the school's model, the multi-age classrooms, experiential learning, and teacher collaboration. The principal noted,

> The foundation of the school is that student voice and choice and learning through interest for both the adults and kids alike is essential, so [we] really haven't had the issue of someone coming here who wants to work in isolation because there's so many other places they would apply to. [W]e're clear about what we're about, and there are plenty of people who we wouldn't attract. They wouldn't apply here, because they wouldn't want to. It takes a lot of work to be that intensely collaborative with other people. (Burns, Bae \& Snyder, 2017, page 26)

Once schools hired teachers, the schools provided improvement oriented assessment and support of instructional capacity and leadership in addition to collaborative learning time. At SMASH, for instance, all teachers had time set aside for one-onone meetings with the principal focused on their own professional learning. The meetings were calendared by the principal in the summer ahead of the school year, with meetings taking place about every 3 weeks, usually 12 times a year. These principal-teacher meetings were not formal teacher evaluations, but rather were focused on individual learning goals. The school's principal described the process as one beginning with teacher reflection, self-evaluation, and the collection of evidence if needed:
"What kind of goals [do] I want to work on, and what kinds of strengths am I building on?" When I check in, in those one-on-one meetings, I'm saying, "Okay, what are your latest strengths that you're cultivating, that you want to mark the moment for yourself, that you've grown in and then bring to my attention, because maybe I haven't seen it?" Then I'm asking about how do you know and in what ways have you moved toward your goal? "[I]s there something you want me to actually come observe related to that?"

The principal said that regular meetings with teachers allowed them to also celebrate recent successes, and to discuss particular student learning needs or concerns. She also noted how the meetings provided an opportunity to draw connections between individual teacher learning goals and school-wide teacher learning:

We have a staff inquiry plan. We set steps and agreements about what we're going to practice and come back together there as a whole staff, and how we're going to move together as a whole staff. The one-onone meetings are more about your individual continuum of what you need or want to work on. It can be related to where we're growing as a whole staff, but it doesn't have to be. It's differentiated. We always want to move as a whole staff, but then not everybody comes with the same strengths and needs. We want to make sure we have an individualized plan for where the adult needs to fill out their portfolio of strengths.

These meetings in turn provided further opportunities for teacher professional development. Each teacher at SMASH was allocated the equivalent of 4 days a year in which his or her class could be taught by a substitute teacher. These "sub days" can be used flexibly by the teacher depending on needs. In some cases, teachers used sub days within the school, to assess students one on one or observe another teacher's class; in other cases, teachers chose to attend a seminar or workshop, sometimes attending in pairs.

## Multiple Roles for Teachers

In addition to hiring and supporting high-quality educators, the schools also "used" the strengths and interests of the educators in multiple ways to maximize the benefits to the students. In order to help teachers learn and do what would work best for their students, the schools created multiple and flexible roles for teachers-both in working with their students and also in working with each other.

At IHS, for instance, teacher roles and responsibilities extended beyond the school to the community, beyond school hours to after school, and beyond direct interaction with students during "traditional classes" to include:

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AT INTERNATIONAL, the school's authority to design and implement a peer evaluation system linked to peer support for professional growth creates an incentive for collective responsibility for teachers to improve their practice.

The system's peer observation and review components promote teacher learning by introducing faculty to a range of instructional strategies, supporting them to experiment with these strategies in their own classrooms, encouraging them to assess their own behavior in the context of others' professional practice, facilitating the sharing of insights and ideas, and "institutionalizing the process of continuous self-evaluation" (IHS, n.d.-c, p. 6) thereby making teaching and learning public and increasing individual and collective responsibility. Team members support each other by exchanging ideas, observing one another's classroom teaching, writing peer observations that focus on the staff member's goals, and discussing problems and progress. Team members advise their colleagues on writing self-evaluations and on preparing their evaluation portfolios and presentations to the Peer Evaluation Team (PET), which consists of four randomly selected staff members, including a representative of the Personnel Committee who serves as chair, that conducts staff evaluations and makes recommendations to the principal on teachers' appointment, continuance of probation, and tenure as well as the continuance of service for tenured teachers. In addition, the assistant principals review teachers' goals for professional growth and recommend a peer with whom to collaborate in their pursuit.

