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By telling personal stories of challenges we have faced, choices we have made, and what we learned from the outcomes, we become more mindful of our own moral resources and, at the same time, share our wisdom so as to inspire others. Because stories enable us to communicate our values not as abstract principles, but as lived experience, they have the power to move others.

-Marshall Ganz¹

Ten years after the first Summit on Improvement in Education, we at the Carnegie Foundation, with support from the Bill & Melinda Gates Foundation, wanted to understand the experiences, values, and aspirations of the growing group of people using continuous improvement and improvement science to pursue ambitious aims in their work. In the still-young field of improvement in education, we wanted to understand the extent to which a community with a shared narrative has emerged, as well as common needs improvers have as they look to the future.

INTRODUCTION

In the spring of 2023, we set out to gather stories from people across the field of education who identify as using continuous improvement and improvement science in their work. More than 300 people offered their reflections about their experiences and their work through a survey, interviews, user-generated video reflections, or focus group conversations. They shared stories about the challenges they are using improvement to address, how their work has changed through using improvement, and why they continue to turn to improvement science to reach their goals. People were also invited to share reflections about what has enabled their work, and to look ahead to what might support more widespread use of improvement.

What follows represents the voices of those who shared their stories. The purpose of this report is to enable the improvement community, collectively, to begin to make sense of where it is now and what it needs going forward in order to continue getting better at getting better. In preparing this report, we sought to understand any areas of commonality and divergence across responses; what emerged as we listened and read was a picture of a shared improver identity. Participants reported focusing on similar problems in their improvement work, with many describing an explicit focus on achieving more equitable outcomes and systems. Across differences of role and level of experience people related similar shifts in their ways of working. As they reflected and looked ahead, we heard improvers articulate a set of needs that, if met, would allow improvement practice to take deeper root in systems. The celebrations, worries, and critiques that were shared sparked our own reflection on what might be needed to strengthen this emerging field, which we offer in the final section. We hope that in the stories and synthesis that follow more people may recognize their own experiences, and that what participants shared stimulates discussion that elevates a living community narrative and inspires and sustains us as we continue to learn to get better together.

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Educators and communities today are working to address a host of deeply rooted systemic challenges as they pursue their commitment to support every student to learn and thrive. Issues and disparities that were barely visible five years ago are much more apparent as students have returned to classrooms after the severe disruptions of the COVID-19 pandemic. In the United States, we see declines in student performance in literacy and math. Inequitable outcomes and distribution of resources between communities have been brought into even sharper focus, dropping enrollments in public schools have accelerated, and there are deep divisions in communities about what students should learn. The complexity of these challenges, and the urgency of addressing them, can be daunting.

But even in the midst of this, we see reason for hope. A growing group in the field of education — in schools and districts, colleges and universities, nonprofit organizations and state agencies — are taking on these challenges of equity and excellence with passion and energy. Working locally and collaborating widely they are bringing disciplined improvement practices to bear in the service of transforming education systems and what they enable the students they serve to achieve. This report brings together the voices of improvers from across the education field who shared their experiences, achievements, and what they need to continue forward.

Ten years ago, a community of improvers gathered for the first Carnegie Foundation Summit on Improvement in Education. That group of curious and early adopters shared a common interest in the potential of improvement science and networked improvement communities as approaches to changing systems and realizing progress in the pursuit of educational equity and excellence. Improvement science situates problems in the systems that enable them and engages the expertise and action of those who experience those problems every day in efforts to change. Anchored in six principles that guide practice (see Fig. 1), it moves away from privileging generalizable knowledge, implementation with fidelity and the pursuit of fast solutions for complex problems. Instead it moves towards an approach that values disciplined inquiry, attending to variation and equity in performance, and learning our way into solutions grounded in practice-based evidence. When practiced in a network focused on a common aim, this form of continuous improvement can accelerate progress and enable the spread of learning to new contexts.

