

VOL.

15



Balancing Site Autonomy and District Priorities for Sustained Mathematics Progress

Three School Case Studies from the Math in Common Initiative

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October 2019

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Suggested citation: Reade, F., Perry, R., & Marple, S. (2019). *Balancing site autonomy and district priorities for sustained mathematics progress: Three school case studies from the Math in Common initiative*. San Francisco, CA: WestEd.

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Table of Contents

WestEd's Evaluation of the Math in Common Initiative	i
Introduction	1
Lessons from Math in Common on Developing and Sustaining Mathematics Instructional Improvements	2
A district vision for mathematics	2
Site-based instructional leadership	2
Tools and resources to link vision with classroom instruction	3
Three Case Studies in Oakland and Oceanside	4
Wixon Middle School: A Math Coach with a Clearly Designed Role to Support Improvement.....	5
Role of site-based instructional leadership	5
Role of the district math vision.....	6
Role of common tools and resources	7
Rosemont School: Teachers Working Together to Improve Math Instruction	8
Role of site-based instructional leadership	8
Role of the district vision.....	8
Role of common tools and resources	9
Webster Elementary: A Principal Holding a Vision for Mathematics	10
Role of tools and resources	10
Role of the district math vision.....	11
Role of instructional leadership	11
Conclusion.....	13
Appendix A. Memorandum of Understanding for Mathematics Common Core Teacher Leaders	14
References	17

Figure

Figure 1. Three critical requirements for district-level improvement efforts.....	3
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WestEd's Evaluation of the Math in Common Initiative

Math in Common® is a seven-year initiative (2013–20), funded by the S. D. Bechtel, Jr. Foundation, supporting diverse California school districts as they implement the Common Core State Standards for Mathematics (CCSS-M) across grades K–8. Ten districts received Math in Common grants: Dinuba, Elk Grove, Garden Grove, Long Beach, Oakland, Oceanside, Sacramento City, San Francisco, Sanger, and Santa Ana. Collectively, these districts serve almost 300,000 K–8 schoolchildren and serve 9 percent more low-income students and 6 percent more English learner students than the average for schools statewide. Two districts, Garden Grove and Long Beach, concluded their grants in summer 2018; the others continue in the initiative's second phase, which is ending in 2020.

WestEd is providing developmental evaluation services over the course of the initiative. The evaluation plan is designed principally to provide relevant and timely information to help each of the Math in Common districts meet their implementation objectives. The evaluation in the first five years of the initiative centered around the following four central themes, which attempted to capture the major areas of work and focus in the districts as well as the primary indicators of change and growth:

- » Shifts in teachers' instructional approaches related to the CCSS-M in grades K–8
- » Changes in students' proficiency in mathematics, measured against the CCSS-M
- » Change-management processes at the school district level, including district leadership, organizational design, and management systems that specifically support and/or maintain investments in CCSS-M implementation
- » Development and sustainability of the Math in Common Community of Practice (CoP)

Together, the Math in Common districts are part of a community of practice in which they share their progress and successes, as well as their challenges and lessons learned about supports needed for CCSS-M implementation. Learning for district representatives is supported by WestEd team members who provide

technical assistance related to goal-setting and gathering evidence of implementation progress (e.g., advising on data-collection instruments, conducting independent data analyses, participating in team meetings to support leadership reflection). Another organizational partner, California Education Partners, works with the CoP by offering time, tools, and expertise for education leaders to work together to advance student success in mathematics. Together, California Education Partners and WestEd develop learning opportunities for district participants, including Leadership Convenings three times per year, "opt-in" conferences on high-interest topics (e.g., supporting English learners), and cross-district visitation opportunities.

Beginning in the 2018–19 school year, the CoP entered a second phase, in which funding continued to enable districts to sustain their work as a community. The remaining eight districts chose to continue working with their cross-district colleagues to sustain and scale the elements of their district-specific improvement work that got the most traction during the initial five years of the initiative. In these last two years of the initiative, WestEd's evaluation aims to identify and describe the factors that support and challenge the ability of the Math in Common districts to continue their math improvement efforts, and document the ongoing impact of these improvement efforts on teaching and learning in these diverse district systems.





Introduction

From 2013–2018, the Math in Common (MiC) initiative supported 10 California school districts as they began implementation of the Common Core State Standards for Mathematics (CCSS-M). The 10 MiC districts received substantial funding as well as access to a community of practice (CoP) to explore and share improvement strategies for mathematics instruction and systems change.

Beginning in the 2018–19 school year, the CoP entered a second phase in which funding continued at a reduced rate for districts to sustain their work as a community. Eight districts chose to continue working with their cross-district colleagues to sustain and scale the elements of their district-specific improvement work that got the most traction during the initial five years of the initiative.

While MiC took a district-level approach to improvement, the target of the work was change in school sites and classrooms. To understand the reach of MiC districts' math improvement efforts, WestEd has been conducting teacher focus groups and principal interviews at schools in MiC districts for a series of case studies about implementing and sustaining district-level improvement efforts.

Data collection is ongoing, but analysis of findings from our first set of conversations with teachers and principals have identified one common and compelling story about the ongoing challenges of education change in districts. The story focuses on two districts facing significant internal and external forces that challenge coherent and sustained districtwide focus on mathematics improvement and explores how these forces impact educators at three different school sites in those districts. Readers knowledgeable about the history of education change efforts will recognize the familiar tale of how difficult long-term improvement can be in decentralized district systems. At the same time, we hope these examples offer hope of how improvement work can persist from year to year even in challenging circumstances.



