

# Supporting Continuous Improvement at Scale

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Continuous improvement is a holistic and research-based approach to education grounded in the belief that every system is designed to achieve the results it gets; therefore, change must be systemwide, not piecemeal. California is a national leader in the continuous improvement movement that is spreading throughout local school districts as well as state and county offices of education. At its annual conference in February 2019, PACE convened a panel of California educators working on the cutting edge of continuous improvement. In this brief, they share their stories and lessons learned.

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## Introduction

**“ The goal of continuous improvement is to reduce the gap between actual practice and the most effective practice.”**

COUNCIL OF CHIEF STATE SCHOOL OFFICERS<sup>1</sup>

Continuous improvement is not business as usual. It is not easy or quick. It is not another so-called silver-bullet answer handed down to teachers that claims to close the achievement gap or improve literacy rates and math skills. As Figure 1 shows, it is a sweeping transformation embodying the structure, processes, tools, culture, and mindset of everyone in a school, district, or educational organization.

“Continuous improvement is at the heart of the work, it’s not another piece of the work or adding to the already overflowing plate of initiatives, it is the way that we do the work,” said panelist Christine Roberts, staff development and curriculum specialist at the Tulare County Office of Education.

**Figure 1.** Distinguishing Features of a Continuous Improvement Approach

Assumption	Description
<b>Systems produce outcomes.</b>	Continuous improvement assumes that it is the system and not individuals that produces current outcomes and accordingly focuses attention on system design and operation.
<b>Efforts focus on key processes.</b>	Improvement efforts focus on the processes that produce the outcomes as opposed to focusing exclusive attention on the outcomes themselves.
<b>Progress requires collective learning and discovery.</b>	Improvement efforts are structured to encourage workers throughout the organization to engage in collective learning about their practice. Data and problem-solving methodologies are used to make assumptions about cause and effect explicit, and to test ideas in practice.
<b>Frontline workers are uniquely situated to learn how to get ideas to work</b>	Those directly responsible for implementation of a practice (e.g., classroom teachers) are actively involved in learning how to get that practice to work in context. Their unique knowledge of the day-to-day work is a form of expertise necessary for effective improvement.
<b>As effective practices are discovered they are spread throughout the organization.</b>	As effective practices are discovered they are spread and become standard work for the organization. These practices are continually updated and adapted to context through local experimentation.

*Source: Getting Down to Facts II: Towards a Common Vision of Continuous Improvement in California. Sept. 2018, Stanford University and PACE.*

