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Better Math Teaching Network:

Deepening Practice in Community

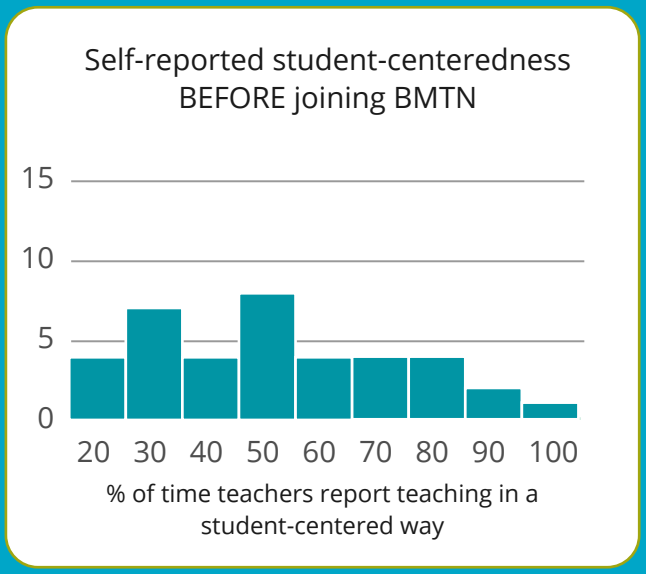
Years 1 and 2 Summary

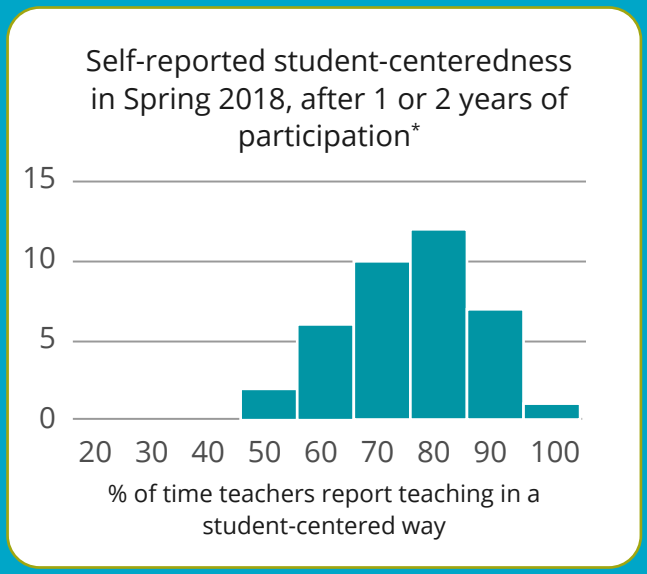
Authored by Katie Bayerl

BMTN at a Glance

Who: 51 algebra teachers, 10 instructional leaders
Where: 30 districts across all 6 New England states
Goal: Increase the number of students deeply engaged in algebra
How: Through quick-cycle research & networked conversations
Convened by: American Institutes for Research
Supported by: The Nellie Mae Education Foundation

> *"It's allowed me to become a better teacher... [creating] a classroom where they're able to make the connections between things in a different way than before."*
>
> *–Better Math Teaching Network participant*





*Some teachers also participated in the pilot year.

Learn More

To explore in-depth findings from Years 1 and 2 of the Better Math Teaching Network, visit **nmefoundation.org**

To learn more about the network, visit: **bettermathteachingnetwork.org**

Better Math Teaching Network:

Deepening Practice in Community

What does real learning look like in algebra? What specific moves can math teachers make to engage their students in ways that lead to true, deep understanding? These questions are at the heart of the Better Math Teaching Network, a group of educators and researchers from across New England who are seeking to increase the number of students who deeply engage in algebra. Led by the American Institutes for Research and supported by the Nellie Mae Education Foundation, this networked improvement community hypothesizes that student-centered learning could solve the problem of student disengagement in Algebra 1, a course with outsized influence on students' academic and career trajectories.

The network includes 51 high school algebra teachers and 10 instructional leaders representing a mix of rural, suburban, and urban districts across New England. Together, they are testing and refining instructional routines that increase engagement and deepen learning, with particular attention on economically disadvantaged students, who tend to lag behind their peers in math achievement.

Anticipating powerful lessons, Nellie Mae invested in a multi-year developmental evaluation to provide timely and actionable information to network leaders and members, while also informing the education field. Now in its second year, the network is evolving steadily and the learning has been rich. As educators discover practices that make a difference for their students, we are also learning about the structures and conditions that support effective teacher networks and that foster instructional improvement at scale.