Lessons from Math in Common on Developing and Sustaining Mathematics Instructional Improvements

In the first phase of MiC, our evaluation activities (including our 14 evaluation cycle reports and our summative report series) described various lessons the community learned over time about critical requirements for district-level improvement. In this report, we revisit three of these requirements in order to understand and contextualize the work happening at the three focal sites:

- » The need to develop and broadly communicate a **clear district vision** for CCSS-M-aligned mathematics teaching and learning
- » The need to have knowledgeable and well-supported **site-based leaders** who can communicate and support the enactment of the district vision at individual school sites
- » The need to have **tools and resources** that embody and help educators across a district system make sense of and connect the vision to instructional practice

A district vision for mathematics

One of the central tasks of districts over the first five years of the MiC initiative was to develop a district vision for mathematics teaching and learning. Each district's vision encompassed important decisions about what to prioritize in mathematics and how to do so, including choosing which elements of the standards to bring to the foreground of implementation work, describing the roles of teachers and students in a standards-aligned classroom, agreeing on how to ensure a focus on equity for all students, and setting the roles of coaches and principals in supporting instructional change. Many districts in MiC developed an instructional focus on mathematical discourse as part of their vision.

Site-based instructional leadership

Sharing the vision broadly across the districts was another important activity for MiC district leadership teams. They knew that implementing the CCSS-M would require educators at all levels of the system to have a common understanding of what CCSS-M-aligned instruction should look like for teachers and students. The MiC districts worked in a variety of ways to develop this shared vision by strengthening the ties and relationships between the district and the sites. For example, some invested in working closely with site principals in order to put math on the radar for sites traditionally more focused on literacy. Other districts deployed math coaches who could serve as "sense-makers, messengers, and mediators" (Reade & Carroll, 2018) of the standards between the central office and school sites.

One goal of building these cross-role relationships was to empower site leaders to lead teams of teachers in the work of CCSS-M implementation. For many districts, this was accomplished through positioning site-based professional learning communities (PLCs) as powerful levers of change — which required confident instructional leadership from principals, coaches, or teacher leaders with clear connections to the district's math vision.

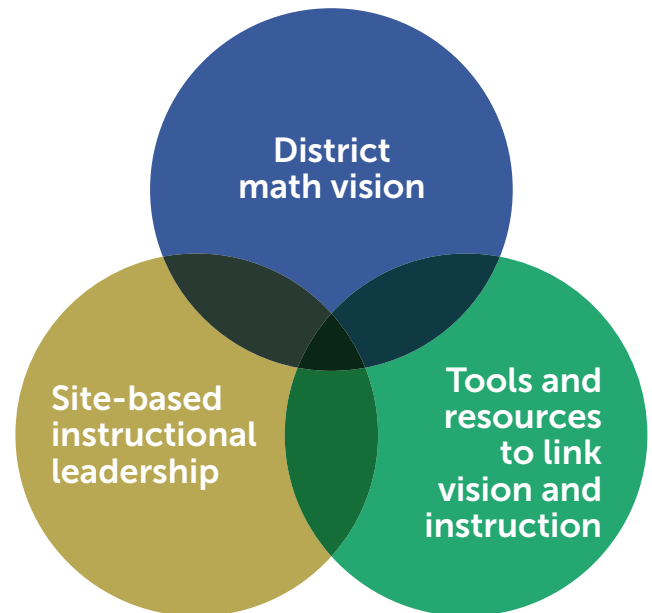
Figure 1 illustrates these requirements, which are described in more detail below.

Tools and resources to link vision with classroom instruction

MiC districts' experience implementing the CCSS-M helped them to understand that the standards are too complex and sweeping to take on all at once. Using shared tools and resources helped the districts clarify particular aspects of their vision that they wanted educators to attend to, understand deeply, and improve collaboratively – while also maintaining coherence across levels of the system. These tools and resources included:

- » The *Mathematics Framework for California Public Schools* (California Department of Education, 2013) and the National Council of Teachers of Mathematics' books *Principles to Actions* (National Council of Teachers of Mathematics, 2014) and *5 Practices for Orchestrating Productive Mathematics Discussion* (Stein & Smith, 2011), which helped PLCs develop common language and change ideas
- » Classroom observation protocols, which supported principals and coaches to better understand the mathematics vision and develop their instructional leadership capacity for CCSS-M implementation
- » Districts' own adopted curriculum, which provided fertile opportunities for groups of teachers to study mathematical progressions, consider places to adapt and supplement as needed, and analyze student work

Figure 1. Three critical requirements for district-level improvement efforts



Even under ideal conditions for reform and improvement, the three elements from Figure 1 are enormously complicated to put in place. In districts undergoing serious challenges, such as leadership and teacher turnover or declining enrollment, any progress made in one year can easily dissipate the next. Even without severe challenges, districts' priorities can change in response to external demands and policy directives. These "shifting winds" can make it difficult to keep district educators working together toward a common goal in math when there are other competing priorities and demands such as, for example, adoption of a new English language arts (ELA) textbook, or a heightened districtwide focus on social-emotional learning. Math in Common districts were certainly not immune from these sorts of competing demands.



