

Continuous Improvement in Practice

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This policy report was originally produced for a statewide convening on continuous improvement hosted by PACE and WestEd on October 3-4, 2017, supported by the generosity of the Stuart Foundation. This piece was designed to provide background on the approach of continuous improvement and challenges facing our state in implementing continuous improvement at scale. Future publications will share promising practices and potential solutions moving forward.

Executive Summary

Calls for “continuous improvement” in California’s K-12 education system are central to current discussions about school improvement in the state. Yet, definitions of continuous improvement vary, and knowledge of what continuous improvement looks like in practice is limited. To advance the conversation, this brief helps to define continuous improvement both in theory and in practice. As part of this work, we discuss the extent to which California policymakers and practitioners are engaged in continuous improvement efforts, how they define continuous improvement, and the barriers and gaps in support for this work.

First, the brief presents a review of the literature on continuous improvement from education and from other fields. Based on this review, the authors identify several distinguishing characteristics of continuous improvement organizations. These characteristics include shared, evidence-based processes and practices; shared responsibilities, organizational goals and priorities; a common, shared improvement methodology; a data infrastructure that provides feedback tied to organizational outcomes; a culture and discipline of learning from failures and near-failures; and leadership practices that build and sustain a continuous improvement culture.

Next, the brief includes findings from interviews with leaders from state education agencies, county offices of education, school districts, technical assistance providers, education advocacy organizations, and education associations across California. Echoing the literature review, education leaders interviewed for the brief acknowledged that continuous improvement requires a change in culture, while also noting the importance of capacity building at all levels of the system in order to engage in continuous improvement at scale. They also viewed data use as central to continuous improvement. However, the education leaders interviewed for the brief also identified several barriers to the implementation of continuous improvement. These barriers include (1) a lack of clarity about what continuous improvement look like in practice and how to get there, (2) insufficient strategies and supports to grow internal capacity for continuous improvement, (3) difficulty prioritizing continuous improvement in a resource-constrained environment, and (4) variation in the availability and use of data to support continuous improvement.

The literature review and research findings presented in the brief were used to facilitate discussions about how to move California’s K-12 education system towards continuous improvement at scale during a stakeholder convening in early October 2017. This foundational work has made clear that implementing continuous improvement system-wide requires more than seeing its value and referring to it as a goal for the system. Rather, it requires a shift in mindset and in culture, a substantial investment of time and resources, and persistent effort over time to build organizations where everyone in the system can see how their work impacts student outcomes and can engage in investigations of their daily work to continually improve their practices, processes, and ultimately student outcomes.

Introduction

Signed into law in 2013, the Local Control Funding Formula (LCFF) ushered in a new system of accountability and support that encourages a deeper and more meaningful approach to the work of educational improvement in California. Specifically, LCFF gives school districts more flexibility in how they invest resources to meet locally-defined goals. Under this new system, districts are required to detail their plans for improving student outcomes and how dollars will be spent, with particular attention to the state's most vulnerable student populations, in a Local Control and Accountability Plan (LCAP). Underlying this major policy shift is the idea that local leaders are in the best position to drive real educational improvement. However, their ability to do so hinges on their capacity to use data for improvement and to enact change at the district office and in schools across the system. For the previous dozen years before LCFF, California schools and districts were constrained by No Child Left Behind (NCLB) — with its strict definition of student success, prescribed interventions — and California's categorical funding programs, which restricted how they could spend their money. Given that the prior policy structure over-emphasized compliance over authentic performance improvement, the policy changes accompanying the LCFF represent a major cultural shift for California schools and districts.

Although K-12 education stakeholders in California have become familiar with terms such as “continuous improvement” over the past several decades, these words exist in a different context under the state's new policy structures. Through such bodies as the State Superintendent's Accountability and Continuous Improvement Task Force, policymakers have signaled that continuous improvement is the recommended path to achieving better outcomes for California's students. While there are certainly pockets of excellent practice within our state — educators working constantly and intently on instituting continuous improvement in their school systems — continuous improvement is not yet occurring at scale across California. Given the importance of continuous improvement practice to current education reform efforts, Policy Analysis for California Education (PACE) and WestEd — sponsored by the Stuart Foundation — are convening a small group of key decision-makers in California to: (1) move towards consensus around the definition of continuous improvement in the context of the LCFF and (2) develop a plan to support districts in achieving continuous improvement at scale.

The purpose of this brief is to provide background that enables rich discussion at the October 3-4 stakeholder convening. In what follows, we first review what we know about continuous improvement from the literature in education and from other fields. Next, we review findings from a set of interviews conducted in the summer of 2017 with 41 leaders from state education agencies, county offices of education (COEs), school districts, technical assistance providers, education advocacy organizations, and education associations. In summarizing these interviews, we discuss the extent to which school districts are engaged in continuous improvement efforts, how they define continuous improvement, and the gaps in support for

this work. Finally, we conclude with a discussion of next steps, which we will elaborate upon as a group during the convening.

What is “Continuous Improvement”?¹

The need for “continuous improvement” in education is increasingly commonplace in conversations about advancing educational performance. As the words suggest, the result of “continuous improvement” is an improvement in outcomes, requiring a persistent effort over time. However, many leaders across the state are concerned about “continuous improvement” becoming “another buzz term.” For continuous improvement to be more than a convenient slogan, we need a common definition of what it is, what it entails, and the organizational practices that lead to enhanced performance. Fortunately, we can draw from a rich history of organizations across multiple industries that have invested in a continuous improvement approach as a powerful way of improving performance.

Assumptions Behind a Continuous Improvement Approach

In a colloquial sense, the term “continuous improvement” is used to describe an ongoing effort over time that leads to higher levels of performance. Other educational reform strategies, such as innovation and accountability, also strive to reach higher levels of performance. Continuous improvement is a complementary yet different approach that pursues higher levels of performance through distinct mechanisms. Distinguishing features of a continuous improvement approach include:

- **Taking a systems perspective.** Continuous improvement assumes that it is the system and not individuals that produces current outcomes and accordingly focuses attention on system design and operation. It also assumes that systems can be reengineered to address inequities in educational outcomes.
- **Being process-oriented.** Improvement efforts focus on the processes that produce the outcomes as opposed to focusing exclusive attention on the outcomes themselves.
- **Using a disciplined methodology to solve problems.** Assumptions about cause and effect are made explicit and tested in practice.
- **Engaging the “front line.”** Those directly responsible for implementation (e.g., classroom teachers) are actively involved in experimentation.