Here, we offer highlights from Year 2 of the Better Math Teaching Network. We invite you to share what you learn in your own networks and to explore our work more deeply at: bettermathteachingnetwork.org

Learning in Community

The Better Math Teaching Network offers a promising, practical model for teacher learning. Its practitioner members—who all teach at least one section of high school algebra and all joined voluntarily—are working with each other and a team of researchers to make their teaching more student-centered through an ***improvement science*** approach. With frequent in-person and virtual meetings, network members come together to share what they discover as they test and refine new instructional routines in their classrooms.

Their work is grounded in the following five core understandings:

1. Teachers are central to change.
2. Student-centered teaching is complex and almost impossible to do in isolation.
3. Teaching can be continuously improved.
4. Quick-cycle improvement methods provide opportunities to study and improve teaching.
5. Research and practice should be seamlessly integrated.

Why Improvement Science? (What *is* Improvement Science?)

Improvement science, simply put, is a practical, structured approach to learning through trial and error. With a long history in the manufacturing industry and healthcare fields, improvement science helps organizations solve problems and improve performance through iterative, rapid-cycle testing of new ideas. Recently, improvement science (also known as "inquiry") has gained popularity in education, as leaders and practitioners seek ways to accelerate improvement across schools and districts.

The heart of this change approach is the ***Plan-Do-Study-Act*** inquiry cycle. Practitioners begin by planning a small, specific change tied to their working hypothesis of improvement. They then test the change in the classroom, study evidence to assess whether the change produced an improvement, and decide what action to take next in light of what they've learned.

Unlike interventions that require high levels of fidelity and consistency, improvement science makes use of variations in practice. Failed attempts and deviations provide opportunities for educators to learn and refine their approach. Variations are particularly useful when a group of practitioners test out similar changes in practice and then come together to compare results. These rapid inquiry cycles—and resulting conversations among practitioners—are at the heart of the Better Math Teaching Network, providing rich fodder for meaningful professional learning.

Plan-Do-Study-Act

A rapid-cycle approach to testing instructional innovations.

Plan: Create a specific plan for how to implement a new routine and collect data on its impact. Make predictions for what the data may reveal.

Do: Execute the planned routine, collect associated data, and note their immediate reactions.

Study: Analyze the data, compare it to their predictions, and determine what to do next.

Act: Decide whether to adopt the instructional routine as is, adapt it in some way, or abandon it as unsuccessful.

Why Algebra?

Algebra I is a milestone course for virtually all secondary students, serving as a gatekeeper to the upper level math required for college admission and strongly predicting a student's likelihood of completing a diploma and college credential. Far too many American students are not meaningfully engaged in the subject, however, and students of color, students from low-income families, and lower achieving students are less likely to have access to quality algebra instruction before high school, when it can make the most difference. Algebra access is, thus, an equity issue.

In selecting high school Algebra 1 as a focus, the Better Math Teaching Network places its attention on a group of students (9th, 10th, and 11th graders) who are already in a high-risk category due to their relatively late enrollment in the course. By engaging this population more deeply in math, their teachers hope to put more individuals on a solid academic path while discovering a potential solution to the persistent math achievement gap that inhibits the opportunities of too many students in their schools and across New England.

What is Student-Centered Learning?

Student-centered learning is an umbrella term for a diverse collection of instructional practices that prioritize individual students' strengths and needs in lieu of more regimented, teacher-directed approaches. The Nellie Mae Education Foundation identifies four core tenets that exemplify student-centered approaches:

- learning is personalized
- learning is competency-based
- learning takes place anytime, anywhere
- students exert ownership over their learning

Ample research suggests that students who participate in such experiences learn more deeply and gain access to the knowledge, skills, and dispositions they need to succeed in college, careers, and civic life.

How the Network Operates

The Better Math Teaching Network is a "networked improvement community," a structure that helps practitioners develop and test instructional routines together. As a group, participants can access the knowledge and capacity of one another to more effectively solve problems, innovate, and spread promising ideas.

During Year 1, participants identified three research-based features of deep engagement in algebra as a common focus:

- ***Connect:*** Making connections among mathematical algorithms, concepts, and application to real-world contexts, where appropriate.
- ***Justify:*** Communicating and justifying mathematical thinking (orally and in writing) as well as critiquing the reasoning of others.
- ***Solve:*** Making sense of and solving challenging math problems that extend beyond rote application of algorithms.