Three Case Studies in Oakland and Oceanside

Other researchers have pointed out that improvement requires slow and steady work over time, rather than quick fixes (Elmore & McLaughlin, 1988). And much has been written about the challenges of improvement in tumultuous systems — especially improvement efforts during times of reduced funding (Berends, Bodilly, & Kirby, 2002; Coburn, 2003; Cohen-Vogel et al., 2015; Datnow, 2002; Fernandez & Rainey, 2006; Fullan, 2015; Honig, 2006; Spillane, 2002; Tyack & Cuban, 1996).

We wondered if the MiC districts' efforts to sustain their CCSS-M improvement activities were “textbook” cases of the typical challenges of implementation and sustainability, or whether we might learn something new about what it takes to sustain improvement from looking more closely at particular districts.

Using what we learned from the first phase of MiC to ground our examination, this report highlights two MiC districts, Oakland and Oceanside, and three focal schools within these districts. Each school “case” focuses on the perspective of either a teacher team, a coach, or a principal on the day-to-day work of implementing the CCSS-M. For each case, we highlight which of the math improvement elements in Figure 1 — the district math vision, site-based instructional leadership, and tools and resources linking vision and instruction — were present at the school sites and what the consequences were if they were absent. (These elements show up in different ways at the case sites; therefore they are described in different orders in the narrative.)

Since California's adoption of the CCSS-M, staff from the Oakland and Oceanside district math offices have engaged in serious, thoughtful work, both within and outside of the MiC initiative, to implement the CCSS-M across the district. During that time, Oakland has had

five superintendents, made tens of millions of dollars of budget cuts (Harrington, 2019a), lost thousands of students to charter schools within the district (Lafer, 2018), and lost nearly one in five teachers per year to turnover (Harrington, 2019b). Meanwhile, Oceanside has faced declining student enrollment and has been deemed by a state task force to be at “moderate risk” of fiscal insolvency (Brennan, 2019). Oceanside has had three superintendents during its participation in Math in Common (Brennan, 2018).

Maintaining a vision for education improvement efforts is notoriously difficult when district leadership is in flux (Fullan, 2001; Peterson & Deal, 1998; Schwann & Spady, 1998) and when district resources and needs fluctuate on the basis of changing student enrollment. Despite the differing scales — Oakland is a large urban district and Oceanside is a much smaller suburban district — MiC leadership team members in these two districts had their work cut out for them to develop and share a coherent math vision, and to maintain improvement efforts in the face of such challenges.

Despite the adverse conditions, we met teachers, coaches, and principals in both of these districts with deep commitment to improving mathematics education for their students, with change ideas they were committed to, and with a clear sense of how district supports helped them. As described in the three case writeups that follow, these educators also described their challenges. They experienced varying levels of connection to district-level improvement efforts and supports. And some described the toll it took on them to excel in their work every day through changes in staff, funding, and curriculum materials or when district- and site-level supports were missing.

Wixon Middle School: A Math Coach with a Clearly Designed Role to Support Improvement

Wixon Middle School¹ in Oakland Unified School District benefits from a site-based mathematics coach who has a clearly defined role that allows her to focus solely on leading mathematics improvement work at the site, mainly through PLCs and one-on-one time with teachers. She maintains a close connection with the district math office through weekly meetings and she uses tools and materials that are aligned with the district vision to guide her work with Wixon's teachers. Teachers at the site described their work with the coach as a critical factor in helping them make instructional shifts in the classroom and handle changes in administration and teaching staff.

Role of site-based instructional leadership

Lisa works only with Wixon (at .8 FTE) and is one of three district math coaches funded solely by an external foundation grant, not through site or district funds.² The funding for Lisa's position as a Common Core Teacher Leader (CCTL) for mathematics is a "long-term commitment." Neither Lisa nor Sonja, a district mathematics administrator we interviewed, expected the arrangement to change any time soon – either in terms of funding or the basic coaching structure (see sidebar for more information about the CCTL role).

Given that Oakland has faced financial distress and resource challenges, which can create problems across the system, the stability of this coaching role is meaningful. "Everyone's super aware that we don't have enough money," Lisa said. "We were on strike. Even when I came [to Oakland Unified] a few years ago, the district math department was fully funded. Then the money dried up and all those people got laid off."

Lisa's coaching role was developed by Oakland's district mathematics leadership team and her job responsibilities are outlined through a memorandum of understanding (MOU, see Appendix A).

Several years ago, when the CCTL program began, Wixon's former principal applied to the district for a coach. She met with Lisa and Sonja, who oversees the district's math coaches, to see if Lisa (and the CCTL model) would be a good fit for the school. After determining that it would be a good match, the principal signed the MOU specifying both what the CCTL is expected to do and what they should not be asked to do. This agreement specifies that CCTLs be released at least a half-day per week "for professional learning, collaboration, and planning with other CCTLs and site-based math coaches." The MOU also provides strong protection for the CCTL coach to focus on mathematics alone, prohibiting them from taking on many tasks outside of math coaching (e.g., subbing, proctoring tests).

Without other site responsibilities, the CCTL can plan and lead coherent mathematics professional learning opportunities for the site's math team and have regular one-on-one time with all teachers. In our focus group,

1 Note: All names of schools and people in this report are pseudonyms. This Oakland school serves 360 grade 6–8 students. Ninety-five percent of students are on free- or reduced-price lunch, and 38 percent are English learners.

