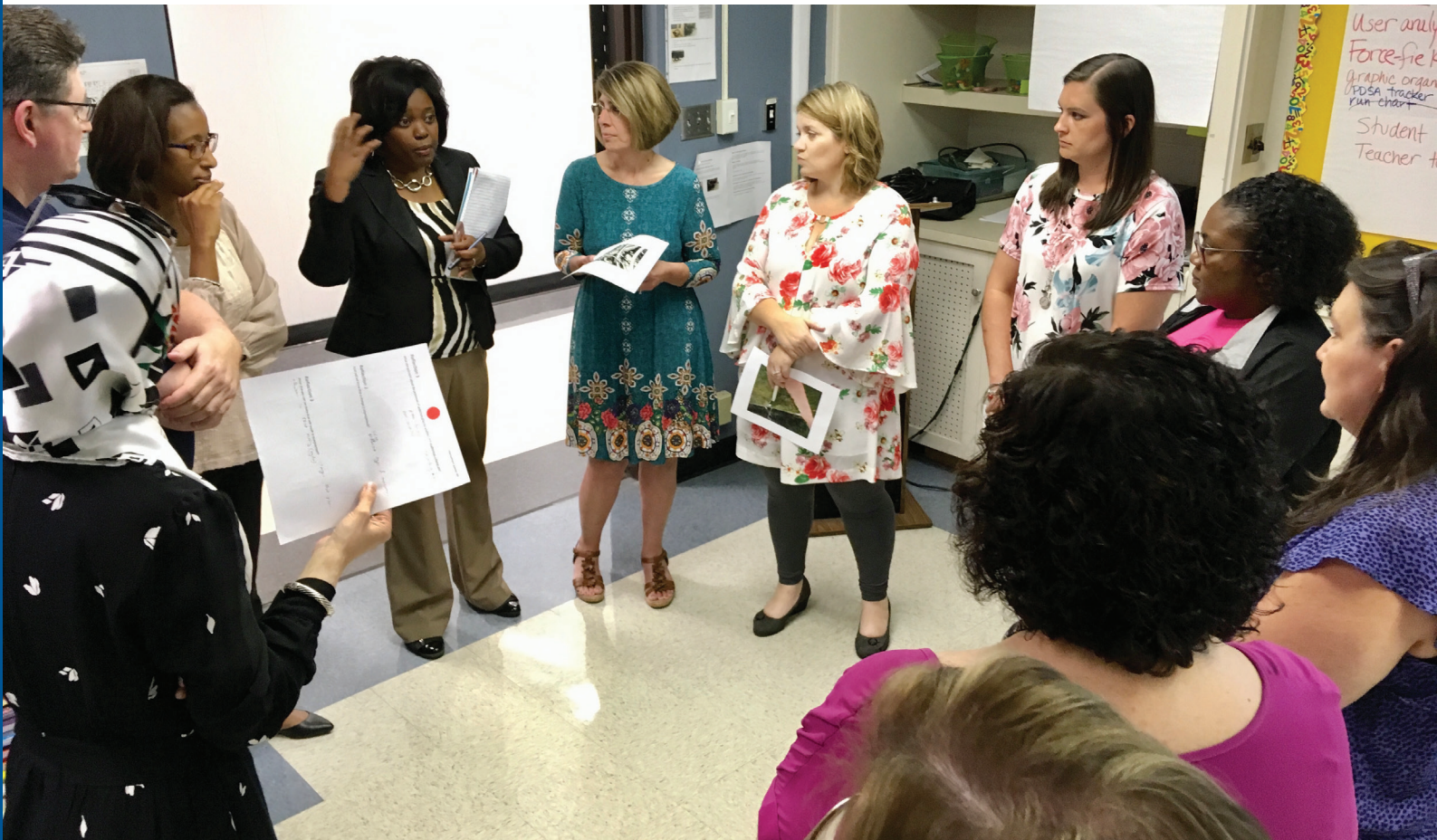CASE STUDY

# How a Network of Jefferson County Schools Partnered to Accelerate Sustainable Change

March 2022

SREB | Southern Regional Education Board

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# Introduction

All schools should be committed to continuous school improvement, always striving for more and never settling for less. Grounded in this commitment, schools are more likely to think creatively, adapt quickly to change, meet growing accountability demands and prepare more students for college and careers.

In 2018, the Southern Regional Education Board, with support from the Bill & Melinda Gates Foundation and the Carnegie Foundation, partnered with 12 schools in **Jefferson County**, **Alabama**, to re-envision their approach to school improvement. The schools agreed to come together as a networked improvement community with a mission of prompting meaningful, sustainable change.

Their goal was simple yet bold: Harness improvement science and continuous improvement strategies to accelerate eighth- and ninth-grade math achievement for Black, Latinx and low-income students. Three years and one pandemic later, SREB and Jefferson County educators reflected on the successes, challenges and lessons learned from their efforts.

This case study report describes those efforts, beginning by establishing the context of school accountability and improvement science, including how SREB works with states, districts and schools to adopt continuous improvement strategies. We then describe the context in which the efforts described in this report took place and reflect on the conditions that promoted continuous improvement from those educators who weathered the journey in Jefferson County, Alabama.