In Year 2, participants developed instructional routines that they hypothesized would increase the depth of student engagement in one or more of these areas. They then tested these ideas over multiple inquiry cycles, meeting with colleagues to discuss their findings and consider next steps.

The Network At a Glance

As members of the Better Math Teaching Network, teachers participate in approximately 100 hours of organized in-person and virtual meetings each year. Many spend time informally collaborating as well.

Summer convening: During a week-long workshop, participants learn the basics of improvement science, explore the network's aims and student-centered learning focus, and plan for the coming year.

Classroom testing: Teachers select change ideas they think will lead to improved student engagement and subject these ideas to three-to-five trials over a four-to-six week period.

Virtual study groups: Between testing periods, teachers meet virtually with colleagues working in the same instructional focus area (*connect, justify*, or *solve*) to discuss how similar routines played out in different contexts, share what they learned, and get feedback.

Whole-network convenings: All participants come together for four additional in-person sessions to share what they are learning and receive professional development on emerging issues. At the end of the school year, teachers present their refined instructional routines at a celebratory mini-conference.

PDSA Testing Process and Timeframe

Sample Change Summary

BETTER MATH TEACHING Network

Justifications Using a Partner Share Protocol

Heather Vonada

DEA:	**Type of Routine:**	**Unit Lesson Timing:**
Justify	Sharing a Routine	Practice and Reinforcement

Problem:
Students lack depth in their justifications and feedback. One of the factors leading to this lack of depth is their inability to write a conjecture. Students aren't willing to write down a claim without knowing if they are correct or not. Often there is no attempt to explain their reasoning, or it is limited and lacking logic or clarity. Many students feel that by just showing their work they have justified their solution. Another problem is that students don't give appropriate feedback to each other. They think by writing "good job" or "I did the same thing" that that is helpful and useful feedback.

Change Idea:
I will use sentence starters to help students write a conjecture and then use a protocol that will elicit deep justifications with quality feedback.

Key Learnings:

- Task Selection- If the tasks weren't broad enough, the conjectures, justifications and partner feedback were all weak.
- Writing- Students need support to write mathematically
- Feedback- It took practice and guidance for students to provide useful feedback.
- Spoken- Students give higher quality spoken justifications than written ones
- Sentence Starters- The engagement in writing a conjecture went up significantly when I added a sentence starter.

Final Routine:

1. Start with a task that is broad bit not time consuming. (See *Resource #1* as an example of how to set up your task).
2. Provide a sentence starter for conjecture
3. Give 10 minutes of Private Reasoning Time to do the task (write a conjecture, test the conjecture, write a justification based on testing)
4. Give 6 minutes for trading papers with a partner and having them give feedback (something they understand, confused about and a question they have.
5. Return papers to their owners and allow 10 minutes for students to add on to their justifications based on the feedback

Evidence of Promise:
To measure engagement, I looked at their work and made sure students made an attempt. To measure depth, I used a rubric (see Measures below).
From my trials I calculated the following results:

- 100% used a sentence starter and wrote a conjecture
- 92% of the students engaged in justifying

Context:

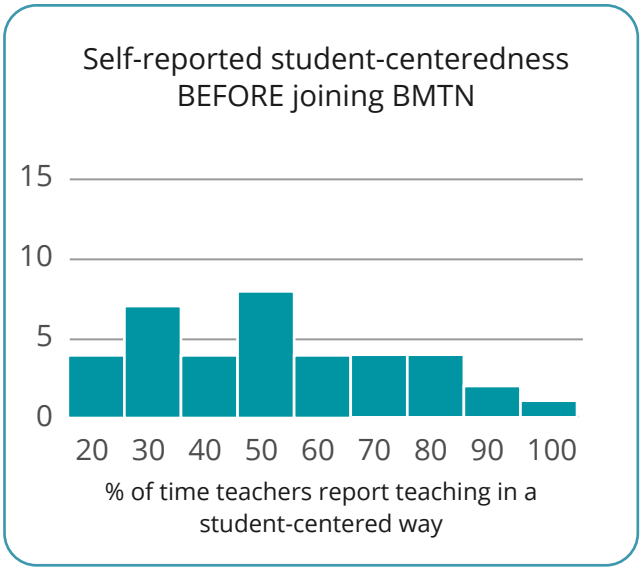
- I teach in a rural school district with roughly 375 students in the high school. The average class size is 17. Our high school is made up of 6 sending towns.
- 25% of students are on free or reduced lunch. 95% of students are white, English speakers.
- I spent 3 weeks at a time testing my change idea and it took me 3 cycles (9 tests) to refine my routine.