Multiple Uses of the Term “Continuous Improvement”

In the organizational literature, continuous improvement is considered a management theory and has been associated with an organization’s ability to repeatedly achieve and maintain

¹ The summary in this section is based on interviews of leaders in continuous improvement across multiple industries and a scan of the literature. References can be found in the Appendix.

breakthrough performance. In this way, the potential for continuous improvement to transform educational performance lies in the investment in continuous improvement *organizations*. However, the term “continuous improvement” is often used more broadly and attached to discrete elements of an overall continuous improvement approach, including (a) continuous improvement **culture**, (b) continuous improvement **cycles**, and (c) continuous improvement **methodologies**. Getting to a clearer understanding about how to best pursue continuous improvement in education requires an awareness of what we are referring to when using the term. Therefore, we briefly describe each of these common uses below and then summarize the key features of a continuous improvement organization.

Continuous improvement culture. The term continuous improvement is often used to describe the *culture* that distinguishes the approach from other ways of pursuing better outcomes (most notably accountability approaches), including:

- Collective responsibility for outcomes
- Learning from failure
- Transparency
- Humility
- Curiosity
- Discipline.

These cultural dimensions are tied to basic assumptions about how people should work together when engaging in continuous improvement. This culture is typically pursued along with specific tools, such as cycles or a structured process, to guide continuous improvement efforts, which we turn to next.

Continuous improvement cycles. The term continuous improvement is also often used to describe *cycles* of action and reflection. In practice, continuous improvement cycles take different forms, but tend to have the same key elements, organized in a repeating cycle. These include:

- Setting goals (using data)
- Creating an action plan or intervention
- Implementing or acting on the plan
- Assessing the results (using data)
- Reflecting and adjusting plans.

Continuous improvement cycles are used to describe structured reflection by different stakeholders (e.g., teachers, coaches, principals, district office leaders) on a wide variety of activities ranging from instructional practice to organizational strategies. The length of the cycle can range from a year to multiple cycles in a single day. Several previous reform efforts provided tools and structures for teachers and schools to engage in continuous improvement cycles on instruction (e.g., Professional Learning Communities, Lesson Study, Action Research).

Other efforts have provided a disciplined approach to their use of data to assess their practice (e.g., Datawise, Results-Oriented-Continuous-Improvement).

Continuous improvement methodologies. Continuous improvement *cycles* are one tool that can be used in conjunction with a broader set of problem-solving tools that comprise a continuous improvement *methodology*. A variety of continuous improvement methodologies are currently used in education, each articulating a set of tools, principles, and social practices. These include:

- Network Improvement Communities (NICs)
- Design-Based Implementation Research (DBIR)
- Deliverology
- Six Sigma
- Lean
- Implementation Science
- Positive Deviance
- Appreciative Inquiry.

There are relevant differences among these methodologies, most notably (a) *who* the problem-solver is, (b) the *kinds of problems* the methodologies are designed to solve, and (c) the *specific tool sets* they employ. Regardless of the specific methodology selected, experts agree that it is important for an organization to select and use a common methodology to promote discipline within their continuous improvement efforts. Having a common improvement methodology creates a common language and enables building expertise with the practical tools of improvement over time.

Continuous Improvement Organizations

Tools and culture are important elements of a continuous improvement organization; however, if pursued independently without organizational commitment from top-to-bottom, these efforts run the risk of being limited to a superficial use of tools, isolated projects, or a set of exposed but-not-lived values. In this way, the promise of a continuous improvement approach to creating higher levels of performance in education lies in the creation of continuous improvement *organizations*. Multiple authors have argued for the importance of creating continuous improvement, or learning, organizations in education (e.g., Fullan; Senge; Bryk, et al.). In the broadest sense, these experts describe how organizations should be led and managed.

Continuous improvement originated as a management theory for organizations. Organizations that achieve and sustain remarkable levels of performance have been studied across multiple sectors and exhibit distinct ways of organizing people and work to get these results. In these organizations, everyone's work is realigned around the core, value-producing work of the organization. Everyone in the organization, from support staff to the highest level of leadership,

can see how their daily work impacts the end-users. Individuals, departments, and cross-cutting teams all regularly engage in investigations into their practice to learn how to increase the value provided to the end-user. These organizations invariably:

- Create a clear and consistent sense of purpose and shared responsibility.
- Identify common evidence-based processes and practices that comprise the primary work of the organization.
- Work across typical boundaries to create a system of aligned processes targeted at shared organizational goals and priorities.
- Invest in capability-building across the organization to implement a common, shared improvement methodology.
- Invest in a data infrastructure that provides feedback on daily work processes tied to organizational outcomes.
- Embrace a culture and discipline of learning from failures and near-failures.
- Invest in leadership practices that build and sustain a continuous improvement culture.

These characteristics of continuous improvement organizations have large implications for the daily work of organizational leaders, including how and where they spend their time and the type of behaviors they need to adopt to lead this type of work. Leaders in continuous improvement organizations focus their attention on the work of the front line, spreading promising practices developed at the front line, solving problems when and where they occur, and reorienting the system to better support the core work of the organization.

Continuous improvement management practices have a rich history and have been taken up in multiple sectors from agriculture to manufacturing to healthcare organizations (as recently as the 1990s). In each case, leaders had to adapt the practices to their sector while building on a common theory and shared principles. The expertise, frameworks, and tools that have been developed in other fields can serve as a resource as California pursues continuous improvement across all levels of the education system.

Shared Definitions of Continuous Improvement in California

In our interviews with stakeholders at various levels of California's education system, we asked people to describe what kind of shifts in practice are required for continuous improvement. While there was a great deal of variation in the way people thought about continuous improvement around the state, respondents identified three common elements that resonate with the description noted above.