## Accountability Systems and School Improvement

In the U.S., both federal and state accountability systems largely focus on student outcomes, yet attempts to improve student outcomes often fail to account for the complex factors that negatively impact student achievement. Before they seek solutions, however, education agencies need to understand the roots of the problems they are attempting to solve.[1] Continuous improvement pioneer W. Edwards Deming believed suboptimal student outcomes are more commonly the result of inefficient, poorly designed systems, not the people operating within them.[2] In education, our first inclination is to fix educators so they can perform more effectively. For Deming, real change occurs when you disrupt the systems that create inefficiencies.[3]

Traditional school improvement efforts that leverage high-stakes accountability systems to incentivize and punish educators for student performance have little to no research support. Incentives and punishments have been shown to have no positive impact on achievement.[4] Although this approach has been the law of the land for at least two decades, student achievement remains largely unchanged in many schools, districts and states. Improvement science and continuous improvement strategies offer a successful alternative.

## Improvement Science

Improvement science is a systematic problem-solving approach that helps businesses, organizations or school systems improve their programs and processes to generate better outcomes. This methodology underpins continuous improvement and school improvement efforts. School change theorists have identified six core principles of improvement science:

1. Frame the problem: Make the problem user-centered and problem-specific.

2. Focus on what works: Aim to advance efficacy reliably at scale.

3. See the system: Deeply understand the conditions producing the current outcomes.

4. Evidence-based decisions: Collect and analyze data to determine if a change is an improvement.

5. Rapid inquiry cycles: Use Plan, Do, Test [*or Study*], Act cycles to make quick decisions to adopt, adapt or abandon a change.

6. Collaborate to accelerate: Achieve more by working together in networked improvement communities.[5]

Such principles help educators assume ownership for school- and classroom-level practices and establish cultures of continuous improvement. Continuous improvement is a proactive process that schools can use to support the academic success of each student. As opposed to waiting until the end of the academic year to evaluate program, curricular or instructional effectiveness, schools can use continuous improvement cycles informed by these principles to ensure that each student is learning at high levels throughout the school year.

## SREB's Approach to School Improvement

SREB works with schools to improve student engagement and achievement by creating equitable, high-quality learning experiences and ensuring school improvement efforts lead to lasting change. The vessel for creating that lasting change is **SREB's problem-solving cycle**, in which school focus teams or networked improvement communities comprised of teachers and leaders at the district, regional or state level collaboratively identify a problem of practice — such as disruptive behaviors during classroom transitions — and use structured protocols to conduct root cause analyses to identify where adjustments are needed. A driver diagram, a tool used to map out a network's theory of improvement, is used to document the drivers or components of the classroom, school or district that contribute to the problem.

Unlike traditional school improvement approaches in which schools adopt and scale initiatives absent data-driven investigations, this continuous improvement approach allows SREB coaches and educators to examine the impact of improvement efforts on a small scale before overhauling an entire system.[6] Small, rapid Plan, Do, Test, Act test cycles are used to initiate incremental changes to prompt larger, systematic changes.

The literature frequently describes rapid, data-driven inquiry cycles that drive the continuous improvement process.[7] Lauded for their adaptability, PDTA test cycles can be used at the district, school or classroom level to study small changes — such as using number talks in math classrooms — that over time can be scaled to create large, systemwide improvements — for example, improving ninth-grade Algebra I test scores.[8] SREB's Plan-Do-Check-Act cycle is shown in Figure 1.
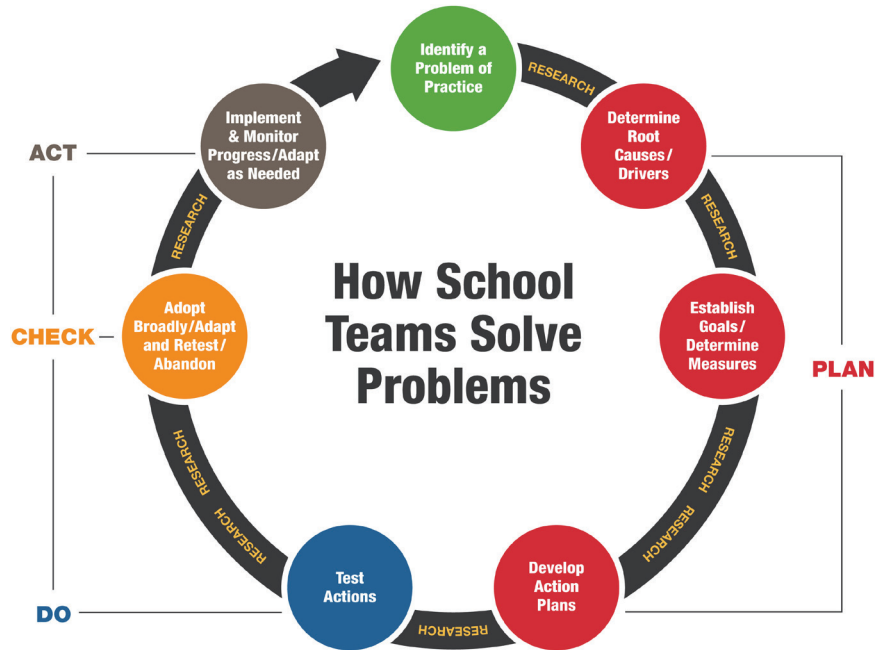


Figure 1. SREB's problem-solving process: The Plan-Do-Check-Act cycle.