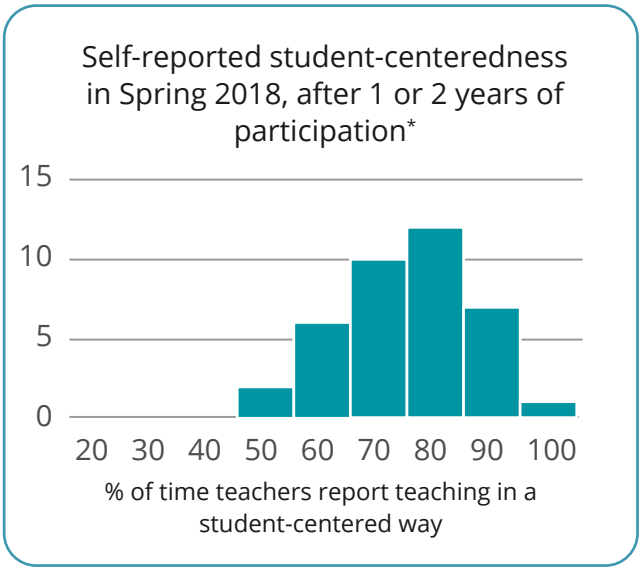
Impact on Student Learning and Teacher Practice

Teachers Made a Shift

Teachers reported a significant increase in time spent using student-centered practices after participating in the Better Math Teaching Network. In a spring 2018 survey, all teachers reported offering opportunities for student engagement at least sometimes, and a third reported doing so often.

Nearly three-quarters of teachers attributed the shift in practice to their participation in the network.





*Some teachers also participated in the pilot year.

In surveys and interviews, teachers reported they have become more intentional in their teaching, more reflective about their practice, and that they think differently about how students learn as a result of participating in the Better Math Teaching Network.

Teachers noted three big shifts in particular:

- **More intentional planning:** All teachers indicated that their engagement in the network has had some impact on how they plan their lessons, with 37% noting a substantial impact. More than half of teachers indicated a substantial impact on their task selection, with another nearly 40% noting moderate impact. In their reflections, teachers noted that they are more likely to select tasks that focus on conceptual understanding, rather than skill development.

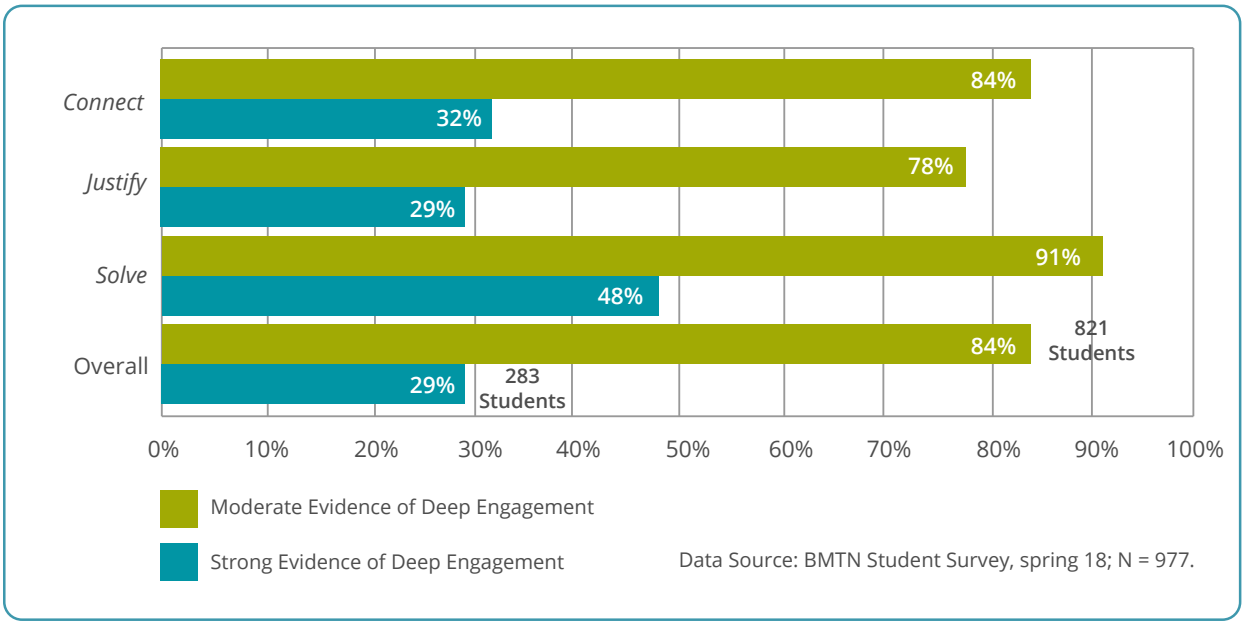
- **A shift in classroom roles:** Teachers are increasing the frequency of activities in which students carry the "work" of the classroom. They are more likely to design activities where students collaborate and learn from one another in peers and small groups. Student work now includes more writing and explaining rather than computation or rote learning too. Rather than the teacher "swooping in" to tell students what to do, the onus is more on students to do the thinking.