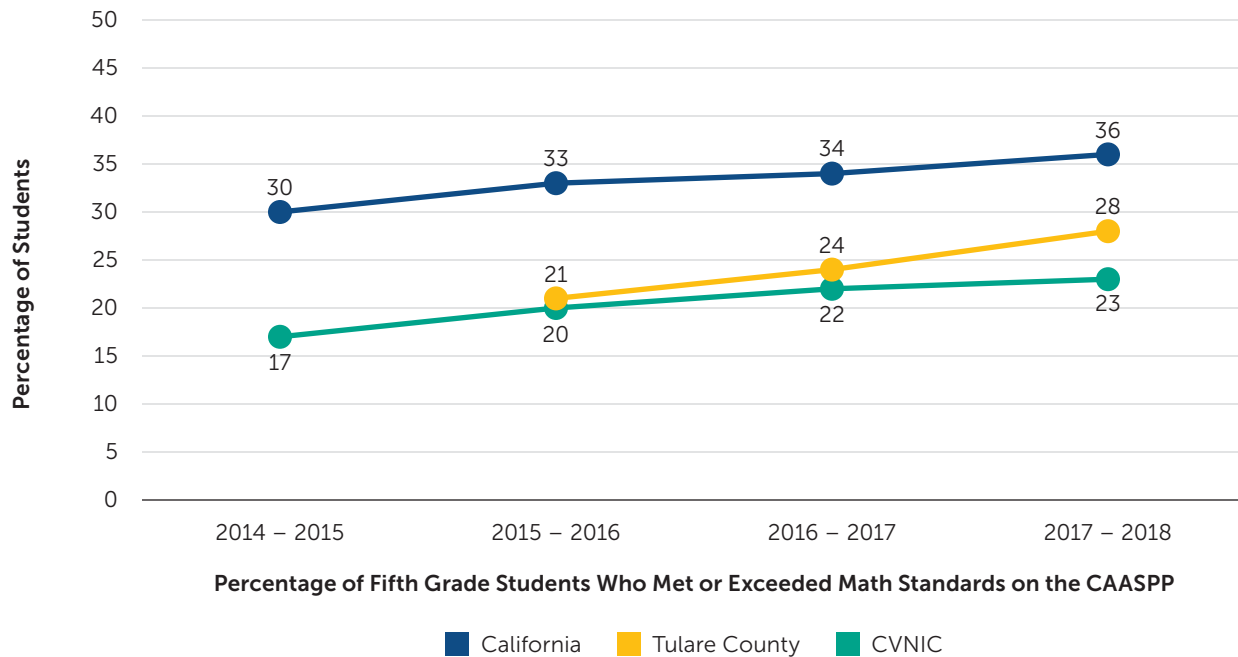
Continuous improvement in education grew out of, and was adapted from, long-standing improvement strategies in business and industry, such as Lean and Six Sigma. In recent years, it has gained support among policymakers and researchers. It is promoted in the federal Every Student Succeeds Act (ESSA)<sup>2</sup> and is woven throughout the California Department of Education's plan for implementing ESSA. California's Local Control Funding Formula, Local Control Accountability Plan, and new California School Dashboard also encourage districts to use continuous improvement strategies.<sup>3</sup>

Participants at the PACE session, called Supporting Continuous Improvement at Scale, heard from three leaders in the field who presented examples of how the methodology can be implemented in different educational environments: Christine Roberts, an improvement specialist for the Central Valley Networked Improvement Community (CVNIC); Sujie Shin, deputy executive director of the California Collaborative for Educational Excellence; and Yee Yang, principal of Caroline Wenzel Elementary School in Sacramento City Unified School District. These three leaders shared details of their work including how they started, the challenges faced, and the lessons they've learned along the way. The session was moderated by Alix Gallagher, director of research-practice partnerships at PACE.

### **Improving Math Outcomes in the Central Valley Networked Improvement Community**

Continuous improvement works when it's done properly. Fresno Unified School District increased its graduation rate from 69 percent to 79 percent. High Tech High, a network of public charter schools in southern California, reduced chronic absenteeism among low-income students by more than 50 percent and increased four-year college-going rates from 67 percent to 73 percent. In the CVNIC, where panelist Christine Roberts is helping to lead a network of districts focused on boosting fifth grade math skills, students meeting or exceeding state math standards rose by seven percentage points during the project's first two years (see Figure 2).

**Figure 2.** Math Results in the Central Valley Networked Improvement Community



Source: Tulare County Office of Education.

The CVNIC supports 1,167 students at 12 schools in seven districts. Nearly two thirds of the students are eligible for free and reduced-price lunch, 73 percent are Latinx and about 20 percent are English learners. About 45 teachers are participating, along with dozens of coaches, site administrators, district leaders, and hub members. The county office of education has a six-person team that supports the network through coaching, resources, fostering communication across the schools and districts, and convening regular network meetings.

### Getting Started

The first step of the improvement process involved pulling together and training a core group of teachers, principals, and district leaders to help shape the vision for the work. They engaged in a root cause analysis to learn why fifth grade math proficiency scores were so far below the state average. CVNIC leaders interviewed teachers, students, parents, and administrators to get their perspectives on the problem; they poured over test data; and read academic articles on how students learn math. A key to the success, said Roberts, is that the roles within the network are not top down.