# The Challenge in Jefferson County, Alabama

Located in central Alabama, Jefferson County has the highest population in the state with more than 659,000 residents.[9] Nearly half of residents are white (49.6%); other residents are Black or African American (42.7%) and Hispanic (2.16%).



*Jefferson County math teachers collaborate on their PDTA cycles.*

The average household income is $55,000; 17% of residents live below the poverty line. Income inequality is lower than the national average. The area's largest industries are health care and social assistance, retail trades and manufacturing.[10]

**Jefferson County Schools** is the second-largest school district in Alabama, serving more than 36,000 students across 57 schools. The district employs approximately 4,500 teachers, administrators and support staff.

In 2018, only 38% of Jefferson County students who took the ACT were college and career ready in the subjects in which they were tested. Before the COVID-19 pandemic, Jefferson County reported that about 33% of all tested students in grades three through nine met math proficiency standards — and only 9% were deemed college and career ready. Proficiency rates were lowest for Black, Latinx and low-income students.

To address the district's low math proficiency rates, Jefferson County Schools partnered with SREB with the support of a Bill & Melinda Gates Foundation grant to launch a networked improvement community that would allow 12 district schools to address eighth- and ninth-grade math proficiency rates for Black, Latinx and low-income students. Networked improvement communities show promise as a strategy for continuous improvement. In a study of a network of more than 34,000 schools, AdvancEd found positive relationships between the use of continuous improvement practices and student academic performance.[11] Data from early continuous improvement networks in schools have shown promising results.[12]

Jefferson County's network of 12 schools sought to identify a shared problem of practice related to low math proficiency, collecting and analyzing data to deeply understand the problem and using PDTA cycles to make measurable improvements. Within each network school, focus teams convened regularly to learn from one another as they identified promising strategies, tested them and made refinements in a cycle of continuous improvement. Across the network, school improvement teams then shared their promising solutions to scale improvements.

As the intermediary manager of this networked improvement community, SREB sought to build a partnership based on trust, open dialogue and reflection. SREB coaches provided school leaders and teachers with ongoing professional learning, hands-on workshops, virtual meetings, targeted supports and coaching to build their capacity to manage their continuous improvement network. Coaches also shared structured protocols to frame the problems of practice school focus teams were attempting to solve.

# Case Study Findings: Conditions for Network Success

In this section, we detail lessons learned from SREB's networked improvement community partnership with Jefferson County Schools. To secure the data needed for this report, SREB administered interviews and anonymous surveys to Jefferson County administrators, instructional coaches and teachers who participated in the network.

Of particular interest were the conditions for success or school factors that influenced the network's successful implementation of continuous improvement methods. As previously described, continuous improvement methods include root cause analyses, driver diagrams, change ideas and PDTA cycles. Root causes analyses attempt to uncover the conditions contributing to the problems school focus teams are attempting to solve. Driver diagrams are visual maps that display how the conditions or drivers contributing to a problem interrelate. Change ideas are the strategies improvement teams plan to use to bring out positive change.
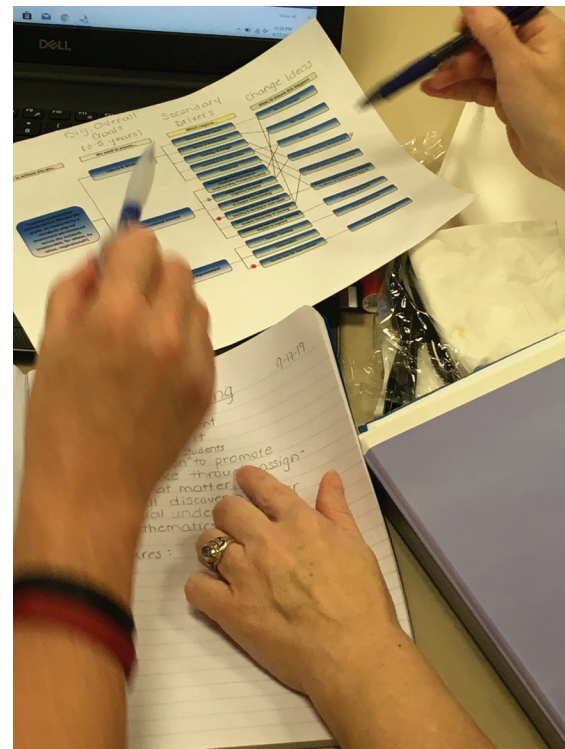
We documented two conditions that influenced the implementation process and school improvement teams' transition to using continuous improvement methods: When present in schools, **a shared understanding of network goals** and **a culture of trust among school leaders and their faculty** may be essential to the success of improvement efforts.



Jefferson County teachers identify change ideas to use in their PDTA cycles.

## Shared Understanding Between Administrators and Teachers

Effective school leaders are crucial to any school improvement process. School leaders set the tone by communicating purpose — the "why" — and building common understanding among faculty. A common understanding of the work leads to a shared purpose and buy-in among teachers. Having a shared purpose for engaging in continuous improvement methods can help teachers persist through uncertainty. In Jefferson County, schools with faculty who were willing to immerse themselves in the process completed more PDTA cycles; this was directly attributed to open communication from school leadership:

[Continuous improvement is] a tremendous break [from other initiatives]. Because we were not getting a program to monitor. [Teachers] were learning a set of skills that they could apply to anything – a framework for thinking about a problem. There's also a lot of freedom in the process, and also you did not have somebody from the district office coming in to evaluate a specific program.