First, nearly all respondents acknowledged that continuous improvement requires a change in culture. To honestly reflect on outcomes and try new approaches, staff in districts and schools must trust one another enough to be honest about the ways they must improve. In addition,

the environment must be perceived as one in which it is safe to take risks. As one district superintendent said, “The system has to be created so that the organization feels safe enough to actually try something different.” Many said that this type of organizational change requires supporting the development of positive relationships, garnering buy-in, creating alignment between departments in the central office and the work of schools, and empowering stakeholders at all levels to take responsibility for improvement.

Second, respondents consistently discussed the importance of capacity building for people at all levels of the system. Echoing the words of many, one district leader said, “We’re big believers that the way that you’re going to improve any system is that you have to build the capacity of the *people* that are in the system.” Within many districts, collaboration is central to this approach; many respondents reported that building capacity in each site is about working with one another in a structured, purposeful, and rigorous manner. Accordingly, one district leader reported that they build capacity to improve through “making ourselves available to work with other networks of districts and counties and states.” One collaborative approach comes through networks run by private support providers, county offices of education, or the California Collaborative for Educational Excellence (CCEE). Other approaches for building capacity include professional learning opportunities, formal training, and coaching.

Finally, availability and use of data are widely considered central to continuous improvement. Most respondents discussed how essential it is to have frequent data to monitor progress and change course when needed. One county office administrator offered this example: “When it comes to continuous improvement, it’s a recognition that we are expected to respond frequently and immediately... so that we can respond to data, and shift the system in order to meet the need of the students on a more regular, more frequent basis.” However, having more frequent data, while necessary for continuous improvement, is insufficient. People at all levels of the system also need to know how to make good use of data — analyzing it to understand variations in performance and evaluating whether new investments have changed outcomes. This requires skill development among practitioners and a culture of data-use. A district administrator described the need this way: “I think one of the pieces is that we need to be better at helping our site administrators know how to lead [data] conversations. And how to help them to be very versed in the data. Not only what the data says and where they see the gaps, but what they can do to change that outcome.”

Despite the commonalities in aspiration, there is also wide acknowledgement that continuous improvement is not happening at scale in the state. Most respondents reported that they were in the beginning stages of authentic implementation of continuous improvement, despite their best efforts. Even among districts that would describe themselves as farther along, very few reported that they had seen improvements in student outcomes as a result of investments in continuous improvement. Similarly, those who work with districts reported that there are some districts that are engaging in continuous improvement, but that most are not. As one COE leader said: “We have several [districts] that are down at the innovative side, and they are

moving forward at a fast clip on reallocation of resources as necessary as a result of their data analysis, in response to what their students need... But there are some that are still just perceiving this whole system as a ‘this-too-shall-pass,’ or a ‘we’ll do it because the law says we have to but it’s not anything that we are necessarily embracing as a new era in [the] educational system.’”

Challenges in Implementing Continuous Improvement in California

In the spirit of continuous improvement, it is time to look at the systemic barriers to deep and broad implementation of continuous improvement practices in our state. To this end, in the remainder of this brief, we discuss the barriers identified in our interviews. Four primary themes emerged and are detailed below: (1) a lack of clarity on what continuous improvement means in practice and how to get there, (2) insufficient strategies and supports to grow internal capacity for continuous improvement, (3) difficulty prioritizing continuous improvement in a resource-constrained environment, and (4) variation in the availability and use of data to support continuous improvement.

1. There is a lack of clarity concerning what “continuous improvement” means in practice and how to achieve it. For organizations as dynamic and fluid as school systems, it is important to have a clear understanding of what is expected and a path for how to get there. This common understanding can promote appropriate changes in adult mindset and behavior and encourage authentic implementation.

- **While there is wide agreement across respondents that continuous improvement is important, there is confusion about what it means and looks like in practice.** Both districts and those who support them noted that inadequate guidance from the state in terms of a common definition and effective practices complicates attempts to implement continuous improvement at their sites. They expressed the need to have a set of expectations as a starting point to initiate continuous improvement that was “coherent” and “meaningful.” A COE leader explained, “It would be helpful if we were all using a common framework around continuous improvement. Because then no matter where a district went for support, they were getting the same message.” Echoing these sentiments, a state policymaker observed, “There is a tension between providing guidance and allowing local control. But I feel districts need some more specificity... not prescriptive, but with meaningful structure.”
- **Without specific direction or recommendations related to implementation, districts often focus on surface-level application of tools or structures rather than engaging in authentic continuous improvement.** Almost all districts reported some use of continuous improvement approaches, such as following the principles of Michael Fullan or Anthony Bryk, or engaging in improvement cycles (e.g., “Plan, Do, Study, Act”). One

support provider noted, “I haven’t been to a district where they don’t already have something in place.” However, only a handful are implementing these approaches deeply within the context of their district or schools. As a different support provider reported, “We found in our work that people say, ‘We have continuous improvement happening in our district.’ [But] when we visit these districts, conversations on continuous improvement are on the surface level.”