2 Oakland has a number of coaching programs in place at sites, funded through various different sources, and thus may be tied to the continuity of the particular funding stream.



Overview of Oakland’s Common Core Teacher Leader coaching position

“The primary goal of the Common Core Teacher Leader (CCTL) for mathematics is to build the capacity of teacher teams to ensure that diverse learners at participating schools meet the demands of the Common Core State Standards. CCTLs are site-based, but centrally funded and developed. CCTLs work in collaboration with site administrators and teachers, as well as with other CCTLs and Academics & Instructional Innovation colleagues to improve the math experiences, opportunities, and academic outcomes for students at the school, informing the broader work in Oakland. CCTLs are also charged with accelerating the learning outcomes for a specific group of students in a focal population identified by the school.”

Source: Common Core Teacher Leader for Mathematics Roles & Responsibilities 2018–19 (Oakland Unified School District)

teachers said they felt that the coach’s steady presence strengthened their shared learning in PLCs and brought coherence to their individual instructional pursuits. “She’s in our classes every single week observing,” one teacher said. “We have a debrief meeting every single week. And then she had all of our individual contexts to bring together for our collaborative learning [in the PLC].”

When the principal who brought Lisa on at Wixon left, she was replaced by a new leader with a new vision for the site. Despite the change, the MOU provided clarity and stability to Lisa’s role and enabled her to continue deepening the work she had begun with teachers at Wixon and with other district math staff outside of the school.

While Lisa highlighted the importance of being flexible around the needs of the site, which occasionally involves her taking on a task or role outside the MOU, she also underscored the important role the document played in helping the new principal understand and agree to her work at the site, which sometimes conflicted with what he might have asked her to do otherwise.


Role of the district math vision

Lisa has a close connection to the district office and other district coaches, which ensures that there is a deep resonance between the district’s vision for mathematics and the ways Lisa nurtures that vision for teachers at Wixon. “If you look at Oakland’s vision of mathematics,” Lisa said, “that’s part of why I wanted to come work in this district. [Sonja] and I work very closely together because of that alignment.”

Sonja also spoke of the value of the MOU in maintaining the consistency of her contact with CCTL coaches such as Lisa. “Because of the MOU,” she said, “I know the CCTLs will be there every week [at our meetings]. Other [site- or district-funded] coaches might be able to attend or not.”³

This year, one of the main tasks in these monthly “coaching collaborative” meetings is to help smooth the transition from the curriculum OUSD developed in-house in the early years of CCSS-M implementation, to a newly adopted publisher-developed curriculum. Coaches work with one another, Sonja, and a representative from the curriculum publisher to make sense of the new materials and think how to use them to build on the work already begun under the previous curriculum to support rich tasks and focal teaching practices. The coaching collaborative also worked to develop theories of action for each site at the beginning of the year and supported each other with PLC agendas.

3 In addition to the three CCTLs, Oakland has other site-based math coaches who are hired directly by principals, (not the district) thus giving the principal ultimate say in what the coach does with their time and in support of which instructional goals. Because CCTLs report to Sonja, and their positions are funded through the district office as part of a multimillion-dollar STEM education grant from Salesforce.org, their job is to uphold the district’s math vision.



To create stronger connections between the district vision and teachers at her site, Lisa also takes a leadership role in planning the monthly districtwide middle-school math PLC that all school sites attend. She feels that her ability to create connections and coherence across the many professional learning options that teachers experience is one of her most high-leverage contributions to ongoing district and school improvement. She explained, "I can ask, 'Where is the consistent learning trajectory for teachers?' For example, I can think about how to make the work around student talk make sense in all the different learning spaces for teachers."

For Lisa, these PLCs keep the learning relevant to teachers' daily practice, create a space to socialize new teachers into the district and site vision for mathematics, and support teachers to collaborate and learn from peers' experiences.

**"We've had coaching in a lot of models in our school. This is the ... only math coaching that's had an impact on my practice."
[Experienced Wixon math teacher]**

At Wixon, Lisa has also extended the reach of the PLCs, and thus the reach of the district vision, beyond the credentialed staff at the school. The site has a group of math tutors from Blueprint, a fellowship program that hires recent college graduates to provide daily, small-group "high-dosage" math tutoring to students. Blueprint has its own model for coaching, but Lisa brought these tutors into the math PLC so they could reinforce the same ideas about learning as the teachers. "Sometimes the most powerful thing I'm doing," Lisa said of this kind of work, "is holding space for everyone to be in the same room."

When a math teacher quit suddenly in fall of 2018, because of the strong PLC culture at the school and

one-on-one time with Lisa, Wixon was able to hire a Blueprint tutor and support her to take on aligned math teaching practices in her new classroom. In a district where one in five teachers leaves each year, this kind of dedicated support to bringing a new person on board to support the mathematics vision can make a large difference in team coherence.

Role of common tools and resources

"When CCSS-M was being announced," one Wixon teacher explained, "district leadership had a strong vision and wrote a curriculum to support that vision, including tasks, multiple strategies, and a shift away from 'I do, you do, you do.'" She went on to describe the district-created curriculum as foregrounding collaborative groupwork and rich, "almost project-based" tasks, which helped her to begin shifting her instruction to align with the CCSS-M.