— Jefferson County school leader

Moving from traditional solution-driven school improvement practices to a problem-focused and data-driven approach can create frustrations. When adopting continuous improvement methods, the district and its intermediary, SREB, needed to take on the role of clearly articulating the purpose and goals of the process to school leaders so they could in turn communicate those goals to their staff.

When all educators at every level understood their role in and value of the continuous improvement cycle, they were more likely to fully engage in the process. Jefferson County teachers felt that continuous improvement created a collaborative, unified climate. District leaders needed to give the initiative the best opportunity to succeed by building time for school leaders and teachers to give their full attention to learning the process. Jefferson County school leaders and instructional coaches felt time constraints restricted teachers' progress:

> I guess the biggest challenge is time. More could be accomplished if I wasn't spread so thin — I could help the math teachers focus on a specific time to meet. Without scheduled time, it's hard to ensure that the process is going to be effective. If [teachers] could have some more dedicated time, I think it would really help the process.
>
> — Jefferson County instructional coach

If school leaders are balancing too many initiatives, they will not have the necessary time to dedicate to the process, and their teachers will in turn have limited time to dedicate to learning and implementing continuous improvement methods.

In addition to giving school leaders and teachers time to devote to learning and embedding continuous improvement methods in their practice, district leaders and other support entities needed to welcome school improvement teams' voice in the implementation process. If implementation is too top-down, school leaders and teachers are not as motivated to take ownership of the work.

Continuous improvement methods can be used at all levels of a school system, so district leaders are not simply relegated to support roles. District leaders can engage in the process by testing district-level changes to improve school and classroom-level outcomes.

Jefferson County district leaders used PDTA cycles to examine teacher retention issues within the district's math departments to make positive changes that would benefit both school leaders and teachers. Continuous improvement strategies gave district and school leaders the opportunity to think creatively about solutions to complex and sometimes persistent issues like teacher retention.

The PDTA cycle revealed a correlation between faculty size and teacher turnover. Jefferson County schools with the largest teacher faculties were experiencing the highest teacher turnover rates. Through teacher surveys, we learned that positive professional relationships with school leaders and other faculty played an important role in teacher retention. Equipped with this knowledge, district leaders focused on targeted relationship-building strategies.

When all shareholders take an active role in the continuous improvement process, and there is a shared understanding of roles and responsibilities, school improvement teams can withstand and persevere through challenging circumstances. Network schools that engaged deeply in the continuous improvement process struggled, like all schools, to navigate the shift to virtual or remote learning during the COVID-19 pandemic, but their educators also experienced professional growth. Despite the overwhelming operational details involved in supporting students, families and staff, schools benefited from being able to use PDTA cycles to address pandemic-related challenges:

> [During COVID,] we've been forced to come up with new and better ways to meet our kids where they are. We see that remote learning will never go away because it will always be available to us for a variety of reasons. And I believe our network has better prepared us to be able to face those challenges.
>
> — Jefferson County school leader

## Effective Leadership: Building a Culture of Trust

Jefferson County's use of continuous improvement methods to achieve common goals helped build trust between district and school leaders and teachers. Teachers enjoyed the opportunity to have voice in the process. School leaders said district leaders' investment in the process empowered school leaders and instructional leaders to block out time during the school day for planning and collaboration. School improvement teams valued the opportunity to lead school improvement initiatives as opposed to merely following directives.

Instructional coaches played an important role in supporting teachers in their professional learning communities as they planned for and evaluated their PDTA cycles:

> As a coach, one strategy that I used was I took on a lot of the legwork for the teachers — collecting the data and processing it. If they had to create materials, I did that for them. It freed the teachers up to do the teaching. When I could provide those things and take that one extra thing off of the teacher, they were more willing to jump into it.
>
> — Jefferson County instructional coach

Continuous improvement is not a top-down process and is only sustainable when it takes place within a culture of trust. School improvement teams must be willing to try and fail to make progress. The concept of "failing forward" — or learning by doing — is not possible without individuals being willing to be vulnerable and accept that their theory or change idea may not generate the desired results. A culture of trust lays the groundwork for continuous improvement to be taken to scale in a school and shared across all departments.

Building trust is the role of school leaders who set the tone for continuous improvement by leading by doing. Good school leaders model continuous improvement practices to their faculty, seeking feedback and applying PDTA cycles to their work.

When teachers feel comfortable taking risks, they can engage in the process at deeper levels, disrupt unproductive routines and change practices at a foundational level. Teachers need autonomy to address their problems of practice; they also need to feel comfortable sharing their data with colleagues so their work can be scaled.

In Jefferson County, school leaders gave teachers the safe space they needed to test new strategies and adapt or abandon those strategies if they didn't work as planned. Examples of effective strategy adoption include the use of math mindset activities, number talks and math discourse. Student interview data showed that many Jefferson County students lacked confidence in their ability to do well in math; students rarely put forth their best effort on math assignments.