- **This lack of specificity contributes to disjointed improvement initiatives rather than coordinated system-wide change.** Although the application of continuous improvement practices to a single initiative has the potential to serve as a natural path for practitioners to build capacity in continuous improvement, to become a continuously improving organization requires greater understanding of how practices, structures, and systems are integrated. While a few districts acknowledged that continuous improvement ideally should occur throughout the organization, “from the classroom to the district office,” most improvement efforts were isolated within one site or department. For example, many districts referred to the establishment of professional learning communities (PLCs) at the school site as an example of successful continuous improvement implementation. However, the work of these PLCs was very rarely connected to broader system goals. As a support provider observed, “It’s beyond striking to me... We have teachers involved in improvement strategies. But they don’t know the impact it will have on continuous improvement at the district level.”
- **There are limited examples of well-established continuous improvement in practice to serve as models.** When asked to recommend next steps for supporting district capacity for continuous improvement, more than half of district leaders suggested dissemination of best practices from other districts comparable to theirs. In fact, there was an overwhelming demand to hear about successful continuous improvement at peer institutions and to learn about exemplars from support providers who work across multiple sites. Echoing this common request, a superintendent stated, “It would be nice to create a repository... a best practice type of manual.”
- **The LCAP constrains authentic implementation of continuous improvement.** Many districts reported that when the LCAP was first introduced, they believed that the state’s revised accountability and support system heralded a major shift from a compliance to a continuous improvement approach. They recounted how the LCAP was presented as an opportunity to articulate “What’s important to us? How do we plan on going about meeting the goals that we have as a district?” However, districts soon struggled to use the LCAP as a tool to address these questions for improving outcomes in their schools and districts. Many district leaders reported that filling out the LCAP has become a compliance activity, and that the process may interfere with authentic continuous improvement. As one district leader stated, “For me, the LCAP does not help us improve as an organization...it is completely compliance for our counties.”

2. Increasing capacity is a known necessity, but strategies and supports to grow capacity are lacking. Education leaders recognize that continuous improvement requires a shift in culture and a change in mindset. It requires the introduction of new systems and structures, and new ways of thinking about and approaching the work. This type of organizational change is no simple task and requires growth in internal capacity across the system. Therefore, districts need explicit strategies for growing capacity to accelerate the institution of continuous improvement practices system-wide.

- **Support directly related to continuous improvement is limited across the state.** Approximately half of the school districts interviewed stated that no outside entity was helping them to better implement continuous improvement. Several district leaders simply reported that they are receiving “zero” support for continuous improvement. The other half identified support from the county office of education or private support providers. However, most of the support that districts described was not directly related to continuous improvement. Rather, they cited support for district improvement initiatives such as accelerated English Language acquisition, or standardizing coaching in the district. The support described from their county offices tended to focus on the LCAP. As one district leader said, “We’ve had some training over the years, but... we’ve never gone to a workshop entitled ‘How To Do Continuous Improvement In Your District.’ If it’s out there, I haven’t heard of it.”
- **Districts struggle to integrate ideas from different methodologies into a coherent approach.** At all levels of the system, stakeholders agree that building continuously improving systems requires more than a prescribed tool or methodology. One district leader discussed how they have resisted prescriptive approaches to continuous improvement: “We have been very much against purchasing a canned system. We have more of a culture of taking things that we’ve learned... what we feel are really good ideas, and rework them, remix them into a system that we think we could really support.” Along these lines, a state leader reported that because of differences in district context, they are trying to move away from prescribing specific tools for continuous improvement: “We’re also trying to be very agnostic to the kind of tools that we use, or that we promote. So ultimately this is much more about process than about a specific protocol or a tool that we’re using.” However, this resistance to building upon a specific methodology is counter to the advice of experts. It takes a higher level of knowledge and skill to integrate elements from different methodologies, and makes it difficult to share a clear vision of the improvement process across diverse stakeholders. Furthermore, it makes it much harder to develop a clear training program for staff in different roles. This problem is heightened by the fact that each support provider uses a different method and language, leading to incoherence in how districts are supported.

- **Existing support for continuous improvement is not intensive enough.** Districts that are further along in the transition to an improvement organization often work with external support providers, which they reported was essential to building the capacity to improve. As one superintendent said, “We cannot sustain continuous improvement in a way that we would like to unless we have an entity that... takes over the mechanics and facilitation of that. If you leave it to districts to do [it] themselves, work gets in the way.” Several districts said that available supports, such as from the CCEE or the county offices, were helpful but insufficient. For example, “the county does good in that they’ll bring in a speaker on continuous improvement... But that’s not the type of intensity of engagement that you’re going to need to build the type of systems that lead to actual continuous improvement within your district.”
- **There is variation in the capacity of counties to support districts’ continuous improvement efforts.** The county offices of education were often discussed as an essential support for implementing continuous improvement across the state, yet variation in the capacity of county offices of education to provide support to districts was widely referenced. As one district leader reported, “If [school districts] don’t improve, the county is supposed to provide the expertise and technical assistance and support...in my experience there’s a serious capacity issue at the county level that is beyond money.” A state leader similarly mentioned the variation in capacity among county offices of education: “There are some counties that are [thinking] this ‘too shall pass’ or they just lack capacity to keep their head above water. And I’m not being disparaging of them. I just think there’s [a lack] of capacity.” Those who work within the COEs also acknowledge constraints on their ability to meet the needs of all districts. As one COE leader said, “[The districts] rely heavily on us and it’s a good thing, but it’s also unfortunate that we don’t have the people on staff to be able to support the districts within our own county.” Acknowledging this need, one state leader said that their work is to consider “how we build capacity in county offices around support.”
- **Staff turnover is undercutting efforts to build system capacity.** Education leaders agreed that staff turnover presents myriad difficulties to growing and sustaining continuous improvement system-wide. Among other issues identified, high teacher and leadership turnover makes it extremely difficult for support providers to build relationships, and in turn, to build capacity, with district staff. Moreover, if individual capacity is the key to organizational transformation, turnover presents a substantial challenge to sustaining progress. Along these lines, district leaders overwhelmingly identified difficulty attracting and retaining teachers as a substantial barrier to continuous improvement efforts. For example, one district leader reported, “The number one issue we have here is staff turnover... the onboarding process, trying to get the teachers up to speed, the training, the extra PD that we have to do, it’s a drain on resources and it’s a drain on the system.” Another district leader identified their inability to compete on teacher salaries as a barrier to retaining staff: “We’re not as competitive

in terms of our salary structure. We just don't have those resources... I feel like we're the Oakland A's. People come here, do great work, get trained, and then after four years or so, they leave."

3. Districts struggle to prioritize continuous improvement when facing constraints of time and resources. Continuous improvement requires an investment in doing things differently. Many district leaders are finding it difficult to make such investments in the face of pressure to improve quickly along all dimensions and with limited financial resources.