In the evaluation process for teachers, each faculty member develops a portfolio that contains the teacher's goals for the year, student evaluations, and work samples that demonstrate teaching capacity, and contribution to the content area, the teacher's team or to IHS, or the teaching profession. These portfolios include lessons and student work samples and one (for tenured faculty) or two (for nontenured faculty) self-reflections, peer reflections, and administrator evaluations (HIS,, n.d-c., p. 5). Self-reflections are self-assessments of a teacher's own practice and focus on the teacher's learning and growth. Peer reflections focus on teachers' goals and are based on team members' classroom observations of teachers' implementation of IHS's philosophy and pedagogical beliefs: collaboration; continued use and development of students' native language; use of whole language, writing process, and experiential learning for English language development; heterogeneous grouping; course organization around themes, etc. (IHS, n.d.-c).

Teachers make presentations of their portfolios to the Peer Evaluation Team, comprised of four randomly selected faculty members and a representative of the Personnel Committee who acts as the Peer Evaluation Team chair. All faculty are reviewed by the PET in their first 2 years at IHS and tenured faculty are reviewed every 3 years. At the presentation, teachers discuss their goals, and accomplishments of which they are particularly proud.

- Membership in an instructional team and participation in team meetings
- Interdisciplinary curriculum development in collaboration with other members of the team
- Participation in Peer Evaluation Teams
- Participation in out-of-school conferences and workshops/membership in professional associations
- Occasional writing for publication
- Mentoring candidates for graduation and participation in portfolio presentations for certification
- Extracurricular activities
- Membership in a school governance committee
- Cultivating and maintaining relationships with students, involving making contact with parents, counselors, family workers, and other teachers (IHS Personnel Procedures, n.d., p. 12).

One example of IHS's flexible teacher roles was the Early College Coordinator. In order to support students taking college courses at LaGuardia Community College, a social studies teacher was released for two-thirds of his teaching time to take on this role. Importantly, the position was funded from the regular allocation for school staff. This teacher served as the liaison to LaGuardia Community College and oversaw the 5 th year (Early College program). Responsibilities included overseeing students' registration for college classes, providing students with support for college work as needed, and guiding and disseminating information in the college application process. The Early College Coordinator conducted 10 advisories for students taking college courses, providing students with feedback on those courses and the knowledge that would help them succeed. A paraprofessional assisted by providing students with math support.

One of the major "additional roles" that teachers took on was providing professional development. This took multiple forms-mentoring of beginning teachers, facilitating professional learning communities (by grade level and content), and observing other teachers. The professional development that teachers experienced embodied the critical components of high-quality professional development known to improve teacher practice: it was ongoing and connected to practice; it focused on student learning and addressed the teaching of specific curriculum content; it was aligned with the school's goals and priorities; and it provided time for teachers to

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THE FLOW OF a social studies disciplinary team meeting at International High School illustrates the embedded inquiry approach to professional development. The meeting began with a review of what was covered at the prior meeting and some logistical business (e.g., one teacher needed to volunteer to attend an afternoon meeting on interim assessments, where staff was investigating ways to assess students' research skills and integrate research skills into classroom instruction before students are asked to conduct research).

Four issues and questions framed the meeting agenda: 1) feedback on the curriculum of the Fall I semester, 2) What are you doing for Fall II (the current semester)? 3) What are you doing for the Spring semester? 4) How do we merge skills within and between Junior and Senior Institutes?

During the meeting, department members made their coursework, strategies, instructional challenges, and questions transparent and reflected on their practice. One teacher reflected on students' responses to a research paper in his Constitutional Law class and his responses to students' struggles:

Reflecting on this semester, I felt students got a better understanding of complex details. I pushed them. For lower level students, I modified the choices. I had them focus on one argument. Sources were difficult for them to understand, so I wrote summaries of complex text and also mixed it with original text. I probably did too much for one semester. I used lots of discussion in class so they understood it better. It was more intense than usual.