From that first gathering a community of improvers has grown and the Carnegie Summit on Improvement in Education has become an annual event. There are now many more individuals, teams, organizations, and networks using improvement methods as they go after ambitious, equity-

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focused, system-transformative goals than there were 15 years ago. We see practice guided by the six improvement principles thriving in some places, but it is not yet a normative way of working in education. We also know individuals and organizations are adapting and integrating improvement practice into their contexts in different ways as they work to address the persistent and pressing equity challenges that are evident in our educational systems.

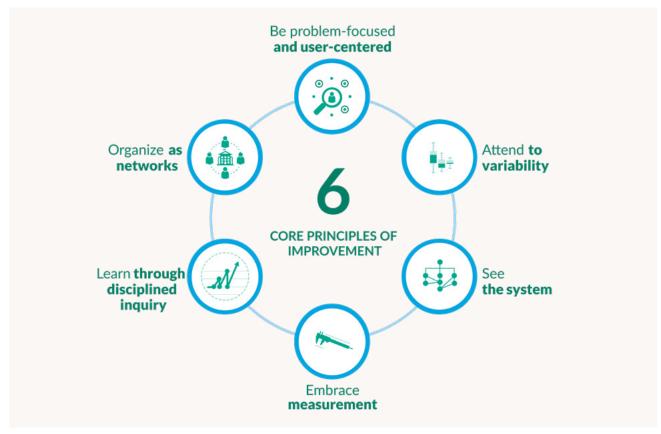


Figure 1. Carnegie's Six Core Principles of Improvement

With all that we face today as an education field, it is even more important to understand how equity challenges are being addressed, and the ways of working that are helping us make real progress on educational outcomes that we deeply care about. The tenth Carnegie Summit on Improvement in Education offered an important moment to collectively take stock of what this growing community has learned about continuous improvement practice and how they see it contributing to their efforts.

The Voices of Improvers Project

Improvement science is guided by six core principles that include "attend to variability," "embrace measurement," and "use disciplined inquiry." In line with those principles, we were eager to gather evidence to ground our understanding of the current state of the community. In 2023, aligned with the improver community gathering at the 10th Carnegie Foundation Summit on Improvement in Education, we launched this Voices of Improvers project as a way to better understand, with others in the field, how improvement science is alive in practice today.

In that spirit, we undertook a project rooted in storytelling as a context for sharing the challenges people and organizations are working to improve and the progress and impact they identify. Participants were invited to reflect on what has helped and hindered their improvement efforts, and what might further support and accelerate their work. We were particularly interested in what people might share about if, and how, being part of a larger community of improvers may have supported them in their efforts. Our intent in this project was to work with the improver community — which we identify ourselves as part of — to create ways for it to see itself more clearly and to recognize how the community may develop into, or contribute to, the development of a robust professional field.



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With the help of Results Lab, a social enterprise organization that seeks to help organizations better utilize data and elevate voice to drive social change, we set out to capture improver's stories so that we could reflect them back to those who may be interested or invested in the improver community and developing the field further. We created multiple mechanisms by which improvers could engage with us: focus groups, a survey, and user-generated videos. As part of this project, deep dive interviews were conducted with a broad array of influential improvers including scholars, network leaders, coaches, school principals, and the ninth President of the Carnegie Foundation for the Advancement of Teaching, Anthony Bryk. With each medium, we sought to create wide open stages upon which those who, at some point, have been part of this ten-year long experiment could share their honest insights, experiences, opinions, and reflections on their journeys with improvement.

We are incredibly grateful for the vast number of improvers who responded to the invitations and shared their insights with us. While we have data and Carnegie staff did some sensemaking to arrive at the summaries we share below, we do not present this as research, nor do we suggest that this is a complete story. This report, as one part of this larger storytelling project, reflects our honest, good faith summaries of the stories we heard and aspires to provoke more sharing, reflecting, collective sensemaking and storytelling. In the sections that follow we provide descriptive retelling that offers a window into what it has meant for educators to engage in improvement work, the impact of such efforts and the possibilities that participants have imagined, as well as the challenges they see for the future of improvement in education.