Jefferson County teachers collaborated over strategies to engage students and help them persevere through challenging tasks. Teachers praised students for their effort and allowed students to solve problems in multiple ways while explaining their thinking; students' confidence and engagement grew as a result. Instructional coaches encouraged teachers to step outside their comfort zones and helped design and evaluate test cycles. When all team members actively participated, the goal of changing student behaviors and outcomes felt more achievable.
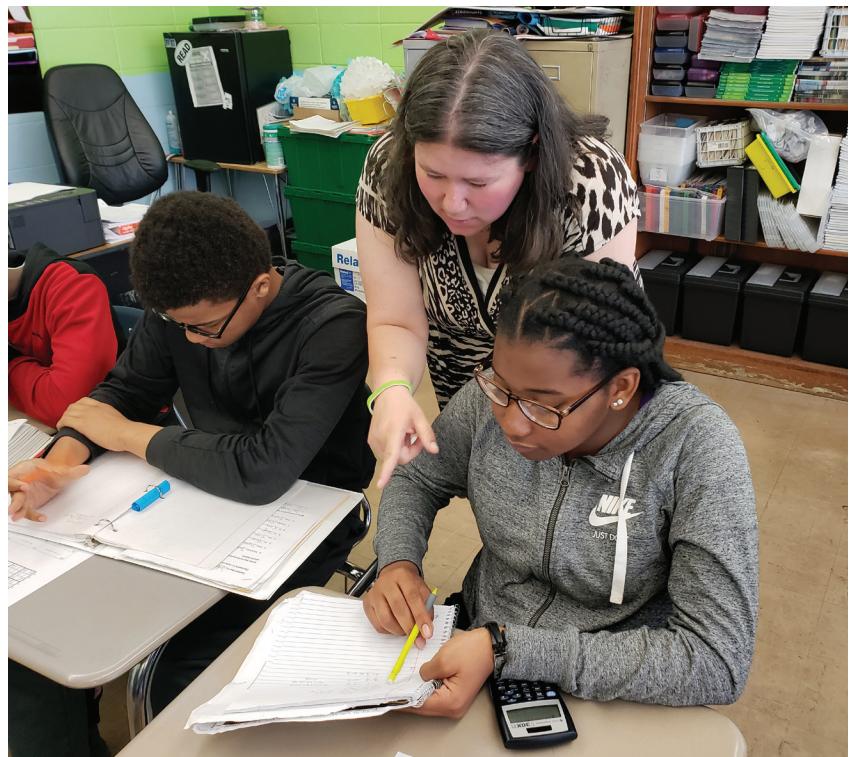


Jefferson County teacher Ashley Lambert works with students.

# Results of Participation

Several Jefferson County principals in the networked improvement community were able to create a culture that fostered teacher growth. Teachers who felt supported by their colleagues and administration said they had open lines of communication with school leaders regarding goals for the network. School leaders shouldered the responsibility of growing and sustaining teacher buy-in. Figure 2 shows teachers' perceptions of the supports they received from school leaders in the network.

### Figure 2: Teachers' Network Participation Experiences

**How much do you agree or disagree with the following statements:**
Average Score on a 6-point Scale (1 = Strongly disagree; 6 = Strongly agree)

| Statement | Score |
|---|---|
| An instructional coach provided the supports I needed | 4.4 |
| My principal provided the instructional supports I needed | 4.7 |
| I spoke to my principal about the supports I needed | 4.4 |
| My principal's goals were clearly articulated | 4.5 |
| We had sufficient time to collaborate | 4.1 |
| Teachers took ownership for improving their practices | 4.7 |

Source: SREB Continuous Improvement Teacher Survey.

Once a culture of trust was established in Jefferson County, intraschool and interschool collaboration increased. Collaboration accelerates the search for scalable solutions. When teachers implemented PDTA cycles in isolation, they were restricted to the changes they were trying in their own classrooms. But when teams of teachers worked together, sharing strategies and data, they learned more, made greater shifts in their practice and built rapport:

> We have done networking within our district because our district's so large, but PDTA cycles took it to a different level. Previously, the networking was kind of, "Hey, what's working with your kids? Maybe we'll try that." PDTA cycles took networking to a different level because it was teacher-driven and data-driven.
>
> — Jefferson County school leader

## Impacts on Educators

Following three years of participation in the networked improvement community, many Jefferson County educators can now apply PDTA cycles without SREB coaching supports. Seventy-nine percent of school leaders and instructional coaches said they can apply continuous improvement strategies with support; 60% said they could do so independently or lead others in applying these strategies. These numbers are more impressive considering the loss of in-person coaching services due to COVID-19.

Jefferson County educators learned to make quick pivots when changes failed to produce desired results. Administrators and instructional coaches became more efficient at using data to make informed decisions than before the launch of the network. These educators have also become more comfortable attempting new problem-solving strategies and encouraging their teachers to do the same. Administrators and instructional coaches shared that doing so has created a stronger, more cohesive culture in their schools: They report that faculty are more positive and enthusiastic. Some of these educators cited an increase in teacher self-efficacy because of the network. Table 1 highlights school leaders' and instructional coaches' comfort levels with continuous improvement methods.