The district has moved to a new curriculum, which also plays an important role in monthly coaching collaborative meetings in which coaches and district administrators examine and interpret the materials that they are asking teachers to use to achieve the district vision. The materials, and the opportunity to discuss them with district colleagues, helped Lisa to understand and convey the same ideas as other coaches to her Wixon teacher colleagues when they study the materials together in their PLC. Wixon teachers felt that, with Lisa's guidance, the PLC was a crucial support for the site to understand the curriculum materials together.

Another resource that helps to drive Wixon's math PLC collaboration and discussions is the NCTM publication *5 Practices for Orchestrating Productive Mathematics Discussions*. Teachers we interviewed spoke in detail about the district goals and ways they are regularly using the five practices in their classrooms and revising the use of the practices in their PLC, based on shared understandings that they are building together. "I've never had the opportunity to analyze a lesson the way this book supports me to," one teacher said.



Rosemont School: Teachers Working Together to Improve Math Instruction

In contrast to Wixon, teachers at Rosemont (a dual-immersion Spanish/English preK–8 school in Oakland Unified) reported that none of the three critical requirements for district-level improvement efforts were as clearly enacted as they would hope, in large part because there was not a dedicated individual tasked with holding site-level leadership or responsibility for math improvement. Teachers described seeking out their own mathematics professional development, and felt that a teacher leader, compensated for their time and offered appropriate structures, could help ensure the sustainability of the instructional ideas that they wanted to develop and pursue together. Teachers' connection to the district math office had seemingly faded over time, limiting their current knowledge about and ability to continue to implement the district vision at their site.

Role of site-based instructional leadership

As a group, the teachers we spoke with at Rosemont were driven to improve their mathematics instruction and were resourceful about finding their own pathways for improvement. In particular, they described seeking out workshops and conferences outside the district (e.g., learning opportunities on growth mindset or mathematical modeling) and pursuing grant funding to attend professional development opportunities. While multiple teachers described taking initiative to organize these professional development trips, both alone and with colleagues, they also described a lack of leadership for helping the group to share, spread, and sustain its learning to the rest of the site.

Teachers had a clear sense that without a designated individual to lead math instructional improvement efforts, and without the resources and structures to support that person, much of their well-intentioned work to shift practices and collaborate on math was evaporating over time. "People would go and come back," one teacher said of workshops and conferences, "and there was not a structure for sharing" or for

bringing individual professional development benefits to the site as a whole.

The site does in fact have a person named as "math lead." In the past, when there was more funding from and connection with the district math office, the math lead was supported with tools and resources from the district to lead improvement work in the PLC. But after district budget cuts reduced staff at the district office, the site no longer had a conduit to the math department, and the current math lead was unable to do much on their own. (Sonja, the district administrator, informed us that funding will be restored to better support a teacher leader at Rosemont during the 2019–20 school year.)

Role of the district vision

To combat what they felt was a math leadership deficit, at the beginning of the 2017–18 school year, Rosemont teachers started to develop a site plan for mathematics to align their instruction across grades and regularly follow up on practices they wanted to hold themselves and one another accountable for. They began this process by simply naming all the practices each was pursuing in their classroom to support math standards

implementation and mathematical language development, using student work to support the conversations.

Unfortunately, they reported to us that this collaboration did not get adequate support from site administration to be sustained over time. While they were promised extended contract pay for this site-planning work, the funding never appeared and the cross-grade collaboration fell away.

"At the beginning-of-the-year PD," one teacher told us, "it wouldn't be that hard for a math lead to say, 'These are the core components this year, this is what we expect to see in every class, here are the practices we all found really valuable.' It wouldn't be that hard to do, but it's just not built into the structure." Rosemont is a dual-immersion Spanish/English preK-8 school, so concerns about building the mechanics of mathematical language dominate teachers' concerns, and teachers are eager to align their work to build language facility across grades. As one teacher told us, "There was no time put aside for these conversations about creating a vision for math at a bilingual school. The conversation started, but we haven't been able to hold it."

The lack of connection to a district vision was not always the case. One district support offered prior to 2017 was site-based lesson-study cycles led by the site math lead and district math administrators. Rosemont teachers participated in these professional learning experiences, which they felt fostered a connection to the district's vision for CCSS-M implementation: "[The district's] goals were very clear," one teacher said. "They wanted Common Core math to be implemented everywhere, wanted all the sites to be using tasks, using [the adopted textbook] Math Expressions and tasks together, using high-leverage strategies like three reads, math talks, participation quizzes."

However, the cuts at the district math office impacted the district staff's ability to offer site-based learning opportunities, and "had a huge impact on the cohesion of how to carry things out," one teacher said. After

the cuts, "there were no more PLCs regarding math. So, there was no way of holding it, no way to make sure PD was happening." Another teacher continued, "I remember these conversations [during lesson study] but I don't even remember what we aligned around. One of the things that strikes me . . . is that if work [toward instructional alignment across the site] was being done, it's not being passed down year to year."

"When there's funding, then people will go. It's very simple, if the district funds something, people will go, and that will be a focus." — Rosemont teacher

Role of common tools and resources

In the years before sizeable cuts at the district math office, Rosemont teachers felt that district math coaches and administrators "gave us a lot of resources and structures," mentioning supports for lesson-study cycles and math talks. After these cuts, teachers described seeking out their own tools and resources for the site, particularly the "mathematical mindset" model from Stanford researcher Jo Boaler. But overall, one teacher said the loss of support from the district had "a huge impact on the cohesion of how we can carry out [improvement work]."