- **Even in a mature improvement organization, the process of continuous improvement takes time that districts do not feel they have.** When a district is engaging in authentic continuous improvement, they have internalized the improvement adage of "going slow to go fast." This means that the people in districts and schools must take time to develop and implement solutions that are likely to solve specific problems, including testing ideas at a small scale before going to a system-wide roll-out. This approach ensures better outcomes, but it can take years. As one superintendent said, "The system is not built to allow time to engage in continuous improvement models, because those require that the teams actually engage in the work, engage in discovery of the learning, and that takes time." With Dashboard data available annually, and with measures reported along many dimensions and for all subgroups, many districts reported feeling like there is an expectation that changes in student outcomes should occur from year to year. However, this rate of change does not feel feasible, and the accountability pressure may limit districts' flexibility in implementing new approaches. As one superintendent stated, "As long as there's accountability with a hand slap when you don't do well, the system doesn't give you time. Because to try something different means it may not work. And if it doesn't work, you can't have the principal getting pounded because they took a risk."
- **However, most districts need time to build the culture and systems that lay the groundwork for continuous improvement before they are even ready to engage in the work.** Many school districts have a "top down, dictatorial" culture, and a shift to improvement requires a non-hierarchical structure in which everyone has ownership over the organizational goals, and where there is clear alignment between departments in the central office and with the work of schools. Thus, building an improvement culture can require redesigning a district's structure, systems, and processes. As one superintendent mused, "I think there's a hidden assumption around some of the continuous improvement frameworks that you have some of these systems in place and then here's how to improve those systems, right? What if you don't have any of those systems in place? Then, the first step is building those systems." For this reason, even after a focused investment in a system to support continuous improvement, it can be a long time before student outcomes begin showing improvement. While most districts

are not very far along in building the structures, systems, and culture needed for continuous improvement, even those that are report few changes in measureable outcomes as a result. As one superintendent stated: "I think that we've successfully shifted this notion around punitive accountability to 'we all are accountable for improvement.'... From where we were to where we are, I'm proud of that. I'm proud of that, but not proud of our absolute performance. It's still pretty poor."

- **“Doing things differently” requires investment, but district resources are restricted in the context of declining revenues and accelerating, fixed costs.** Many district leaders think LCFF has been communicated to stakeholders as a windfall, when in reality “the funding barely covers the basic necessities to run an effective school or system.” Furthermore, many districts budgets are feeling pinched by declining revenues and the increasing costs of healthcare and pensions. So at the time when they need more money (and the public believes that they have it), districts are feeling resource-constrained. This is making it hard for districts to invest in new programs or the supports they need to build capacity internally for continuous improvement. As one district leader said, engaging the in-depth support of a private support provider is very effective but can be expensive: “If you engage a [private support provider], a three-year continuous improvement contract, that’s going to cost you \$150,000, \$200,000. Honestly, we don’t have that type [of money]. If you’re asking me would you do that versus having your elementary school kids have access to the arts, I’m going to choose the arts.” Many districts acknowledge that freeing up resources within their system would be a smart approach, but districts cannot quickly discontinue ineffective programs, both because of the annual cycle of school budgeting, and because of embedded interests. As one superintendent said, “You can’t just suddenly say, well next year we’re getting rid of that!”
- **Compounding this problem, districts find it difficult to prioritize their attention, further stretching their thin resources.** Despite the fact that state-level policymakers want districts to “focus on 2-3 things and do it well,” many districts report struggling to stay focused on organizational goals and the ability to be strategic about investments, in large part due to pressure from advocacy groups to spend money in particular ways. Some say that this challenge is heightened by the fact that the state’s priorities are too broad, making it seem like districts should be working to improve all of the Dashboard outcomes every year, for every subgroup. As one support provider stated, “In a highly resource constrained environment, when you’re told to do everything, you will do what is actually most politically expedient for you, not what is necessarily all the time the right thing.” Many believe that the districts could have more political cover to focus on strategic initiatives if there was stronger leadership from the state on what to prioritize. As one superintendent stated, “What could be helped is more focus on what is important to the State. While I don’t want any draconian sanctions being placed on us, I would like that backing. So if the legislators said, ‘This is what is important, this is what

we want, and this is what you have to do.’ It takes a huge burden off of me convincing everybody that this is the right thing to do, and it’s just best to say, ‘Hey, it’s not my call, we were just the implementers here!’” Along these lines, several respondents noted that the LCAP could better support investment in the process of continuous improvement by calling it out. As one support provider noted, “Maybe it would helpful for districts to be asked to articulate the top 2-3 most important system-wide capacities they aim to develop in order to improve student outcomes each year.”

4. There is variation in the availability and use of timely, relevant data to support continuous improvement. Rather than relying on a summative view as to whether or not a program was effective, the systematic, ongoing collection and analysis of real-time local data allows educators to identify needs and to make immediate adjustments throughout the school year to strengthen efforts to improve educational outcomes for students.

- **The CDE’s Dashboard offers a baseline of data for districts and COEs, and the implementation of the LCAP provides a forum for conversations about outcomes.** The LCAP and Dashboard offer increased opportunities for districts to review and analyze their data, and these state-provided resources are particularly useful for smaller districts with limited internal research capacity. One county administrator reported that, for one district, the Dashboard data illuminated problems of practice that were previously invisible: “Just having the Dashboard to point out that, ‘Hey, you have the lowest indicator overall for math.’ That one superintendent was very surprised by that, and when we talked a bit more with him, he had not yet adopted materials for the Common Core math. We now have a team out there working with him — it was because of the conversations around the data.”
- **However, the state is working with “post-mortem data” and this limits the ability of the state and COEs to engage school districts in continuous improvement.** State assessment data are not recent, leading one district to describe using state data as an “autopsy”: “The state data is great and it helps give us a good picture of what happened the year before, but it’s really an autopsy. We need to be able to look at the data as the year progresses and get that data into the hands of our sites and our teachers so that they can make adjustments accordingly.” A county office administrator also expressed concern about the lag in data and its impact on districts to engage in continuous improvement strategies: “[D]istricts are concerned about the delay in release of the state Dashboard. If the Dashboard’s not going to come out until December this year, and that’s already halfway through the year.... what do we do from July until December, when it comes to looking at strategic planning? Or analysis of progress over time? It’s really hard to do that when you don’t get data until the year’s already halfway over.” One state policymaker acknowledged, “There needs to be a conversation on how we

invest in resources to empower districts to use the data they collect and not wait for a Dashboard. There's definitely a hole in our system."