“We started the work from the classroom level for the change ideas, because teachers had a high level of ownership of the ideas that they were testing and learning. Once we really had teachers on board, their coaches and administrators were thrilled with

the things they were seeing and it was much easier to get that buy in,” said Roberts. “It was a very powerful shift from how sometimes reform efforts are done.”

Goal setting came next. Continuous improvement goals must be clear and specific; it’s not enough to say that math scores will increase within a few years. The CVNIC set a goal to triple fifth grade math proficiency from 17 percent before the program started in the 2014–15 school year, to 51 percent by the end of the 2018–19 school year.

### Putting Theory Into Practice

The CVNIC focuses on improving classroom culture, applying growth mindset techniques to show students that they can do well in math by working at it, and changing the way math is taught. Teachers run five action periods a year to test new ideas in their classrooms using a tool known as *Plan, Do, Study, Act* (PDSA) cycles. As Figure 3 shows, these are targeted, four-step mini-experiments: *Plan* refers to identifying the change idea and how will it be measured; *Do* refers to testing it out in the classroom and collecting data; *Study* refers to measuring and analyzing the results; and *Act* asks questions such as “Did the change work well enough to adopt it more widely?” and “Can it be adjusted and tried again or should it be abandoned?”

**Figure 3.** The Plan-Do-Study-Act Cycle



Teachers evaluate the impact of the changes on student achievement using several measures, such as student feedback, student work, observations, a common formative assessment given to all fifth grade students in the partner schools, and a student mindset survey administered three times a year. Teachers share what they’ve learned with the hub,

said Roberts, “so we can try to understand the changes occurring across the network.” The hub analyzes all the results and presents them, along with recommendations, at the next network meeting. A key element of the network’s success is strong collaboration among the hub, districts, and schools.

“This NIC [networked improvement community] approach has been absolutely an essential way to learn and spread knowledge,” said Shelah Feldstein, Tulare County Office of Education’s leadership support services administrator, in a video.<sup>4</sup> “One of the biggest things we face in our area is the siloed nature of our schools due to rural geography. This NIC allowed us to break down those silos so we could all learn together.”

### Lessons Learned

The lessons learned fell into three overall categories:

- Continuous improvement takes more time, resources, people, and support than expected. It works best when people from all levels of the system are actively engaged.
- Establishing rhythms and routines gives a cadence to the testing and learning in the classroom.
- Training and coaching must include how educators can successfully take what they’ve learned back to their schools.

## Starting the Journey Towards Equity at Caroline Wenzel Elementary School

Equity is the core value that guides Caroline Wenzel Elementary School’s continuous improvement work, said Principal Yee Yang at the start of his presentation. “We recognize that our system is inequitable by design, and we vigilantly work to confront and interrupt these inequities that exists to level the playing field and provide opportunities for everyone to learn, grow, and reach their greatness.”

Wenzel is one of 77 campuses in Sacramento City Unified School District (SCUSD), an urban district serving about 47,000 students. More than 75 percent of the school’s 305 students in kindergarten through sixth grade are eligible for free and reduced-price meals, 40 percent are Latinx, a quarter are African American, and 24 percent are in special day classes. The school has some steep academic challenges. Only one in five students met or exceeded state standards in English language arts in 2017–18, and just 16 percent met or exceeded state math standards. Adding to its trials, six senior teachers retired that year.<sup>5</sup> It was clear, said Yang, that “we needed a new strategy.”

## Getting Started

Wenzel is in the nascent stages of continuous improvement. The process began last year. SCUSD is a founding member of CORE, a collaborative of California school districts organized in 2010 to share ideas for closing the achievement gap. CORE also founded a training community for continuous improvement. Yang attended the training and started putting continuous improvement into action. He pulled together a small cohort of teachers who were interested in the idea and willing to work on it. "I'd walk into a classroom and say, 'Hey, I'm going on this great adventure, I have no idea where it's going to lead me, but I think it's going to be awesome and you and I are going to grow great together on this journey. The only thing I can ask you right now is will you go on this adventure with me?'"