"There's people like me who need regular reminders" about shared goals for math improvement, a teacher told us, "and there's also new people coming on every year. If we had more of a collective effort around math it would do a lot to help us stay on board doing the same things. What we're seeing is the lack of resources funneled into keeping a math program going at a school."



Webster Elementary: A Principal Holding a Vision for Mathematics

We interviewed Joanna, who is in her seventh year as principal at Webster Elementary and her 30th year in Oceanside Unified School District. Joanna has pinned mathematics instructional improvement at Webster to student academic discourse, a focal area of the district math vision. She guides teams of teachers to explore discourse and related instructional shifts through an adapted version of a district resource: a classroom peer-observation protocol. When the site had to focus on ELA to enact new reading units of study, Joanna adapted the observation protocol to continue focusing on student discourse in reading. Now the observations and learning cycles are held routinely for both math and ELA, creating coherence for teachers across the two content areas.

(Because of the importance of a district tool – the observation protocol – at this site, we examine this area first in this case writeup.)

Role of tools and resources

One of the Oceanside MiC team's early strategies for improvement was working with principals at monthly principal meetings and leveraging the district's classroom observation tools. Principals and district math administrators participated in classroom observations together during various types of observation. They gathered data on classroom instruction to help principals become familiar with the demands of the CCSS-M and the importance of student mathematical discourse, and to build their capacity to provide formative feedback to their staff and support teachers in cycles of inquiry on math instruction.

At Webster, the observation protocol has been one of the most important tools for instructional improvement. Although the district-level supports for these types of observations fell away over the past few years as a result of shifts in leadership and funding, Joanna felt the process of structured peer observation and reflection that she learned through work with the MiC team was valuable for her teachers. Accordingly, she has adapted it, funded it through her Title 1 funds and supplemental

money from the district, and kept it going at Webster. "I made it our own," she said, "and we made it what we wanted it to be, we shaped it for the needs we had."

One of those needs is related to the importance of PLCs at Webster, where Joanna strongly encourages grade-level groups to use their PLC time and the "learning walk" process to learn together. Teachers have four Wednesday early-release days per month; two are for individual planning time and two are for PLCs to discuss topics chosen by the grade-level teams (e.g., new curriculum, math talks, Cognitively-Guided Instruction pedagogies).

The learning walk protocol reinforces and provides additional support for teachers at the site to spread ideas about what they are learning and discussing together. Joanna reported that through this process, PLC teams hold themselves accountable for supporting one another to continue working on and refining instructional changes that are important to them. She believes that other school sites could benefit from district support for similar peer observations and the close collaboration she sees within Webster's grade-level teams as a way to spread both the practice of observation and to deepen other sites' connection to the math vision.

Today, these learning walks, as they are called at Webster, begin with grade-level teams working together on focal areas and practices during their team meetings

and PLCs. This year, vertical articulation between grades is of interest to teachers, so the learning walks have involved cross-grade teams.

To conduct a learning walk, Joanna begins with a pre-meeting with a teacher from each grade level who will participate in the learning walk, to remind them how the process works. Then Joanna, another site administrator, and the teachers visit those teachers' grade-level classrooms for 20 minutes each and record what they see "like a video camera." They note interactions between teacher and students; types of tasks; and environmental details, such as posters on the wall. "We record what we see," Joanna said, "and what our wonderings are." They use an observation recording form that has space to note the presence of instructional practices or strategies that teams are working on, such as types of mathematical questioning.

The team debriefs and records grade level observations which are shared by the teacher who participated in the learning walk at a follow-up grade level meeting. The grade level team analyzes the information shared and determines the team's next steps.

Role of the district math vision

In addition to learning walks, Joanna said that a focus on student discourse across content areas has also been a high-leverage practice for improvement of math instruction and learning. Student math discourse was identified early in Oceanside's MiC participation as a key element of the district's math vision. District math staff worked with principals in monthly meetings, during site visits, and through math coaches to encourage principals to focus on discourse at their sites.

Initially, working with an MiC leader, Joanna focused the classroom observations on students demonstrating their thinking and supporting it with evidence, with particular attention to helping cross-grade observation teams think through the progression of skills across grades. "We would do learning walks," she said, "and follow up with debriefing at grade level and across grade

levels to see how we were building toward that [vertical alignment]. Our students get really good about at least opening their mouths and sharing. They're sharing with their partners, sharing with whoever came to their classroom."

Joanna believes that an important part of what has sustained both the instructional focus on academic discourse and the professional learning program of learning walks is the way the two have grown to be mutually reinforcing across content areas. They've become part of the fabric of Webster.

Role of instructional leadership

It's not uncommon for teachers to feel like they are having to respond to "pendulum swings" of reform, where district priorities shift from one area of focus to another. A common theme from across the years of MiC has been the struggle to keep a focus on math despite competing priorities; often, one of the most important contributions site-based leadership can make is simply to keep math improvement going from year to year.