- **More informed by data:** All of the survey respondents said that the network had some impact on how they use data to inform instruction. Data helps teachers root their decisions about instructional planning, implementation, and refinement in actual outcomes, rather than impressions or conjecture.

… And Students Responded

At the end of the year, students in target classrooms took a survey that asked them to report the frequency with which they were asked to *connect*, *justify*, and *solve* problems—the three instructional foci of the network. About 84% of students reported at least moderate evidence of deep engagement across all three areas, with 29% reporting deep engagement. Students reported the highest levels of engagement with tasks requiring them to "*solve*."

Percentage and Number of Students Deeply Engaged in Algebra, by Evidence Level and Dimension, 2017-18 School Year



BMTN Student Survey Items, Constructs and Reliabilities

Survey Items by Construct and Overall	
Connect. *How often…*	.80
Do you make sense of mathematical rules, concepts, and relationships?	
Do you make connections to math concepts from other classes you've taken before or in the future?	
Do you make connections between math and real-world situations?	
Do you examine why the steps to solving a math problem or following a procedure work?	
Do you make connections to math concepts you learned previously in this class?	
Justify. *How often…*	.82
Do you explain your answers to others in the class?	
Do you argue or defend your approach to solving math problems?	
Do you critique the mathematical reasoning of others—either written or spoken?	
Do you evaluate other students' approaches to solving math problems?	
Do you discuss possible solutions to math problems with other students?	
Solve. *How often…*	.78
Do you keep trying different ways to solve math problems even when they are hard?	
Do you re-read or go over a math problem again if you have trouble understanding it?	
Do you keep working on math problems even when you are stuck?	
Do you determine if your answers to complex math problems make sense?	
Do you solve math problems with multiple steps that take more than 20 minutes to solve?	
Overall	.91

DATA Source: BMTN Student Survey, 2017-2018 school year.
Items on the survey were informed by the Survey of Chicago Public Schools from the Consortium on Chicago School Research at the University of Chicago.
NOTE: We dropped the last item in the solve domain due to low item-test correlation and alpha—both for this domain and overall.

Teachers noticed a resulting shift in student behavior: When asked how much of an impact the network had on student engagement, 45% of teachers indicated a substantial impact and another 45% indicated moderate impact.

Most commonly, teachers indicated that their instructional changes resulted in "more students doing an assignment" or "more students attempting all parts of assignments and investing more time." Several teachers indicated that the Plan-Do-Study-Act process spurred them to

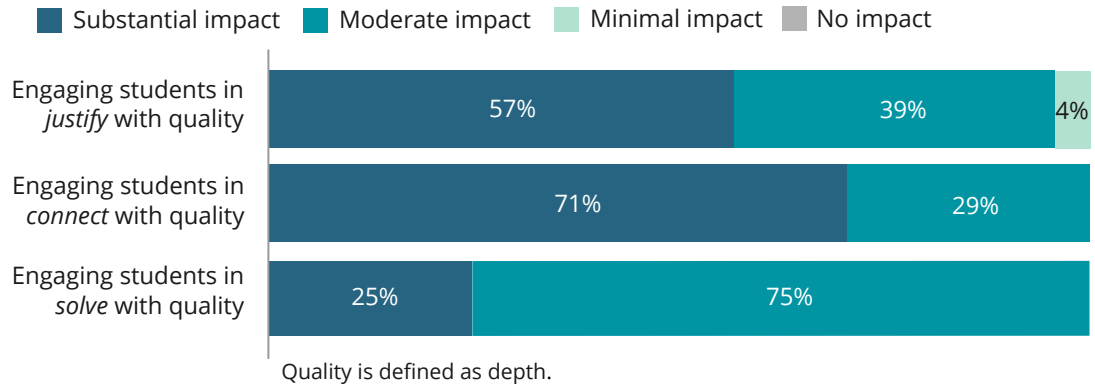
carefully observe student engagement, which led to new insights about individual students and informed the support they provided. Other teachers noted that the shift in student-centeredness increased the frequency with which students shared ideas during discussion, and a number of teachers noted that their instructional changes were helping less confident students engage in the work.