The Improver Voices

As mentioned above, we wanted to create opportunities for community reflection. Towards this goal, we wanted this effort to be informed by improvers. Early on, we established an Advisory Council of notable pioneers and leaders of improvement in education who provided us with feedback. Importantly, they provided invaluable guidance on the mission and guestions of this project. Our goal was to create an expansive invitation that would allow diverse voices coming from various roles, affiliations, identities, geographies and depth of experience to engage with us. We leveraged our records from years of Summit registrations and the Advisory Council's generosity to issue hundreds of invitations to engage through various opportunities like participating in a focus group, taking the survey, or submitting a user-generated video. These initial invitations encouraged others to spread the opportunity to even more others. We are grateful that people took us up on this offer. The purpose of this section is to illustrate what we know about those who engaged with the project.

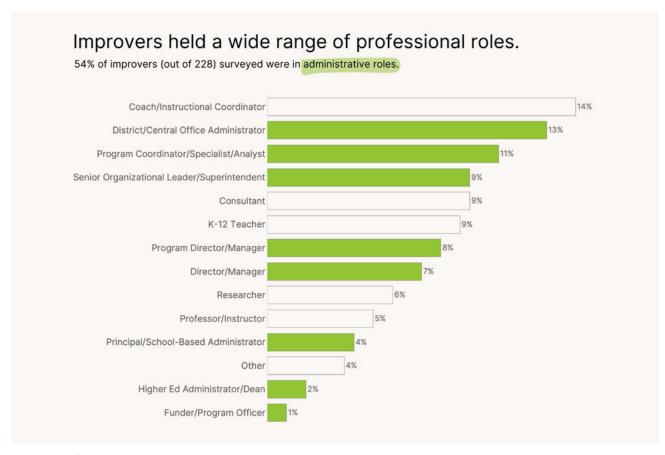


Figure 2. Professional Roles

There were 228 people who completed the survey and 64 people who participated in focus groups. There were 13 volunteers who submitted user-generated videos. With the help of Results Lab, 15 in-depth interviews took place, which were also captured on video. At the 2023 Summit, we held reflection sessions in which preliminary summaries were shared so that attendees could reflect, engage, and contribute to this community project.

The group of improvers that completed the survey represented a diverse set of roles including K-12 teachers, site and district administrators, coaches, researchers and higher education administrators (see Fig. 2). A majority were experienced educators; a majority also had five or fewer years of experience using improvement science in their work (see Fig. 3, 4).

Those who responded to the survey resided in 34 different states and several countries; 43% of respondents resided on the west coast of the United States (see Fig 5). Of the group that participated

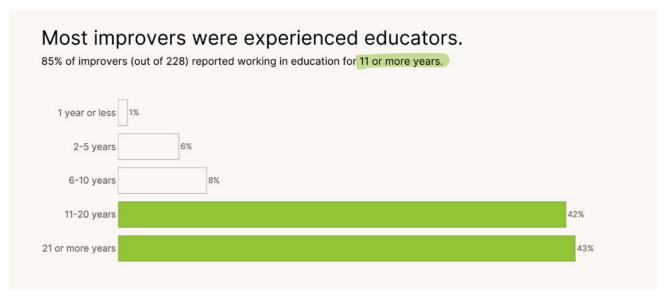


Figure 3. Education Experience

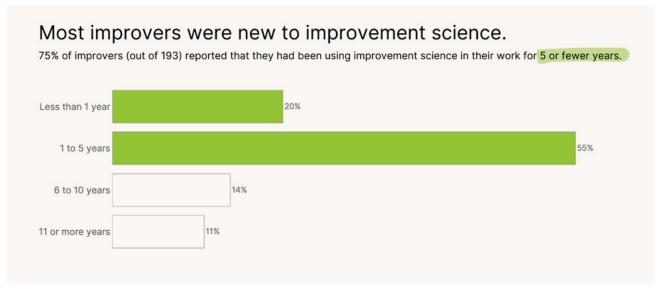


Figure 4. Improvement Experience

in the survey, 75% self-identified as white (see Fig. 6). We do not believe that this completely reflects the community of improvers, and we acknowledge that we need to interrogate our role in the data set looking as it does. We intend to collaborate to continue to surface the stories and experiences of improvers with different perspectives and experiences in order to bring more balance to the summaries represented in this report, and hope that a diverse group will see value in sharing their experiences.