Yang's leadership is crucial to the successful implementation of continuous improvement. He regularly attends team meetings and uses every opportunity to promote continuous improvement. Interest in the work snowballed and there are now three teams focusing on different subjects, grades, and students (K–3 reading skills in primary grades, Grades 4 and 5 mathematics in the intermediate years, and Grades 1–6 sight-word reading in special education).

## Putting Theory Into Practice

Three questions guide the improvement work at Wenzel:

- What specifically are we trying to accomplish?
- What changes might we introduce and why?
- How will we know whether or not a change improved student learning?

**What specifically are we trying to accomplish?** Due to a shortage of district data, the teams faced an early challenge of what to focus on. They knew from the state exam aligned with common core standards that students were not performing at grade level, but needed to know why. To get baseline information, they interviewed students and teachers, analyzed classroom test scores, and looked at time management in classes. They identified key causes and created what's known as a fishbone diagram, a visual way of showing causes and effects.

**What changes might we introduce and why?** Once a team gathers, analyzes, and sorts the information, it develops change ideas targeted at each issue. The K–3 team has already established a goal of ensuring that 80 percent of students develop the foundational reading skills established for their grades, and implemented a daily routine of phonological awareness, a phonics song, and related activities to achieve it.

**How will we know whether or not a change improved student learning?** Once they've agreed on a change idea, teachers agree on how to measure its effectiveness. Wenzel teachers also use PDSA cycles to determine whether the change helped students learn.

### Lessons Learned

The first thing to know is that continuous improvement is “messy,” said Yang. A lot of preparation goes into systemwide change before even getting a team on board. He offers these key lessons and guidance:

- Have a clear implementation plan that has a beginning, a middle, and an end to share with the team.
- Make sure there are clearly established roles within the team and everyone knows what they're supposed to be doing.
- Understand the constraints within your school and district. Continuous improvement takes time, and teachers already have a lot on their plates. Meeting and planning schedules must take this into consideration.
- Have backup plans in place to address complications.
- Continuous improvement involves trial and error. Don't expect perfection or immediate improvements.
- Don't do this alone; develop a network of resources and supports, including content experts and outside partners.
- Keep all stakeholders, from the school board to the school site council, involved and updated.

### California Collaborative for Educational Excellence — Building Capacity for Improvement Across the State

The California Department of Education has made clear that it expects all local educational agencies to implement continuous improvement, especially in drafting their Local Control and Accountability Plans (LCAP)—the districts' strategies for meeting the needs of underserved students.<sup>6</sup> How to do that varies from district to district and school to school. Even though continuous improvement has a set of guiding principles, schools and districts need flexibility to apply them in a way that fits their unique systems and processes. What works in one place will likely require adaptations in another place.

### Getting Started

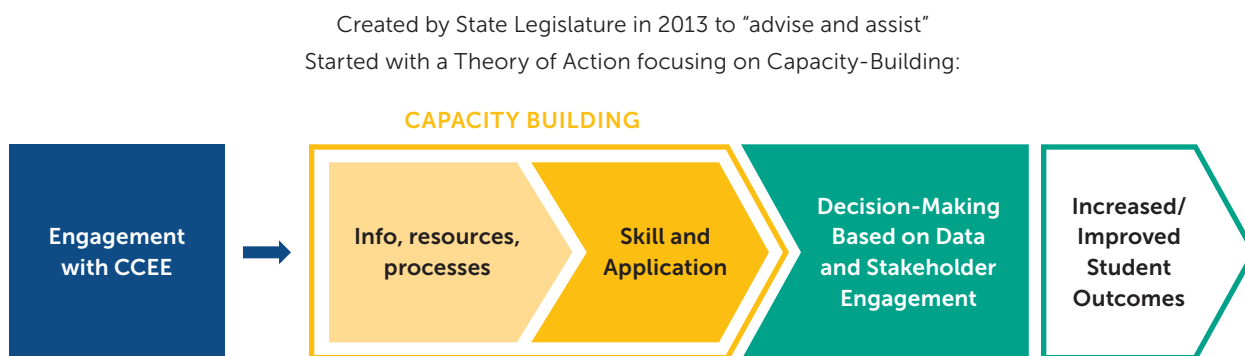
In 2013, the state legislature created the California Collaborative for Educational Excellence (CCEE) “with a very broad mandate to advise and assist schools, districts, county