- **While some districts are developing increasingly robust internal, “real time” data systems, there remains huge variation across districts in their capacity for data use, including generating local data and using data to inform strategy and implementation.** County leaders in particular noted the wide divergence among districts: “Our districts are in different phases of having their own data systems where they can produce more timely information that can be used to inform instruction and adjust practices during the year. It just depends on what the district has and can pull forward... I’m not sure that the districts have gotten to a place where they can make really strong use of that data to inform what they do.” As another county education leader said, “I don’t know that they all have the structures in place, to use data and understand it and have conversations about it and make plans based on it.” Sometimes, as one district administrator notes, this can also mean unlearning poor practices and prior assumptions about data use: “I think probably one of the biggest barriers is to help people overcome just un-useful practices.”

Looking Ahead

While the value of continuous improvement to California’s education system is widely recognized, gaps in support for deep and systemic improvement efforts have the potential to turn continuous improvement into just “another thing we tried that didn’t work.” For far too long, California has invested in efforts that attempt to improve student outcomes, but many initiatives are abandoned too soon to see results. This “policy churn,” common across the country, leads to mistrust in the system, reflected in the resistance to engage in continuous improvement by educators thinking that “this too shall pass.”

Policymakers, practitioners, and researchers alike agree that enacting continuous improvement at all levels of our system will require a substantial investment — in time and resources — to change first the way our organizations function, and then the outcomes they achieve. To sustain focus on this goal, and realize the full potential of LCFF, we must make the case that by investing in continuous improvement we can show results. Knowing that it will be a long time until our focus on continuous improvement changes the colors on the Dashboard, we must blaze a path to identify, collect, and report the interim progress that assures both ourselves and the broader public that investing in a continuous improvement approach is working.

If we are successful, continuous improvement could become a part of the fabric of our education institutions, in which educators model for our students the mindsets, skills, and behaviors that support true learning. In so many ways, continuous improvement asks practitioners to do the very things we teach and inspire our 6.2 million students to do on a daily basis. It invites a community of learners to look at a similar challenge and work together to try,

and try again to ensure progress to address a problem. It asks each of us to be reflective, humble, inquisitive, and tenacious in tackling the challenges we have identified. And perhaps most importantly, as a system, we can model for our students how we work together to help one another by ensuring that every school, and every educator, has the support they need to be successful.

Appendix: Annotated Bibliography

Continuous Improvement in Education

Liebman, J. S. (2012). Ending the great school wars. *Education Week*, 32, 14. .
http://www.edweek.org/ew/articles/2012/12/12/14liebman_ep.h32.html

This short commentary piece describes continuous improvement (which they call institutional learning) as a management strategy for improving education. They distinguish continuous improvement strategies from other strategies for educational reform:

- “Bureaucratic strategies” that pursue highly centralized, one-size-fits-all approaches to determining practice,
- “Managerialist strategies” which provide teachers with targets and expect them to figure out how to meet them, and
- “Professionalism or craft strategies” which privilege the consensus of professional groups in determining practice.

The piece is a summary of a larger framework developed by the authors that describe the underlying theories that drive the often political arguments about how to best manage education organizations.

LeMahieu, P. G., LeMahieu, P. G., Bryk, A. S., Bryk, A. S., Grunow, A., Grunow, A., ... & Gomez, L. M. (2017). Working to improve: seven approaches to improvement science in education. *Quality Assurance in Education*, 25(1), 2-4. <https://doi.org/10.1108/QAE-12-2016-0086>

This volume, edited by the Carnegie Foundation for the Advancement of Teaching, compares seven improvement approaches that are now being utilized in both the United States and international education settings: Networked Improvement Communities, Design-Based Implementation Research, Deliverology, Implementation Science, Lean for Education, Six Sigma, and Positive Deviance. This comparative analysis focuses on three broad questions that are taken to serve as a major part of the content of the articles that follow:

- How are problems identified, understood and specified in the approach/model?
- How are solutions determined, tested and warranted as improvements in the approach/model?
- What, if any, provision does the approach/model make for the spread of improvement knowledge?

Each article follows a common outline consisting of a general history of the ideas and approach; how it has been adapted to educational settings; a case study or example of

its use in education; and a description of its distinctive responses to the three questions listed above. Each article then concludes with a general summary.

O'Day, J. A., & Smith, M. S. (2016). Quality and equality in American education: Systemic problems, systemic solutions. In I. Kirsch and H. Braun (Eds.), *The Dynamics of Opportunity in America* (pp. 297-358). Princeton, NJ: Educational Testing Services.
https://www.carnegiefoundation.org/wp-content/uploads/2016/02/ODay-Smith_Systemic_reform.pdf

After briefly reviewing the unequal opportunities outside schools that contribute to the disparities in educational achievement, attainment, and various indicators of adult success, this chapter zeroes in on addressing inequities within K-12 education. The authors argue that disparities within the educational system are the product of institutional structures and cultures that both disenfranchise certain groups of students and depress quality overall. Systemic causes require systemic solutions, and they envision a three-pronged systemic remedy: 1) a continuous improvement approach for addressing the quality of educational opportunities for underserved students as well as of the system as a whole; 2) targeted high-leverage interventions consistent with the overall approach but focused on key transition points and needs; and 3) stronger connections between schools and other institutions and systems affecting the development and well-being of children and youth.