When the site adopted new ELA units of study, making this change in ELA could have overshadowed Webster's continuing progress to build students' capacity for math discourse. However, instead of dropping the math discourse work in favor of ELA, Joanna said she and the Webster teachers first asked, "What does discourse look like in the reading units of study?", extending the work they had begun into a new area. At the same time, they temporarily shifted the learning walks to focus on discourse in ELA. Now, in the third year of the reading adoption, the focus on student discourse extends across all content areas, allowing for a cohesive site focus. "When we go into learning walks," Joanna said, "we may see math, we may see reading, but . . . the expectation is that a high level of academic discourse is happening across all concepts and content."

A challenge for the sustainability of the learning walks from year to year has been their cost; teachers need substitutes to cover their classes while they visit one



another's classrooms and debrief. This issue points to another key element of instructional leadership faced by MiC districts — pushing math implementation as a priority and securing resources to support the work.

When we asked Joanna how she funds the work, she joked, "It's called faith." Her site does receive some of the highest levels of Title I funding in the district, but she said that every fall her budget is still inadequate to cover the learning walks and she has to ask district leadership for more money.

Joanna likes to share her learning and she has an open-door policy for other district principals to come visit the

site. She says when visitors do come, "it just blows their mind and they would like all schools to be here [seeing how the observations work at Webster]." However, she noted that simply coming to see how things are done at Webster is not enough to make these practices take root at more schools. She emphasized that improvement practices require support and leadership at both the site and district level: "It takes support. I hope that one day they [the district administration] can support this district-wide, where [teacher] professional learning is something that we principals lead and we are supported to lead. But right now, it is hit or miss."

Conclusion

Sustaining instructional improvement is difficult work, even in the most ideal circumstances. Most school districts, however, do not operate in ideal circumstances. We hope that these three school case studies of districts carrying out improvement efforts while facing an abundance of structural challenges provide some hope for the possibility of ongoing improvement. We found that when provided with a few clear resources, individuals (in the case of Lisa and Joanna) or small groups (in the case of the Rosemont teachers) can make a difference in ensuring that mathematics teaching and learning continues to evolve and improve at school sites.

We offer a few recommendations below for district and site leaders interested in sustaining math instruction to consider.

Develop and share a district vision for mathematics

- » The district mathematics vision was an important lodestar for both Wixon and Webster, guiding the instructional leaders in their improvement work with teachers. To effectively guide improvement, math staff in other districts must develop and communicate a clear vision for what standards-aligned mathematics should look like in classrooms. The uptake and understanding of the vision across the district must be assessed, and supports need to be provided if uptake or understanding wavers or varies significantly across sites. Webster's continuing learning walks enabled Joanna to have a grounded understanding of how that vision played out in her teachers' classrooms.
- » In an ideal world, the math vision should be constant and accompanied by consistent reminders of its central points for educators across the system. A constant lodestar can help guide the long-term learning that has to happen in systems to achieve the vision, as teachers and site leaders learn, practice, and iterate on aligned and useful instructional strategies.

Support instructional leadership at school sites

- » Over the years, MiC districts came to more greatly appreciate how site leaders shepherd the district math vision and must be supported to guide instructional improvement and standards

implementation from year to year. As our cases show, teachers, coaches, and principals can all serve the role of a site leader, provided they are empowered, compensated, and offered appropriate supports.

- » As with Webster, teacher leadership can be an important mechanism for site-level change. There, teachers were offered time and structures to work together effectively toward a common vision. On the other hand, as the Rosemont case demonstrates, individual teacher initiatives may not reach full potential without an assigned leader who has a clear focus and who is funded and supported by district or site administration.
- » Regardless of where leadership for system change is found, district leadership must consider ways to identify potential site-based leaders and connect them with one another within and across sites, with powerful ideas, and with resources about how to bring the district's vision into classrooms.

Support improvement through common tools and resources

- » All three case study sites reported finding value and coherence from the use of improvement resources provided by their district, including observation protocols and common documents or curriculum material resources. To maintain focus, district staff may want to choose only a few tools (that are validated by research) and provide ongoing opportunities for educators to continue to use the tools together to better understand how to achieve important district goals.

Appendix A. Memorandum of Understanding for Mathematics Common Core Teacher Leaders

Common Core Teacher Leader for Mathematics (CCTL) Roles & Responsibilities 2018-19

Purpose

The primary goal of the Common Core Teacher Leader for Mathematics (CCTL) is to build the capacity of teacher teams to ensure that diverse learners at participating schools meet the demands of Common Core State Standards (CCSS). CCTLs are site-based, but centrally-funded and developed. CCTLs work in collaboration with site administrators and teachers, as well as with other CCTLs and Academics & Instructional Innovation colleagues to improve the math experiences, opportunities, and academic outcomes for students at the school, informing the broader work in Oakland. CCTLs are also charged with accelerating the learning outcomes for a specific group of students in a focal population identified by the school.

Assurances: The following assurances outline the roles and responsibilities of all parties:

Central Assurances: (Academics & Instructional Innovation)

1. Provide an 11-month TSA (CCTL) to each participating site (funded per FTE equivalency).
2. Support CCTLs in developing site math coaching plans (vetted with the principal) that include student growth and achievement metrics and measurable goals and implementation targets for coaching.
3. Provide CCTLs with weekly professional development, collaboration and support to deepen

understanding and strengthen practice with content & standards, instructional pedagogy, and in key domains of teacher leadership and coaching.