Figure 5. Response Map

The majority of survey respondents — more than 80% — identified as engaging in or leading improvement efforts, facilitating or coaching improvement, teaching about improvement methods or leading an organization engaged in improvement work. Remaining respondents identified working in support of improvement activity including funding, researching, or evaluating improvement activity, providing technical assistance to projects or networks, or working on education policy related to improvement or networks.

The overwhelming majority of survey respondents identified that improvement is part of how their home organization does its work. While 37% indicated that improvement is "beginning to take root" in their organization, an additional 41% indicated that improvement was "central to work" in at least part of their organization.

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We are deeply grateful to those who have shared their voices with this project. We are certainly aware that there are many voices we still need to hear and points of view about improvement work that are not accounted for in this first attempt to collect stories from improvers. Like a good theory of improvement, we recognize that this report represents our best current understanding; it is possibly wrong, and definitely incomplete. We know there is much to still learn together about how to elevate voices in the work in ways that honor the humanity within and across stories of achievements and improvements that are in progress. We hope the material here sparks questions and conversation, that it affirms and challenges our collective understanding, and that it helps to identify how we can continue to grow together.

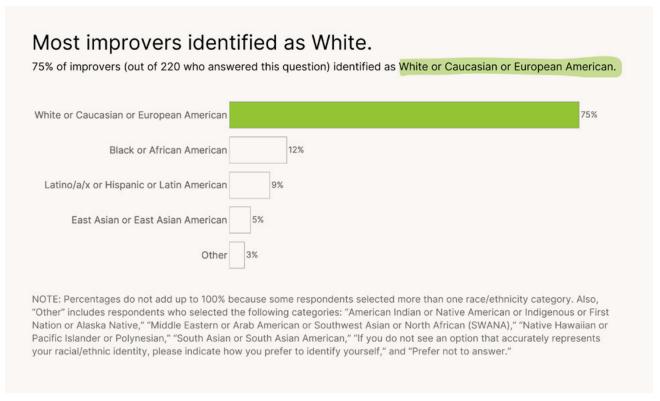


Figure 6. Race and Ethnicity



With their book, Learning to Improve, Anthony Bryk, Louis Gomez, Alicia Grunow and Paul LeMahieu introduced networked improvement and improvement methods in education as a way for the field to "get better at getting better." The challenge Bryk and colleagues identified was for systems to find ways to learn about and from their efforts to improve and to improve faster as a result, in response to the rapidly-growing expectations society held for what education could do for children and the significant inequities perpetuated by systems as currently organized. How do improvers today describe the work they are doing?

In the section that follows, we share the array of problem areas in which improvers are working and the varied accomplishments they celebrate in their work. Together, these create a picture of where continuous improvement is being leveraged in education.

Improvers are working on a diverse set of systemic challenges

Many of the most pressing challenges in education are embedded in instructional systems and the complex interactions between students, content, and teachers. Because improvement science methods were developed in manufacturing industries and healthcare before being brought into education, their application to process-oriented and so-called "pipeline" problems — monitoring and supporting attendance, helping students complete steps for college application, organizing teacher observations — was initially easier to see and understand. As improvement practice in education has matured, we wondered the extent to which it is being applied, and leading to impact, on these complex instructional challenges today.

Improvers focus on academic outcomes

The improvers who lent their voices to this project described improvement activity focused on a wide range of problems, including those related to student learning outcomes and instruction. Overall, approximately 40% of survey respondents specifically described working to improve student academic outcomes, with some identifying specific subject areas as a focus and some naming student attainment and graduation rates as challenges, as well as retention and success in postsecondary education. Literacy outcomes, cited by approximately 10% of respondents, was the most frequently identified academic outcome problem area in which improvers described working. Other studentfocused challenges that were identified only slightly less frequently included math outcomes and graduation rates or students' progress towards being on-track to graduate.

In addition to student academic outcomes, an almost equal number of respondents identified working on problems that contribute to or support student achievement. Although the problems improvers reported working on varied widely, some specific challenges that contribute to academic outcomes were identified more frequently by survey respondents. Approximately 10% of respondents identified attendance or chronic absenteeism as a focus, and another 10% named challenges related to student discipline and suspensions.