Another teacher shared that students learn argumentation when he tasks them with "getting into the argument right away" instead of the background information. This comment raised related questions on students' capacity to evaluate and refute evidence and to determine whether the sources and/or evidence students select fit into the argument they have framed. Students tend to record the evidence they have collected without integrating it into the frame of their argument. Teachers then shared solutions. This conversation led to a deeper discussion on students' thinking when they select sources during their online searches to find information and evidence related to their argument: "What are some strategies for searching so that students play around with different sources to see which fits their paper?" One teacher viewed students' behavior as a symptom of insufficient engagement and suggested a solution to deepen students' buy-in: "Get students to think of questions." For the next meeting, the team considered investigating components of research. This cognitive trajectory demonstrates how a disciplinary meeting where teachers share students' learning and their own instructional challenges as well as solutions informs their instruction, curriculum development, and other areas for learning. Their questions build new areas for collective inquiry and the opportunity for acquiring new knowledge they can use to improve their instruction.
collaborate and work together (King \& Bouchard, 2011; Newmann et al., King, \& Youngs, 2000; Darling-Hammond, Wei, Andree, Richardson, \& Orphanos, 2009).

Creating and supporting these multiples roles requires a particular kind of principal; one who is well-versed in the school's philosophy and goals, and understands the essential value of multiple teacher leadership roles. At SMASH, the teaching staff developed a new staff social contract each year, and decisions on how they wanted to develop as a staff were made jointly in discussion with the principal. In this process, the principal saw her role in constructing a schedule as a facilitator:

Well, I see my role as a really active listener, and a both clarifying and probing questioner, and leader of lots of reflective conversations with all of the adults including certificated, classified, parents, community members, as well as students. By having all of those reflective conversations, putting together what our ... shared priorities are, that's the kind of meeting in the middle of what other people see and what my experience and training and intuition says in trying to build a collective investment and agreement about how we're going to move forward. [T]hat's basically how I see my role in all areas, including time.

It wasn't just time that was used differently in these schools, it was also how they used the strengths, interests, and needs of teachers flexibly so that the time created was time well used to support the students. These multiple and flexible roles for teachers, including significant roles in school decision-making in three of the four sites, were essential for the schools to function within numerous constraints. There are still only 24 hours in a day so you can't increase the number of hours in a day to create more time. There are still (even with permission for adjustments to the contract from the district and the union) contractual issues to consider. Finally, you can't spend more money on personnel than the budget allows. While these schools had some additional resources when they began their changes, eventually all operated within the same budget and personnel parameters as all the other schools in their district. They did not, for instance, have more resources for personnel. They just used their existing personnel resources differently, changing "traditional" roles of administrators, "regular" teachers, "specialist" teachers, aides and paraprofessionals, as well as community resources.

## District Support

The schools are all embedded within districts, so clearly districts played a role in the work of the schools. While it would not be accurate to describe the work of the schools as "district" initiatives, the districts did play an important role in enabling the work. In two of the sites, for instance, the districts provided additional resources to help kick-start efforts. When Hillsdale transitioned to small learning communities, the district provided additional funds to hire the extra teachers needed to staff the
program at a ratio of 20 students to one teacher. Similarly, Pagosa Springs' redesign process would not have been possible without the district providing the funds to hire the technical assistance provider that led the work of creating a sustainable plan for more and better learning time. With the help of the technical assistance provider, the Pagosa Springs staff redesigned the master schedule to include large blocks of uninterrupted instructional time for students and more collaboration time for teachers. In addition to financial assistance at the inception in the two sites, the central offices also provided sustaining support by affording the schools with flexibility and permission to color outside the lines.

SMASH teachers reported that the district understood the school's goals and the way in which the school operated to achieve them. The principal described how the district office would "tell us what the non-negotiables are, what the tight parts are, and then they totally trust us to be intentional with the pieces that can be flexible to meet our needs." This flexibility allowed the staff at SMASH to make contextually appropriate decisions about how to address the strengths, interests, and needs of their students as well as their own. There was a level of understanding at the district level of school goals, and the way in which it operated to achieve them. One teacher who participated in district committees noted,
> [J]ust knowing that the district supports our work I think psychologically is a big deal. It's not like we're the rogue school with the charter doing our own thing. We know that at some schools they do very similar work. Our work is different in other ways, but that there's still this overlap. There is a level of district support.