Descriptors of Deep Engagement in Algebra

In designing their inquiry cycles, teachers identified specific student behaviors and work outcomes that suggest deep engagement in each of the three instructional foci.

Connect	*Justify*	*Solve*
• Quality/depth of connection • Demonstrating understanding	• Explaining • Strategizing • Collaborating • Analyzing, synthesizing, and applying information	• Understands problem • Reasoning and strategy • Executing • Revising • Correctness • Restating • Confidence • Explaining

Perceptions of impact on engaging students with quality aligned with teacher's DEA of focus



Participants said:

"I think we're on to something big here."

"We are learning how to engage students in math and to think of a math class differently."

"We are asking, how are kids learning to solve? How are kids learning to think? How are they learning to justify their thinking? … Do you recognize any patterns that you can use? How might you want to problem-solve this?"

Several "Ah-ha's" Emerged

As network participants developed and tested learning tasks intended to deepen students' algebraic thinking, they made several important discoveries to guide their practice:

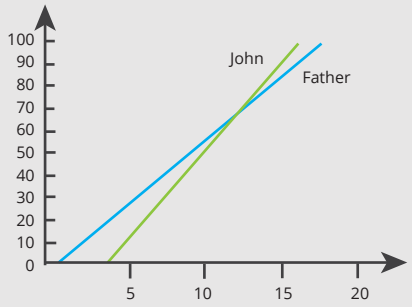
- ✔ Focus instructional tasks and activities on mathematical relationships as opposed to memorization of rote procedures.
- ✔ Use questions that explicitly address math relationships to assess the depth of student connections, justifications, or problem-solving processes.
- ✔ Allow time for students to work individually to gather their thoughts before working with other students.

- ✔ Provide opportunities for students to see examples, practice, and receive feedback on their attempts at deep engagement.

- ✔ Take time to develop a deep understanding of the content as a teacher to be better equipped to design and implement instruction with these features.

The first two discoveries were particularly potent: Teachers found that the more their instructional activities focused on mathematical relationships—i.e., emphasizing the relationship between the solution to an equation and a real-world context, the graph, or a table—the greater the opportunity for students to make a deep mathematical connection, provide a deep justification, or engage in deep problem solving. They also learned the importance of asking very specific questions. Rather than asking "What connections did you make?" or "How did you solve that?," they needed to ask: "What connections do you see between the shapes, puzzles, and systems of equations?" or "How does recognizing the pattern help you determine the value of the negative exponents?"

Sample Tasks that Elicit Deep Engagement

Task Type	
Task to promote deep **connections** (Developed by a BMTN teacher)	In the "Saving for a Bike" task Jenny started with $50 in her savings account and saved $5 per week. You and your classmates developed the following rule to represent how much she saved: $y = 5x + 50$ a. How is the equation $y = 5x + 50$ related to the linear function $f(x) = 5x + 50$? b. When asked how much money Jenny would save after 8 weeks, you and your classmates decided to do the following: $y = 5\ (8) + 50$ • How is this equation related to what you know about inputs and outputs for functions? c. When asked how long it would take for Jenny to save $185, you and your classmates decided to do the following: $185 = 5x + 50$ • How is this equation related to what you know about inputs and outputs?
Task to promote deep **justifications** (Edited from Better Lesson[11])	*John and his father ran a 100 meter race. John started the race 3 seconds after his father. The graph below shows how far the two ran over time.*  *Answer the following questions as completely as you can:* 1. *Who won the race?_____won the race. I know this because*_____.

Engaging for Equity

Because of the network's explicit interest in deepening algebra learning for underserved students, the developmental evaluation also examined network impact through an equity lens. Teachers working in schools with a majority non-white and/or low-income population (referred to as "high underrepresented minority" contexts) were somewhat more positive about the impact of the network on their students' engagement than their colleagues in other contexts; more than 85% reported a moderate or substantial impact on student engagement.