Other improvers focused on instructional practices or curriculum use (12%), with the intention of improving adult practices to better support student learning. Other commonly-named foci for improvement work included educator recruitment, retention, and support (12%). Although a smaller proportion of individuals affiliated with institutions of higher education responded to the survey, those respondents identified working to improve student retention, engagement, and success in postsecondary learning. They also described working with PK-12 systems to improve student outcomes and increase postsecondary access, as well as to improve instruction and support teacher development.

Improvers are focused on equity challenges

One purpose of bringing improvement practice into education was to have a systematic and intentional way to work towards more equitable and just educational systems. However, this purpose was not always explicit or in the foreground as the methods were spread. Improvement science as a technical practice does not explicitly require attention to addressing disparities or equity, and Carnegie and others have been rightly criticized for not consistently naming the equity intentions motivating their work. Explicit attention to equity in improvement practice has increased across the field in recent years, and we were interested to see how improvement for equity might be visible as people shared their improvement stories.

When asked to describe what problems they are trying to use improvement to solve, approximately one in four improvers who responded to the survey explicitly described an equity dimension of their problem of focus. Many described working to address racial equity gaps, while others named improving outcomes or experiences for specific student groups. Some framed disparities in outcomes, experiences, or opportunities broadly as problems to address, and some described a particular focus on those students furthest from opportunity or most marginalized. Improvers across organization types — in PK-12 schools and districts, in higher education institutions, and other organizations were equally likely to identify equity aspects of the problems they are working on in their responses.

Improvers are focused on equity challenges

"We are focused on closing equity gaps in student math outcomes by ensuring that all students have access to ambitious and equitable math instruction."

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"We seek to identify, interrupt and transform inequities facing our least-reached students. We seek to interrogate bias and connect it to our practices and our impact on students and families."

— Nonprofit Executive Director, California

"The goal of the NIC and my team is to improve academic outcomes for black and brown multi-lingual learners. My team is specifically focusing on students who are stagnating as measured by the New York State English as a Second Language Achievement Test (NYSESLAT)."

— K-12 Teacher, New York

"I am currently attempting to solve problems around disproportionality in student discipline and improvement in literacy outcomes for middle and high school students."

— K-12 District Administrator, Virginia

Improvers seek to transform organizations through improvement

Not all improvement work is related to students. Improvers also focus on challenges to educator recruitment, support, and retention (12% of respondents). They seek to improve staff wellbeing, collaboration, and processes of data collection and use. A few indicated using improvement to build leadership capacity. A small set of respondents also identified seeking to improve specific systems, including bringing improvement practice into state accountability systems or support for lowperforming schools, school improvement planning processes, and systems such as the Multi-Tiered System of Supports (MTSS).

Education systems are often hierarchical, and responsibility for improvement can be narrowly assigned to particular groups. Focus group participants identified the challenges of working in contexts where practice is siloed, and described using improvement science as a way to shift organizational practices and ways of working to be less hierarchical, more broadly engaging, and more focused on student outcomes. They shared that they are learning to use improvement methods to expand who is engaged when building systems for change so that everyone who interacts with a student, directly or indirectly, is considered to be someone who can support the effort. One video interviewee illustrated these ideas by describing the success her district saw when teachers were engaged in using improvement to solve problems of practice, rather than all change being managed by leaders. She reflected that improvement equipped teachers at the ground level to be using data and driving change in ways that led to results, and prompted other teachers to want to learn about the work that was leading to those results.

Where improvers described focusing their efforts is evidence that improvement is being applied to many of the pressing challenges we face in education. The next section describes what improvers report accomplishing through their efforts for the lives of students, educators and the organizations in which they work and learn.