Park, S., Hironaka, S., Carver, P. & Nordstrum, L. (2013). Continuous improvement in education. *Carnegie Foundation for the Advancement of Teaching*. Retrieved from
<https://www.carnegiefoundation.org/resources/publications/continuous-improvement-education/>

This white paper attempts to map the continuous improvement landscape by identifying and describing organizations engaged in continuous improvement and by highlighting commonalities and differences among them. The findings classify three types of organizations engaged in continuous improvement: 1) those focused on instructional improvement at the classroom level; 2) those concentrating on system-wide improvement; and 3) those addressing collective impact. Each type is described in turn and illustrated by an organizational case study. Through the analysis, the authors identify six common themes that characterize all three types of organizations (e.g., leadership and strategy, communication and engagement, organizational infrastructure, methodology, data collection and analysis, and building capacity). This white paper makes four concluding observations. First, the three case studies provide evidence of organizations conducting continuous improvement work in the field of education, albeit at different levels and in different ways. Second, entry points to continuous improvement work are not mutually exclusive, but are nested and, hence, mutually

informative and comparative. Third, continuous improvement is not synonymous with improving all organizational processes simultaneously; rather, research and learning cycles are iterative and gradual in nature. Fourth, despite being both iterative and gradual, it is imperative that improvement work is planned and undertaken in a rigorous, thoughtful, and transparent fashion.

Continuous Improvement Organizations in Other Sectors

Masaaki, I. (1986). *Kaizen: The key to Japan's competitive success*. New York: McGraw-Hill.

In this book, the author describes the Kaizen management philosophy, which emphasizes perpetual improvement even when things are going well. This process-oriented approach to systems improvement requires a top-to-bottom organizational commitment where everyone in the organization is focused on meeting the needs of end users. He contrasts this with the Western results-oriented approach to management, which emphasizes “innovation”—or the use of large-scale changes that require substantial up-front investments with the goal of short-term, dramatic change. The book includes numerous case studies of organizations using the Kaizen approach.

Rother, M. (2009). *Toyota Kata: Managing people for improvement, adaptiveness and superior results*. New York: McGraw Hill.

Drawing on six years of research into Toyota's employee-management routines, *Toyota Kata* examines the company's organizational routines—called kata—that serve as the foundation of its success with continuous improvement and adaptation. The book also reaches beyond Toyota to explain issues of human behavior in organizations and provide specific answers to questions such as:

- How can we make improvement and adaptation part of everyday work throughout the organization?
- How can we develop and utilize the capability of everyone in the organization to repeatedly work toward and achieve new levels of performance?
- How can we give an organization the power to handle dynamic, unpredictable situations and keep satisfying customers?

The author explains how to improve our prevailing management approach through the use of two kata: Improvement Kata—a repeating routine of establishing challenging target conditions, working step-by-step through obstacles, and always learning from the problems we encounter; and Coaching Kata—a pattern of teaching the Improvement Kata to employees at every level to ensure it motivates their ways of thinking and acting.

Spears, S. (2010). *The high velocity edge: How market leaders leverage operational excellence to beat the competition*. New York: McGraw Hill.

In this book, the author articulates four capabilities that distinguish “high velocity” organizations and illustrates these capabilities with examples across a wide spectrum of industries:

1. *Specifying design to capture existing knowledge, and building in tests to reveal problems:* While it is impossible to design a perfect system in advance, designing based on your best current knowledge and documenting it allows you to see quickly when the system is not performing as expected.
2. *Swarming and solving problems to build new knowledge:* For most organizations, work-arounds, firefighting, and heroics are commonplace. In contrast, high velocity organizations invest in solving problems quickly and addressing the root causes before they become a “normal” part of operation.
3. *Spreading new knowledge throughout the organization:* When a problem is solved locally, learning from that experience needs to be spread across the system so that problem is not solved over and over again.
4. *Leading by developing the capabilities above:* Leaders grow their team by improving their team’s skills along the top three capabilities.

Continuous Improvement Culture

Lucas, B., & Nacer, H. (2015). *The habits of an improver: Thinking about learning for improvement in health care*. London: Health Foundation. Retrieved from <http://www.health.org.uk/publication/habits-improver>

In this paper, the author offers a way of viewing the field of improvement from the perspective of the people on the ground across the United Kingdom’s National Health System who engage in improvement every day. It describes 15 habits that these individuals regularly exhibit, grouped under five broad headings: learning, influencing, resilience, creativity and systems thinking. It goes on to suggest that there are certain teaching and learning methods which best develop skills and knowledge for understanding and implementing improvement. This five dimensional model of improvement is not an alternative to the knowledge and skills that employees need to have in relation to undertaking improvement. Rather it is complementary, a means of ensuring that those developing curricula maintain a holistic overview and think carefully before simply adding in another area of content or suggesting a new skill. *The Habits of an Improver* was written to promote a possible model of the best balance of attitudes, skills and knowledge in initial training and continuing professional development for improvement.

Key Cases

Barnas, K. (2014). *Beyond heroes: A lean management system of healthcare*. Appleton, WI: ThedaCare Center for Healthcare Value.

This book chronicles the transformation of the ThedaCare health system in Wisconsin from a top-down, hero-based system of management to a lean, stable management system committed to continuous improvement. Hospitals have long relied on the heroics of brilliant nurses or doctors acting alone to save the day. Such heroics often result in temporary workarounds and quick fixes that leave not only patients and quality care at risk but also increase costs. Like a growing number of healthcare organizations around the world, ThedaCare used lean thinking and the principles of the Toyota Production System to improve the quality of care, reduce waste, and become more reliable. The core work of this transformation involved changing the culture, including how individuals at all levels responded to problems, thought about patients, and interacted with one another. Using the stories of ThedaCare's doctors, nurses, and administrators to illustrate lean principles, *Beyond Heroes* shows how ThedaCare developed a new management system focused on continuous improvement.