### Table 1: Administrators' and Coaches' Knowledge of Continuous Improvement Methods

| Continuous Improvement Methods | Survey Item Responses | | | | | |
|---|---|---|---|---|---|---|
| | I do not know what this is. | I can recall this. | I understand this. | I can apply this with assistance. | I can apply this independently. | I can lead others in applying this. |
| Root cause analysis | 5.6% | 0.0% | 11.1% | 33.3% | 27.8% | 22.2% |
| Driver diagram | 5.6% | 5.6% | 16.7% | 33.3% | 22.2% | 16.7% |
| Developing a change idea | 5.6% | 0.0% | 22.2% | 11.1% | 16.7% | 44.4% |
| Planning a PDTA cycle | 5.6% | 5.6% | 11.1% | 11.1% | 16.7% | 50.0% |
| Implementing a PDTA cycle | 5.6% | 5.6% | 11.1% | 11.1% | 16.7% | 50.0% |
| Collecting PDTA data to inform whether a change resulted in an improvement | 5.6% | 5.6% | 16.7% | 5.6% | 33.3% | 33.3% |
| Developing practical measures to monitor your change ideas | 5.6% | 0.0% | 11.1% | 11.1% | 38.9% | 33.3% |

Source: SREB Continuous Improvement Survey for School and Instructional Leaders.

Like administrators and instructional coaches, many Jefferson County teachers are using and applying continuous improvement methods independent of SREB supports. Fifty-three percent of teachers said they can manage continuous improvement cycles independently, with many feeling ready to lead other teachers in applying continuous improvement methods.

The tool that teachers felt least comfortable with is the driver diagram. In the Jefferson County network, teachers did not spend as much time with driver diagrams as administrators, so this data point is understandable. Most teachers feel comfortable performing root cause analyses, developing change ideas, planning PDTA cycles and measuring their progress. Encouragingly, many of these teachers feel they are ready to lead others in the use of continuous improvement methods, which bodes well for the probability of spreading the practices to new teachers and achieving network sustainability, as shown in Table 2.

### Table 2: Teachers' Knowledge of Continuous Improvement Methods

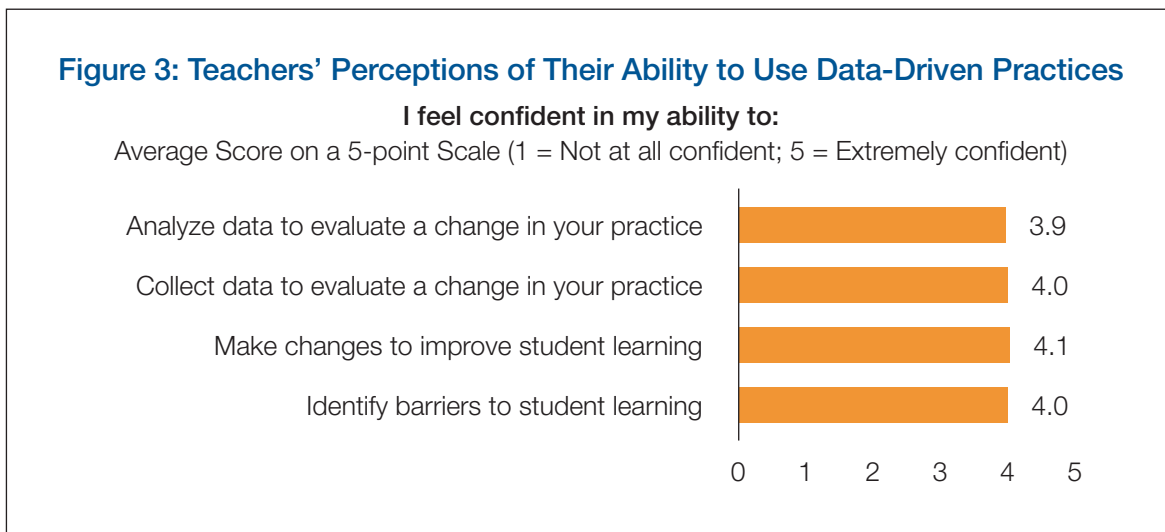| Continuous Improvement Methods | Survey Item Responses | | | | | |
|---|---|---|---|---|---|---|
| | I do not know what this is. | I can recall this. | I understand this. | I can apply this with assistance. | I can apply this independently. | I can lead others in applying this. |
| Root cause analysis | 8.3% | 4.2% | 12.5% | 25.0% | 45.8% | 4.2% |
| Driver diagram | 16.7% | 0.0% | 12.5% | 33.3% | 37.5% | 0.0% |
| Developing a change idea | 0.0% | 4.2% | 12.5% | 8.3% | 37.5% | 37.5% |
| Planning a PDTA cycle | 4.2% | 12.5% | 8.3% | 25.0% | 29.2% | 20.8% |
| Implementing a PDTA cycle | 4.2% | 16.7% | 4.2% | 25.0% | 29.2% | 20.8% |
| Collecting PDTA data to inform whether a change resulted in an improvement | 8.3% | 8.3% | 12.5% | 16.7% | 33.3% | 20.8% |
| Developing practical measures to monitor your change ideas | 0.0% | 4.2% | 16.7% | 25.0% | 41.7% | 12.5% |

Source: SREB Continuous Improvement Survey for Teachers.

Following their third year of network participation, Jefferson County teachers feel confident in their abilities to manage PDTA cycles. More importantly, many of these teachers view continuous improvement methods as strategies that will serve them well throughout their professional careers. Teachers now feel confident in their abilities to implement a change, evaluate it in real-time using data and make quick decisions. These same teachers were accustomed to using instructional strategies for an entire semester or school year before making an adjustment.