4. Hold collaborative observations (e.g., walkthroughs, shadowing) on site with the principal and CCTL at least quarterly. Math Coordinator will meet with the CCTL monthly, including the principal as needed.
5. Promote a culture of continuous learning and ensure that CCTLs, Principals, and ILTs have the necessary planning and continuous improvement tools and resources to guide CCTLs in this leadership role.
6. Provide instructional materials and support for the classroom-based work with students (e.g. core curriculum, intervention/acceleration program materials).

Site Assurances: (Principal, Leadership Team)

1. Develop a Theory of Action for:
 - a. Building teacher team capacity, through strategic decisions about the CCTL's coaching portfolio (i.e. grade-level, teams, schedule)
 - b. Accelerating the learning of a group of students in a focal population identified by the school, aligned to the SPSA. (E.g. ELLs, long-term ELLs, African-American, Latino students, students at a particular grade level, students with particular test scores, students in a particular academic intervention program, etc.).
3. Promote a culture of continuous learning and ensure that site PLCs and structures are in place for a well-defined focus on mathematics throughout the year (supported by the CCTL).

4. Ensure that the site CCTL serves as the site's Teacher Leader (unless there is an additional site-funded TL), and include the CCTL on the school's ILT.
5. Release the site-based CCTL at least a half-day per week for professional learning, collaboration, and planning with other CCTLs and site-based math coaches. (Scheduled: Thursday, 8:30-11:30 am)
6. Provide planning time for site-based CCTL to plan their work with students and their coaching and professional learning, as appropriate.
7. Within reason, protect CCTL from duties outside the scope of the position, such as "lunch duty", student discipline, subbing, facilitating SSTs/SARTs, or coordination of non math-related assessments.
8. CCTL may provide site coordination for math-related assessments only, including SBAC, SBAC IABs, and Curriculum Embedded Assessments.
9. Principals will evaluate CCTLs and incorporate feedback from the Secondary Math Coordinator.

Common Core Teacher Leader Job Description Essentials

Classroom-Based Work with Students:

1. Dedicate the equivalent of at least 120 minutes per day to direct contact with students on mathematics-related content (e.g., teaching, co-teaching, providing observation & feedback, working with small groups, accelerating learning for students with high needs).
2. As a lead learner, regularly incorporate research-based promising practice in working with students, including the full implementation of OUSD's core curriculum for mathematics (Open Up), and associated pedagogical practices.

Job-Embedded Professional Learning Support to Teachers:

1. Facilitate teachers' professional learning and capacity for full implementation of CCSS-M. Examples:
 - a. Model, co-plan, and coach teachers on Common Core-aligned math instruction.
 - b. Facilitate ongoing, inquiry-based professional learning and collaborative instructional planning among teams of teachers at the school.
 - c. Help teams of teachers to strengthen the district's instructional priorities: conditions for student learning, standards-based instruction, and language & literacy, and the Middle School Network priority around academic discussion.
 - d. Work to bring to life Oakland's Vision for Mathematics in all classrooms and amongst all teacher teams.
5. Use a coaching and feedback cycle grounded in data (includes student work, and video/recording of classroom instruction and coaching conversations) to support teams of teachers' growth and development.
6. Meet regularly with principal and ILT to develop and review site CCTL Theory of Action.
7. Visit classrooms with principal, and on a quarterly basis include the Secondary Math Coordinator.
8. In support of work with teachers:
 - a. engage in weekly Coaching Collaborative with other CCTLs and site-based math coaches.
 - b. Effectively communicate with site colleagues any content specific learning and information.



**Support for the Blueprint Program:
(at participating sites)**

- 1. Connect with Blueprint Regional Manager to inform Blueprint unit planning and scheduling (when do units start and end) in order to facilitate alignment with math teachers
- 2. Facilitate coordination of school professional development (i.e. communicate with Regional Manager to decide what school professional development is appropriate for Fellows to attend, help Fellows integrate into the school culture)
- 3. Coordinate direct support for school alignment (i.e. rosters, schedules, outside of tutoring support support, assessment and survey logistics, etc)
- 4. Facilitate data entry and analysis (help Regional manager schedule any interim testing that needs to be done in Blueprint, or inform Regional manager of interim testing dates.) Facilitate data sharing for interim assessment scores for Blueprint students.
- 5. Facilitate logistical team meetings around school schedules and other school specific things
- 6. Coordinate support for fellows with grades, parent contact, and parent conferences

Expectations:

The assurances listed above are meant to clarify expectations for Teaching & Learning, site leadership, and the CCTL, alike. We recognize that a CCTL could be

reassigned to another site if the principal and Academics & Instructional Innovation leaders deem it infeasible to meet these assurances. Specific expectations for CCTLs include:

- » 80% minimum attendance at weekly Coaching Collaborative.
- » A 40% / 60% split of time focused on classroom-based work directly with students and time supporting the professional learning and capacity of teacher teams (PLCs) – i.e. no subbing for absent teachers, lunch-duty or other administrative duties (e.g, discipline, facilitate SSTs/SARTs, etc.)

Our signatures here represent the commitments we are making to support the work of the Common Core Teacher Leader, particularly to build the instructional capacity of teachers at our school and to improve the experiences, opportunities, and academic outcomes of the designated focal student population, as determined by our school. We acknowledge the shared accountability inherent in our commitments and will work together to achieve our goals.

School Principal

Date

Academics & Instructional Innovation

Date

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