Improvers celebrate impact on outcomes, on people, and on systems

When invited to describe what they have achieved through their improvement work, survey respondents identified positive impacts on aims and outcomes, as well as greater capability or capacity for continuous improvement. They also highlighted changes in how they were working and learning with peers. More than 90% of improvers identified achievements in two or more of these areas, evidence of the transformative power of improvement approaches. As can be seen in Figure 7,

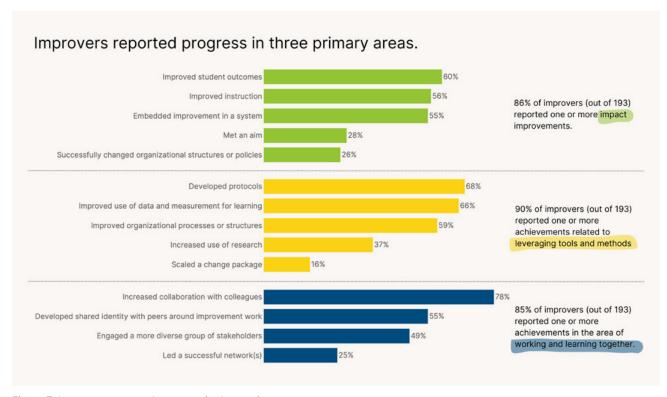


Figure 7: Improvers reported progress in three primary areas

increased collaboration was the most commonly-identified accomplishment (78%), signaling that continuous improvement practices are shifting the way people work together. Predictably, some of the achievements that could be considered to require the most sustained effort and focus were reported least frequently, including responses such as "Met an aim" (28%), "Changed organizational structures or policies" (26%), "Scaled a change package" (16%), and "Led a successful network" (25%). Improvement science is particularly well-suited to sustaining the collaborative, focused effort required to realize those impacts.

In addition to identifying the categories into which their accomplishments fit, we also invited people to briefly describe in their own words what they had accomplished using improvement. The descriptions they shared were rich and varied, and spoke to the particular contexts in which improvers were working. The quotes that follow illustrate some common themes across their achievements, and also capture a small sample of the variation in how improvers describe their work.

Improvement impacts student outcomes and experiences

More than half of survey respondents described improving students' academic, social, and emotional wellbeing, sharing things like:

"Our efforts to utilize improvement science to address the experiential and performance disparities that exist for black and brown boys within our schools has led to shifts and improvements in students' experiences. The most significant improvements have come from the adult to student relationships and students' sense of belonging in schools."

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"The research and continuous improvement work of a reading NIC led to change ideas that improved reading outcomes in low-performing schools. The use of a PDSA cycle to implement a change idea led to consistent deployment of the change and increased data-driven decision making."

"We have been successful at increasing FAFSA [Free Application for Federal Student Aid] rates and percentages across the districts that we work with. With FAFSA being a primary indicator of college applications and post secondary attainment this has helped us towards our overall aim."

[—] Administrator, state education agency

[—] Director, institution of higher education

Improvement impacts how people work together

Network leaders in focus groups also celebrated the relationship-building and effective collaboration that had been achieved. This was echoed in survey responses from people in different roles:

"The increased collaboration with colleagues around this work has been the most powerful impact to our system. We have created the conditions for conversations to happen across divisions, schools, grade bands, and roles.... This work has elevated teacher voice and increased communication between educators and the leadership in their buildings. We have seen student growth on both formative and common assessments.... District Leadership has taken the time to dig into the tools that can support teams in engaging in improvement work. This commitment to continuing to learn is being modeled throughout the organization. But we still have so far to go!"

"As a staff we have changed our methods, collaborated more, and use various data points in our decision-making."

— K-12 Teacher

"I have seen improvement among the school teams that I coach. I have seen them take ownership of their learning and push beyond deficit thinking. This has led to school teams meeting their aims and work towards standard work."

[—] Coach, non-profit organization

Improvement impacts how data is used

Building the improvement capabilities of others was also a theme in the accomplishments people identified (17%). This was echoed by focus group participants, who were most proud that their improvement work has built capacity for growth mindsets and application of data practices. Building capabilities and dispositions for continuous improvement has impact beyond the immediate problem of focus; it suggests that practice has shifted so that there will be greater capacity to identify and tackle new challenges in the future. The following survey responses illustrate how capabilities to data have shifted:

"Teachers in our network have made data-based changes to their practice and learned from each others' successful ideas. They are using data that centers student voice."