> I have gotten wonderful ideas and teacher practices and change ideas that would last me for five to 10 years. [I've] become more aware of my own teaching practices and what I can do to change the way we (as a faculty) teach. I feel that I am more prone to look for possible change ideas to implement and feel more confident analyzing the effectiveness of the plan.
>
> — Jefferson County math teacher

Figure 3 displays teachers' perceptions of their ability to use data to make instructional improvements.

## Figure 3: Teachers' Perceptions of Their Ability to Use Data-Driven Practices

**I feel confident in my ability to:**

Average Score on a 5-point Scale (1 = Not at all confident; 5 = Extremely confident)

| | |
|---|---|
| Analyze data to evaluate a change in your practice | 3.9 |
| Collect data to evaluate a change in your practice | 4.0 |
| Make changes to improve student learning | 4.1 |
| Identify barriers to student learning | 4.0 |

Source: SREB Continuous Improvement Teacher Survey.

## Teacher Empowerment

District and school leaders and instructional coaches noted that teachers were taking more ownership of what was happening during both virtual and in-person learning. Teachers were sharing data in their team meetings and collaborating on the types of strategies they had implemented. Once teachers began designing their own test cycles, ownership increased and remained high throughout the duration of the network.

Collaborating over student data empowered teachers and school leaders alike to make data-driven decisions. SREB supplied Jefferson County educators with data analysis protocols to help make connections between the changes they were implementing through their PDTA cycles and the shifts that were occurring in their buildings. As a result, teachers became more intentional planners, fully utilizing professional learning community time to strategize with their colleagues.

> [The Networked Improvement Community] made teachers think outside of the box about their instruction. In years past, if you're a veteran teacher, you'd kind of know what you're doing and you may change very little, but now I see all teachers being more intentional about their planning.
>
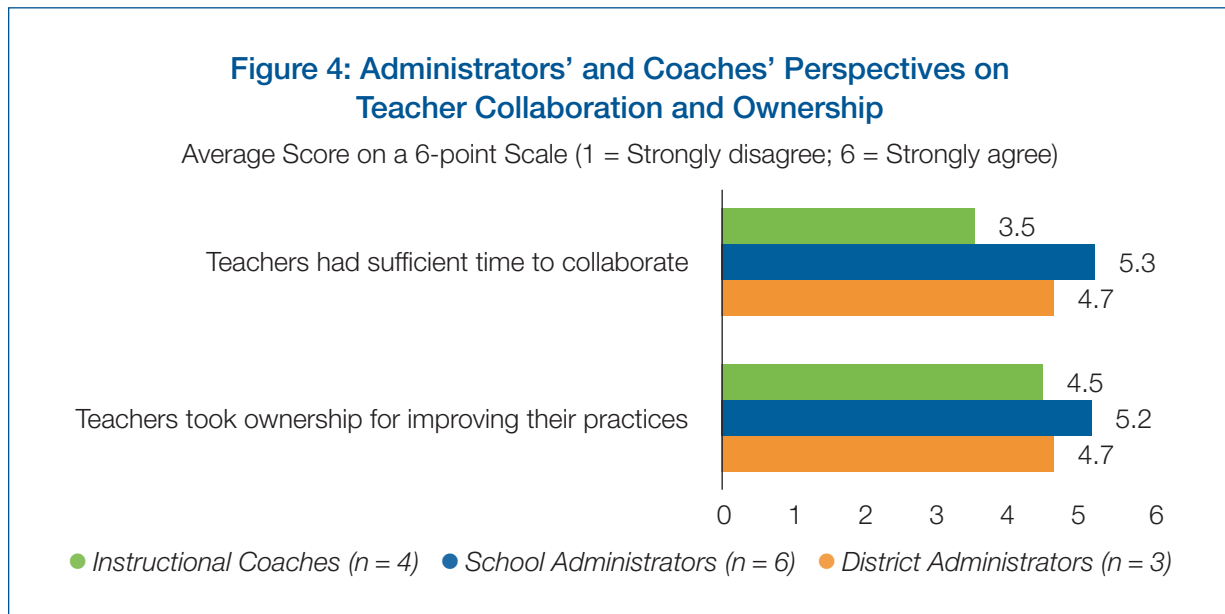> — Jefferson County instructional coach

Scheduled professional learning communities also proved beneficial to implementation fidelity. Schools that blocked time for teachers to work together with school leaders and instructional coaches to plan and discuss their data completed more PDTA cycles, experienced greater instructional shifts and felt their students benefited more from continuous improvement.

SREB surveyed district and school administrators and instructional coaches about the amount of time their teachers had to collaborate on their PDTA cycles and teachers' level of ownership of the process, with positive results:

> I noticed an energy shift the first year. [Teachers] would invite me into their classrooms to see what was going on. And I remember that a lot of the teacher talk was different and that students were also talking about math in a different way.
>
> — Jefferson County instructional coach

Of the three subgroups surveyed, school administrators held the most favorable perspectives of the amount of collaboration time teachers received. This could be explained by the fact that school administrators were responsible for setting aside collaboration time for teachers, so principals may have felt the time they gave their teachers to plan and discuss their PDTA cycles was sufficient. Interestingly, the biggest difference in perception came between school administrators and instructional coaches. Instructional coaches felt that the time their teachers were given for collaboration could have been greater. Figure 4 illustrates this discrepancy.