offices of education, and charter school leaders in reaching their LCAP goals,” said Deputy Executive Director Sujie Shin.<sup>7</sup> She says the mandate has allowed the new state agency to help schools and districts “implement continuous improvement at the local level to make better decisions on behalf of students” (see Figure 5). They began by asking questions:

- What kind of information, resources, and processes do local educational agencies need to do this work?
- Who should be involved?
- What are roles at the different levels for different kinds of work?

**Figure 5.** State Mandate to the California Collaborative for Educational Excellence



Source: California Collaborative for Educational Excellence.

From there, the CCEE built research-driven models of improvement and developed evidence-based, hands-on support and training tailored to local needs.

### Putting Theory Into Practice

The CCEE has developed a variety of resources and activities from large-scale training to targeted work around very specific issues. It supports 54 professional learning networks that have more than 350 school districts participating in regular meetings where they share ideas, knowledge, and skills. It is also supporting eight school districts, two county offices of education, and two charter organizations with individually tailored, multi-year pilot partnerships. For example, one district partner is working to improve professional development to better meet the needs of its large English learner population.

Customization of continuous improvement is key to its success. You know that’s happening, said Shin, “when you can come into a district school where everybody from the superintendent and the classroom teacher to the bus driver and the lunch lady has a clear idea and understanding of how their work and their role in this process impacts the outcomes for students.”

## Lessons Learned

Shin sorted the lessons learned into four main areas:

- Implementation requires commitment from the top down. The people on the ground level who are actually doing the improvement need a system of supports. For example, the state could implement policies that invest in the processes necessary to create systemwide change.
- Continuous improvement is a mindset, but also requires a defined process. Shin recalled one team that supported the concept of continuous improvement, but had no systematic processes in place, including what steps to take.
- Districts need flexibility within parameters. There is a delicate struggle between going “loose versus tight,” explained Shin. Within the defined processes of continuous improvement, districts need the freedom and flexibility to fit improvement into their unique systems, community, and demographics.
- Continuous improvement requires continuous reflection. Scheduling regular pauses gives everyone involved time to reflect on the process itself and how it could be refined.

## Conclusion

Continuous improvement takes education reform to a systemwide, empirical level. The theory that “in order to improve the outcomes, you have to improve the process,” as moderator Alix Gallagher said, is gaining ground across the country as many states use continuous improvement as the foundation for their school accountability plans under the federal Every Student Succeeds Act. The challenge ahead, added Gallagher, is “that to make these ideas work and get these policies to achieve their goals, we are going to have to understand how to do continuous improvement at scale.”

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## Endnotes

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## Author Biographies

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## Policy Analysis for California Education (PACE)

Policy Analysis for California Education (PACE) is an independent, non-partisan research center led by faculty directors at Stanford University, the University of Southern California, the University of California Davis, the University of California Los Angeles, and the University of California Berkeley. PACE seeks to define and sustain a long-term strategy for comprehensive policy reform and continuous improvement in performance at all levels of California's education system, from early childhood to postsecondary education and training. PACE bridges the gap between research and policy, working with scholars from California's leading universities and with state and local policymakers to increase the impact of academic research on educational policy in California.

Founded in 1983, PACE

- Publishes policy briefs, research reports, and working papers that address key policy issues in California's education system.
- Convenes seminars and briefings that make current research accessible to policy audiences throughout California.
- Provides expert testimony on educational issues to legislative committees and other policy audiences.
- Works with local school districts and professional associations on projects aimed at supporting policy innovation, data use, and rigorous evaluation.

### Related Publications

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