As they probed this topic in interviews, teachers discussed a variety of ways that their participation in the network affected students from historically marginalized populations. They noticed, for example, that in incorporating explaining and discussion into instructional tasks, they saw greater engagement of English language learner students as well as those who began below grade level. Moving away from rote problems to more complex, conceptual tasks that involved conversation and analysis also seemed to deepen the engagement of previously lower-performing students.

Lessons & Challenges

Challenges of Improvement Science

Teachers were overwhelmingly positive about their experience in the Better Math Teaching Network, but their work entailed challenges too. Learning and integrating improvement science into one's practice was the biggest challenge teachers cited. In end-of-year interviews, 53% of teachers who had been in the network more than one year and 78% of those new to the network identified an aspect of improvement science as one of the most significant challenges they encountered. They noted challenges in particular:

- identifying good change ideas
- integrating new routines into their regular practice and instructional flow
- finding time to experiment with changes while constrained by mandated curricula or pacing expectations
- designing practical measures for algebra engagement, collecting and analyzing that data, and interpreting the findings

Some of this feedback reflects a natural learning curve. Interview data indicate that teachers become much more confident with inquiry cycles after a year of practice, although data collection and analysis remains challenging for many.

Other feedback points to areas where the network can continue to evolve to support teacher growth. For example, a number of teachers noted their desire for common measures to use across the network. In Year 3, the network plans to assemble a task library that will, in part, support this expressed need.

Lessons about Networked Learning

Like the teachers with their students, the leaders of the Better Math Teaching Network designed their own routines and tools to help educators navigate new learning, refine their teaching practice, and build and sustain meaningful connections with colleagues. In this case, the routines include several types of in-person and virtual meeting structures, and the tools take the form of templates to assist participants in executing inquiry cycles, capturing impact, and sharing what they learn.

Teachers reflected on the effectiveness of each in the end-of-year survey and interviews. [See table.] Overall, several overarching lessons emerged:

The most effective routines involved regularity, collaboration, and opportunities for learning.

- ✔ The most effective routines involved regularity, collaboration, and opportunities for learning.
- ✔ Balancing less frequent in-person and more frequent virtual meetings can support momentum, accountability, and engagement.
- ✔ Teachers want to connect with colleagues, but busy schedules often prevent them from doing so informally; designed participation structures, thus, become crucial to sustained collaboration.
- ✔ Simple tools work well for busy teachers, as does building in time for structured or guided reflection.
- ✔ Finding ways to capture and consolidate learning from inquiry cycles is a persistent challenge.

Teachers Reflect on the Effectiveness of Network Routines & Tools

Routine	Purpose	Benefits	Challenges
Network meetings	The full network meets 4-5 times per year, in person, to learn together; share ideas and tools; plan changes and design learning tasks; and collaborate and build trust.	• Most useful element of the network, according to teachers. • Valuable time to work with network leaders and other teachers on inquiry cycles. • Useful for building and maintaining momentum while accessing a range of resources and expertise. • Opportunity to find new ideas, resources, and strategies for teaching student-centered algebra.	• Some found the time away from the classroom and their families challenging. • Some returning teachers found redundancy in meeting content. • Some returning teachers thought they were under-utilized.
Virtual small group meetings	Teachers work in small groups based on their area of focus, meeting virtually 4 times per year to share work, explore challenges, and receive coaching from peers and a network leader. Over time, network leaders released control to participants by giving teachers a protocol to guide their collaborative time.	• The majority found these meetings important or essential to their learning. • Teachers appreciated the regular coaching, opportunities to check in, and accountability. • This routine allowed teachers to learn more about their colleagues' inquiry work and to exchange meaningful advice and ideas. • Coach participation was critical in the early stages and added depth to discussions.	• Challenges included: inconsistent attendance, unprepared group members, lack of common focus, collaborating across very different school contexts, and groups that lacked the expertise to support their own growth without the coach. • Some found it challenging to find time to meet virtually due to varied, busy schedules.