David, J., & Talbert, J. (2013). *Turning around a high-poverty district: Learning from Sanger*. San Francisco: S.H. Cowell Foundation. Retrieved from <http://shcowell.org/wp-content/uploads/2015/12/Learning-From-Sanger.pdf>

In this report, the authors chronicle the journey of Sanger Unified School District in California's Central Valley from one of the lowest performing districts in 2004 to one whose test scores gains for all students and for English learners have surpassed average state gains each year since testing began under No Child Left Behind (NCLB). Rather than adopting new curriculum and monitoring fidelity or bringing in private vendors, Sanger leaders set out to fundamentally change the culture of the district from a focus on adults to focus on students, from following textbooks to diagnosing student needs, from professional isolation to collaboration and shared responsibility, from top-down to reciprocal accountability, and from leaders as managers to leaders of learning. They brought about these shifts by following three core principles: 1) Take a developmental approach to change, 2) balance mandates, flexibility, and support in implementing and refining district initiatives, and 3) build commitments and relationships to support and sustain change. In this transformation, Sanger leadership focused on four key areas over a significant number of years--professional learning communities (PLCs), direct instruction (EDI), response to intervention (RTI), and English language development. Through this approach, the district created a dynamic system of interdependent parts characterized by an openness and commitment to continuous improvement, not only for student outcomes but for every corner of the district.

Bios

Heather J. Hough is the Executive Director of the research partnership between Policy Analysis for California Education and the CORE Districts, a collaborative of eight California school districts who have developed a robust measurement and accountability system that represents nearly a million students. Before joining PACE, Heather was an improvement adviser with the Carnegie Foundation for the Advancement of Teaching, helping education system leaders use research and data to support continuous improvement. She has worked as a researcher with the Public Policy Institute of California, the Center for Education Policy Analysis at Stanford University, and the Center for Education Policy at SRI International. Heather's area of expertise is in district- and state-level policymaking and implementation, with a particular focus on policy coherence, system improvement, and school and teacher accountability. She holds a Ph.D. in education policy and a B.A. in public policy from Stanford University.

Jason Willis is the Director of Strategy & Performance for the Comprehensive School Assistance Program (CSAP) at WestEd. In this role, he oversees and guides the expansion of CSAP's performance and accountability services, which include support to California's state and local education agencies to implement policies and practices to support the Local Control Funding Formula (LCFF) and realization of genuine continuous improvement efforts in school systems. Performance and accountability services provides this support through capacity building, facilitation of professional learning networks, and analysis of financial data including the effective use of resources. Prior to joining WestEd, Jason served as Assistant Superintendent, Engagement and Accountability, for the San Jose Unified School District. He also served as the Chief Financial Officer/Chief Business Official for the Stockton Unified School District and Budget Director and Program Manager for the Oakland Unified School District.

Alicia Grunow, started her career as a bilingual teacher in the Denver Public Schools and then in New York City, working to improve outcomes for students that speak a language other than English. Through this work she discovered a passion for redesigning systems to better meet the needs of these students. She pursued a specialization in Improvement Science and has spent the past six years adapting these methodologies for education at the Carnegie Foundation for the Advancement of Teaching, where she coauthored the seminal book "Learning to Improve." Alicia remains Senior Fellow at the Carnegie Foundation and recently cofounded the Improvement Collective, a partnership dedicated to helping organizations to build their improvement capacity in order to solve important problems of practice, particularly those that affect disadvantaged children. She received a BA in psychology from Reed College, a Master's Degree in Economics, and a doctorate in Education from Stanford University.

Kelsey Krausen is a Senior Research Associate with the Comprehensive School Assistance Program (CSAP) at WestEd. Her areas of expertise include accountability systems, education leadership, and school change and district systems reform. Kelsey has worked on a range of a

research projects including statewide research on elementary truancy and chronic absence, an evaluation of a four-district systems transformation collaborative, and research on the implementation of California's new local control accountability policy by county and district leaders. Kelsey holds a Ph.D. in School Organization and Educational Policy from the University of California, Davis, an M.A. in Public Administration from San Francisco State University, and a B.A. in Literature from the University of California, San Diego.

Sylvia Kwon is a research associate for WestEd's Comprehensive School Assistance Program (CSAP). She is part of CSAP's impact assessment team providing evaluation and research support on state, school, and district improvement projects. Her responsibilities range from building capacity, delivering technical assistance, to guiding impactful implementation of education practices. Her areas of expertise include qualitative research methods and analysis, data visualization, and family/school engagement. Prior to joining WestEd in 2017, Sylvia worked as a research analyst and evaluation specialist at UC Davis and UC Davis Health. She also served as a training and assessment coordinator for a non-profit organization in the Bay Area. She holds a PhD in Educational Foundations and Policy from the University of Michigan, Ann Arbor.

Laura Steen Mulfinger is a research associate with Policy Analysis for California Education (PACE) and a research project manager at the University of Southern California's (USC) Rossier School of Education. She is currently part of team working to understand the portfolio management model in three large city school districts, and was also a member of the external evaluation team for the Los Angeles Unified School District's Teacher Incentive Fund grant. Prior to joining PACE and USC, she served as Director of Policy and Research at Communities for Teaching Excellence. She holds a Ph.D. in education policy from Claremont Graduate University, and is a co-author of *Learning From L.A.: Institutional Change in American Public Education* (Harvard Education Press, 2009).

Sandra Park recently cofounded the Improvement Collective, a partnership dedicated to helping organizations to build their improvement capacity in order to solve important problems of practice, particularly those that affect disadvantaged children. Prior to launching the Improvement Collective, Sandra was the director of external offerings and partnerships for the Carnegie Foundation for the Advancement of Teaching where she oversaw the development and execution of workshops on network initiation, improvement science and practical measurement. She completed the Improvement Advisor program at the Institute for Healthcare Improvement in 2011 and formerly served as the director of the Foundation's Building a Teaching Effectiveness Network (BTEN). Park previously taught elementary school in Oregon, Maryland, and Washington, D.C., and was director of programs at First Graduate in San Francisco. She holds a B.A. in sociology from Georgetown University, a teaching credential and M.A.T. from Louis & Clark College, an Ed.M. in administration and policy from the Harvard Graduate School of Education, and a Ph.D. in education policy from UC-Berkeley.

About

Policy Analysis for California Education (PACE) is an independent, non-partisan research center based at Stanford University, the University of Southern California, and the University of California – Davis. 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
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- Works with local school districts and professional associations on projects aimed at supporting policy innovation, data use, and rigorous evaluation



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