Another example of "permissive flexibility" at SMASH was the school's ability to bank time by combining three contractually provided, 90 -minute staff development periods into two extended periods. This has allowed SMASH to create the extended staff inquiry session, during its Friday early release days, and to write these into teacher contracts. The school also had some flexibility within staff contracts that allowed instructional aides to start late on some days and stay later on others to participate in staff inquiry times.

As with the other sites, the sustained district support came in the form of operational flexibility rather than resourcing. Like other schools in the district, SMASH received an allocation of Title II teacher professional development funding as well as some funding from the Santa Monica-Malibu Education Foundation, a nonprofit organization that supports public schools in the district. These funds were also available to the other schools in the districts. SMASH used those funds towards staff time, such as substitute teachers during learning walks and an instructional assistant
position. SMASH, like the other schools in the study, did not receive disproportionately more resources than other district schools to support the use of time.

At IHS, several of the school's most critical features regarding the use of time have been made possible by a long-standing tradition of "policy by exception" (DarlingHammond, Ancess, \& Ort-Wichterle, 2002), formalized by provisions in the contract between the United Federation of Teachers and the New York City Department of Education, which permits the school to design and implement innovations that bypass particular regulations. Examples of exceptions to policy include time allotted within the teacher schedules for teachers to serve as graduation portfolio mentors to IHS seniors, time for teachers to participate on governance committees, the time for active involvement in the process by which teachers are hired, supported, and evaluated, to name a few. As an example, under an arrangement made by the United Federation of Teachers and the New York City Department of Education along with the International principal, the school is able to determine their own teacher hiring, support, and evaluation processes. These exceptions to policy formalize and institutionalize school-level decision-making authority so that IHS staff are able to enhance student learning and development and modify contractual working conditions to promote teacher learning and leadership. The principal commented, "There is sufficient system flexibility." And throughout its history, IHS has been strategic in its use of the system's flexibility.

## Networks

The schools also benefitted from participation in networks of like-minded schools and educators. Just as learning with and from other educators within their own schools supported the growth and development of the students and teachers within the schools, so too did learning with and from other educators from without their own schools. Pagosa Springs is an active member of the Generation Schools Network, a nonprofit that promotes student-focused public school transformation. Hillsdale has been an active participant in multiple networks, most recently the California Performance Assessment Consortium (Learning Policy Institute, 2016).

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Over the course of its history, several, often externally funded, long-term powerful networks have supported the work of IHS. For the most part, networks have been grassroots-practitioner created and led. In the 1990's IHS was a member of the Center for Collaborative Education, the New York City chapter of the Coalition of Essential Schools, founded by Deborah Meier, which was a primary advocate and designer for the New York State Education Department agreement that granted International and other schools a waiver from the New York State Regents to graduate students by a system of portfolio assessments. When a new State Education Commissioner planned to rescind the waiver, the graduation portfolio schools joined together under the leadership of IHS's former principal, Eric Nadelstern, who was one of a small group of New York City principals to form the New York Performance Standards Consortium, which became an educational and advocacy organization of 40 schools that takes the actions and influences policy necessary to ensure the continuance of the waiver to graduate students by a system of portfolio assessment. IHS is also member of the Middle College National Consortium, which grew out of the original partnership with LaGuardia Community College and is active in the movement for dual enrollment and the national expansion of and public funding for Early College. This organization too was founded and is led by a practitioner, Cecilia Cunningham, the former Middle College High School principal.

Partnerships with the City University of New York (CUNY) Early College Initiative and the Internationals Network for Public Schools support the continuance of IHS's flexible organization of teacher time and work. The school's affiliation with the (CUNY) Early College Partnership supports cost-free dual enrollment and a cost-free 5th high school year that allows students to accumulate sufficient credits for an Associate's degree as well as a high school diploma. As mentioned earlier, students enrollment in courses at LaGuardia Community College during the school day reduce IHS class size and increase time for teachers to participate in activities such as individual student portfolio mentoring.

The school's membership in the Internationals Network for Public Schools, which was formed in 1995 as the number of International High Schools in New York City began to increase, provides opportunities for inter-school collaboration and learning as well as policy and advocacy support. Founded by a former IHS practitioner, Claire Sylvan, the Internationals Network advocates at the city and state level for the interests of the International High Schools to safeguard the innovations that have been at the core of the school's identity.