Teachers Reflect on the Effectiveness of Network Routines & Tools, *continued*

Routine	Purpose	Benefits	Challenges
Virtual study group (optional)	Optional sessions added in Year 2 to build teachers' content and pedagogical knowledge. Network leaders selected texts, designed a protocol, and created groups of 3 or 4 based on teachers' choice of text and schedule. Most groups met 6-7 times in January through May.	• New and returning network members found study groups very valuable. • The greatest benefit was working with other teachers. Reading and discussing math topics with other math teachers created a sense of belonging to a *mathematics community*. • Other benefits included: expanded knowledge and resources.	• The biggest challenge was finding time, given other professional demands and the logistics of matching varied schedules. (It's notable, though, that despite perceived time challenges, half of Year 2 participants chose to participate in this option offering.)
Plan-Do-Study-Act Template	Tool for documenting inquiry cycles, modified from a template used by the Carnegie Foundation for the Advancement of Teaching and organized by the four stages of the PDSA inquiry cycle. Teachers shared the template, with links to relevant documents and data, on a Google drive.	• The template helped structure each step of the PDSA cycle, prompting data capture, analysis, and reflection. • 65% of teachers thought that the template allowed them to accurately represent their work to share with others.	• 35% of teachers reported a mix of challenges: the template didn't accurately capture their thinking, they felt rushed due to time constraints and the form's length, they were not as reflective as they'd hoped to be, they struggled to complete the form in real time and had to depend on memory to populate it, they struggled with new concepts related to making predictions and aggregating and evaluating data.

Teachers Reflect on the Effectiveness of Network Routines & Tools, *continued*

Routine	Purpose	Benefits	Challenges
Student Survey	Administered two times each year, students report on how often they engage in tasks that ask them to connect, justify, and solve (the three focal areas of deep engagement).	• Teachers felt this tool helped them stay more accountable and design more activities that aligned with student-centered teaching and deep engagement in algebra.	• Teachers with inconsistent attendance, high student turnover, and/or different student populations for terms 1 and 2 wondered whether the trends noted in the data accurately reflected meaningful changes in engagement.
Change Idea Summary Template	Two templates to support year-end reflection and help teachers share with the network. PowerPoint template: used to populate with details from PSDA cycles and report out to small groups. Word template: becomes part of a year-end book to share with all new and returning teachers.	Teachers found the tools very helpful in supporting year-end reflection. Teachers appreciated learning from each other's presentations. Some also appreciated learning from the change idea summary booklet. Some new teachers used the book as a way to introduce themselves to the work.	While the book served as a good introduction, teachers rarely used it to identify a change idea or to connect with others doing similar work, two intended uses.

From Better Math to Better Teaching at Scale

In its first two years, the Better Math Teaching Network has engaged a diverse set of high school educators in developing a more student-centered practice through rapid-cycle testing of classroom routines. The participants have been highly engaged and have made significant discoveries about instructional techniques that support deeper learning in algebra. Teachers and students alike have noted a resulting shift in student engagement. Network leaders, meanwhile, have tested and refined structures that support classroom-based inquiry and networked learning, with notable lessons for the field.

From the beginning, a central objective of the Better Math Teaching Network was to develop an approach to networked learning with potential to improve teaching at scale. Already, network leaders and evaluators have begun to explore questions about spread: investigating how teachers share what they've learned through informal channels, encouraging teachers to take on formal opportunities to inform colleagues at conferences, developing a parallel learning network for school, district, and state math leaders, and piloting spinoff learning communities across one high school and a district to test how classroom change ideas and network structures can be embedded in local contexts.

The participants have been highly engaged and have made significant discoveries about instructional techniques that support deeper learning in algebra.

As the network moves into its third full year, network leaders are responding to what they are learning and thinking about how to sustainably support teacher learning across a growing network while building structures that can spread that learning beyond the network across schools, districts, and new settings. They are particularly interesting in addressing four emerging issues:

- How to meet the needs of teachers at various stages of experience with student-centered learning, improvement science, and network involvement;
- How to leverage the expertise of returning teachers and create teacher leadership roles that can support network growth and spread;
- How to maintain a sense of connectedness across a growing community and negotiate the tension between quality of the experience and quantity of teachers in the network;
- How to harvest the most promising ideas, consolidate learning, and share knowledge in a way that is easily accessible and adaptable to varied teaching contexts.

Next year's evaluation will examine these issues and more as the Better Math Teaching Network continues to evolve in pursuit of its ultimate goal: deeply engaging many more young people in learning algebra.

To read the full evaluations of the Better Math Teaching Network, visit:
www.nmefoundation.org

To learn more about the network and get on the mailing list, visit:
www.bettermathteachingnetwork.org

All photos: Nellie Mae Education Foundation

Better Math Teaching Network:

Deepening Practice in Community

Years 1 and 2 Summary

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