## Figure 4: Administrators' and Coaches' Perspectives on Teacher Collaboration and Ownership

Average Score on a 6-point Scale (1 = Strongly disagree; 6 = Strongly agree)

**Teachers had sufficient time to collaborate**
- Instructional Coaches: 3.5
- School Administrators: 5.3
- District Administrators: 4.7

**Teachers took ownership for improving their practices**
- Instructional Coaches: 4.5
- School Administrators: 5.2
- District Administrators: 4.7

● Instructional Coaches (n = 4)  ● School Administrators (n = 6)  ● District Administrators (n = 3)

Source: SREB Continuous Improvement Survey for School and Instructional Leaders.

Network teachers reported that they collaborated with colleagues at least once per month, sometimes multiple times per month, and received feedback from an administrator or instructional coach one to three times per month. Most teachers felt comfortable asking colleagues for feedback and felt that their principals encouraged them to try new strategies, as shown in Table 3.

## Impacts on Students

As a result of network participation, the district is rethinking how longitudinal student outcomes should be tracked. The network largely focused on Black, Latinx and low-income students' math performance in eighth and ninth grades as opposed to their entire academic progression from the middle grades through high school. Some middle schools that participated in the network struggled to track their eighth-grade students once they entered high school if their receiving high school was not a network school:

> We've been doing the work for three years but only with eighth grade, formally. When those kids go to high school, we lose track of them. We need to do the work more efficiently with grades five to eight totally involved to see the real impact.
>
> — Jefferson County school leader

Expanding interschool communication across all feeder patterns was a lesson learned for some school leaders, particularly the importance of tracking students as they left middle school and progressed through ninth grade.

## Table 3: Percentage of Teachers Reporting Their Support and Feedback Experiences

| Survey Item | Survey Item Responses | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | Never (%) | About once per year (%) | About 2-4 times per year (%) | About once per month (%) | 2-3 times per month (%) | About once per week (%) |
| Teachers shared their effective teaching strategies with me | 4.2 | 4.2 | 4.2 | 33.3 | 50.0 | 4.2 |
| An administrator encouraged me to try new strategies or practices | 0.0 | 4.2 | 12.5 | 37.5 | 29.2 | 16.7 |
| A coach or peer provided me with helpful feedback | 0.0 | 4.2 | 29.2 | 33.3 | 20.8 | 12.5 |
| An administrator provided me with helpful feedback | 4.2 | 8.3 | 25.0 | 50.0 | 4.2 | 8.3 |
| I met with other teachers to discuss effective strategies | 0.0 | 4.2 | 16.7 | 33.3 | 33.3 | 12.5 |
| I asked a colleague for help or feedback | 0.0 | 8.3 | 20.8 | 37.5 | 29.2 | 4.2 |

Source: SREB Continuous Improvement Survey for Teachers.

Nevertheless, in three years, network schools experienced positive student outcomes that they attributed to the use of continuous improvement methods. Due to COVID-19 and reduced in-person learning, access to summative test score data was disrupted and less reliable. However, indicators that could be measured, such as attendance and behavioral data, showed promise. Student attendance increased across the three years of the network and student suspensions declined. Teachers also reported higher levels of student engagement during math instruction:

> I think within each of the PDTA cycles that my schools have done, there have been positive impacts. The math mindset piece was really eye opening for a lot of the kids to learn about growth mindset. Another school focused on number talks and saw an increase in math fluency. There were correlations to positive student changes based on the process.
>
> — Jefferson County instructional coach



Jefferson County teachers review data from their math mindset PDTA cycles to plan next steps.

## Conclusions and Next Steps

Despite timeline constraints and challenges posed by COVID-19, Jefferson County's networked improvement community demonstrated its value in shifts to the district's approach to identifying, monitoring and evaluating school improvement strategies. Engaging in the continuous improvement process helped Jefferson County school improvement teams frame problems and use research-based strategies to problem-solve and evaluate the effectiveness of those strategies through ongoing test cycles.

Reflecting on lessons learned from the Jefferson County network, the following considerations are offered for future continuous improvement networks.

Continuous improvement practices emphasize the importance of leveraging the skills and expertise of those who perform day-to-day operations in schools. Continuous improvement puts school leaders as well as teachers in positions to lead school improvement, which can be a cultural shift for many educators. For some Jefferson County educators, the shift to continuous improvement processes and mindsets proved challenging.

At SREB, we learned that many educators are not accustomed to performing root cause analyses or having a voice in planning school improvement activities. We recommend that school improvement teams should engage in collaborative, shared decision-making so all educators' voices are heard. What's more, beginning with small, manageable problems of practice will allow educators to familiarize themselves with the process without becoming overwhelmed by the work.

District and school leaders need to remain patient with network implementation and progress. Implementing a continuous improvement network requires participants to learn and practice new instructional, research and evaluative skills. Networks are stronger when educators have time to collaborate, share strategies and review data collegially.

We also found that data serves a critical role in the continuous improvement process. The effectiveness of continuous improvement cycles hinge on the availability of data that is useful and reliable. Both school leaders and teachers need support in identifying viable data sources and collecting and interpreting data as part of the decision-making process. School leaders and teachers also need support using data to evaluate the effectiveness of strategies so changes can be made nimbly.

Incorporating these considerations in future networks may help educators master the principles of continuous improvement and use their knowledge to make lasting changes that benefit all students. SREB looks forward to future partnerships to advance this important work.

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