The International High Schools affinity group has its own superintendent, who, remarked the principal, "supports the Internationals, understands what they do, and can provide clear critical feedback on how they do what they do, not what they do." Principals including IHS's sit on superintendent level committees in which they collaborate and discuss the needs of schools. With its own support system, the Internationals Network for Public Schools is in a position to reinforce, protect, and sustain those innovations that define IHS as well as the other International High Schools in New York City.

Although the political environment in New York City and State were propitious for IHS's innovations, the school's leadership and affiliations with like-minded schools and external organizations made significant contributions to the creation of that environment and continued support.

## Conclusion

The types of collaborative practices in place at these schools engaged educators with different areas of expertise to share decisions and responsibilities towards a commonly held vision or outcome. As teachers learned with and from each other through collaborative relationships, they strengthened their sense of collective responsibility for student learning.

The work was guided by leadership that skillfully managed relationships by creating structures and activities to support and sustain the relationships, using time, over time. The approaches the schools enacted afforded frequent and open communication between players, allowing time for trusting relationships to develop (Spillane \& Diamond, 2007). The relational trust fostered by these collaborative relationships in turn enhanced the capacity of the schools to develop agreed upon strategies to enact the schools' visions (Bryk \& Schneider, 2002).

In the schools we studied, collaboration provided educators multiple opportunities to exercise leadership, working together towards a common vision, while bringing different expertise to the practice. Teachers benefited from being part of a positive school community in which they could participate in shared decision-making and learning (Sebring, Bryk, \& Easton, 2006). When teachers have a role in school decision-making, they tend to feel more motivated and efficacious (Copland, 2003; Ross \& Gary, 2006). Strong professional communities within schools, composed of close collaborative relationships among teachers focused on student learning, foster sharing of expertise to address core problems. "By engaging in reflective dialogue about teaching and learning, teachers deepen their understanding and expand their instructional repertoire" (Sebring et al., 2006, p. 13).

It was not always, and still is not, easy for these schools. Strategically managing partnerships, maintaining the permeable permission to be different, avoiding meeting creep, sustaining the learning culture of the school through the inevitable personnel churn, and the need to continually change the schedule as the strengths, interests, and needs of the students change all require ongoing work. These schools would tell you, however, that the outcomes for the children and their families make it worth the effort.

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[^1]:    ${ }^{2}$ The most current year of data available for the school was 2014-2015.

[^2]:    ${ }^{3}$ The NCTQ Teacher Contract Database houses collective bargaining agreements and state policies on over 145 school districts in the United States including the 60 largest districts in the country, the largest district in each state, member districts of the Council of Great City Schools, and the districts awarded the Broad Prize for Urban Education (see http://www.nctq.org/districtPolicy/contractDatabaseLanding.do).

[^3]:    ${ }^{4}$ The two 60-minute periods reserved for collaborative work apply to teachers in Cores 2-4 or grades 3-8. The Core 1 teachers (grades $\mathrm{K}-2$ ) receive one 60 -minute period of collaboration time per week.
    ${ }^{5}$ SMASH is organized into smaller units known as "cores." Core 1 covers grades $\mathrm{K}-2$, with Cores 2 , 3 , and 4 covering grades $3-4,5-6$, and $7-8$ respectively. Two teachers are assigned to each core except for Core 1 , which has three teachers. Cores are allowed to function with some independence of each other, including scheduling authority.

[^4]:    ${ }^{6}$ Lower secondary school refers to the International Standard Classification of Education (ISCED-97) and equates to middle school or junior high school in the United States.

[^5]:    ${ }^{7}$ The OECD TALIS 2013 also surveyed international upper secondary school teachers, equivalent to U.S. high school teachers, and found that, on average, international teachers spend 17.9 hours per week on teaching. A sample of U.S. teachers did not participate in this portion of the survey, so a comparable average for how much time U.S. secondary teachers spend on teaching is unknown. However, the OECD research shows that, in general, teaching time decreases as the level of education increases. Thus, it is likely that U.S. secondary teachers, on average, spend less than 27 hours teaching per week, but it is unlikely to be as low as the OECD average.

[^6]:    ${ }^{8}$ The teacher on special assignment position started with one-time funds from the state to support Common Core implementation. The district has maintained the position with general funds but may reduce the support next year.