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"After years of slowly learning how to use the tools that improvement science provides, our leadership now has a shared common language around improvement. We also are really leaning in to how we gather, analyze and use data to propel our growth."

— Instructional Coach

Improvement impacts organizational culture

While some practitioners and school leaders in focus groups emphasized improved outcomes when speaking to the headlines of their improvement work, other school and district leaders discussed their accomplishments related to shifts in organizational culture, such as shared decision-making:

"I'm most proud of building an improvement culture in organizations I've worked with. I am currently in my second year with a new district and we are already starting to see shifts in mindset...we still have a ways to go, but the buy-in is there because we are intentional, celebrate gains, and analyze data to understand when there is no progress."

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"Our system has worked on getting all leaders to speak the same language. Schools and departments have working theories of action and are focused on what we think is the 'right' work."

"We are very early in our work as improvers. While the student outcomes we hope to obtain have not come to fruition yet, the ways in which my colleagues think about and talk about our work has changed significantly. We are becoming more adept at recognizing our solutionitis and working to identify the problems first."

[—] Program Coordinator, public school district

[—] Central Office Administrator, public school district

Improvement impacts the systems where it is used

In their survey responses, improvers also celebrated how systems and ways of working had transformed through their improvement work:

"We have used improvement science at the smallest levels at our schools: flow of traffic, building a wellness center, reducing tardies. We have used it to improve the quality of teams: faculty leadership team, the school site council, the administrative team, the wellness team."

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"[We] Revamped the school quality (improvement) process for a large district to become more about quality and less about compliance."

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"We've successfully developed new initiatives and worked to improve the delivery of services. [Improvement science] helps us to focus on the parts required to make something successful and know whether we are succeeding or failing — and what to do about it."

"More principals and teacher leaders throughout the division are engaging in these efforts. We have also been working to embed improvement science principles into any professional learning opportunities for leaders within the division, and support division facilitators in building their capacity of improvement science to better support schools when working on the development of individual school improvement plans."

⁻ Executive Director, non-profit organization

⁻ Program Coordinator/Specialist/Analyst, school district

While they identified accomplishments and progress, many improvers responded in ways that showed that they were continuing to look forward to continued improvement. Some responses specifically noted that their efforts were ongoing, or that they were proud of progress they had made and also aware that there was more to do. This illustrates that as much as they recognize achievements, one characteristic of improvers is that they quickly identify a next goal to work towards. One video interviewee described this by saying, "I seek to consistently look for opportunities to build and grow off of whatever the data is telling, look for spaces for improvement.... As soon as we might get something that works, we're always looking to say, 'Now, what's the next thing that we can take on?' ... I'm an improver because I have the mindset around just constantly trying to figure out ways to make things better."

Improvers with more years of experience were more likely to identify impact accomplishments

We were interested to know if there was variation among the accomplishments that different groups identified. There was striking similarity among the accomplishments that were reported most frequently by improvers across government, for-profit and not-for-profit sectors. In each case, increased collaboration, the development of protocols, and improved use of data and measurement for learning were among the five accomplishments that were reported most often (see Fig. 8).

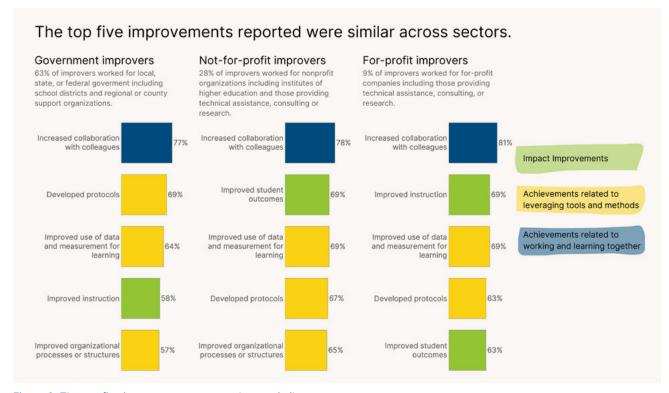


Figure 8: The top five improvements reported were similar across sectors

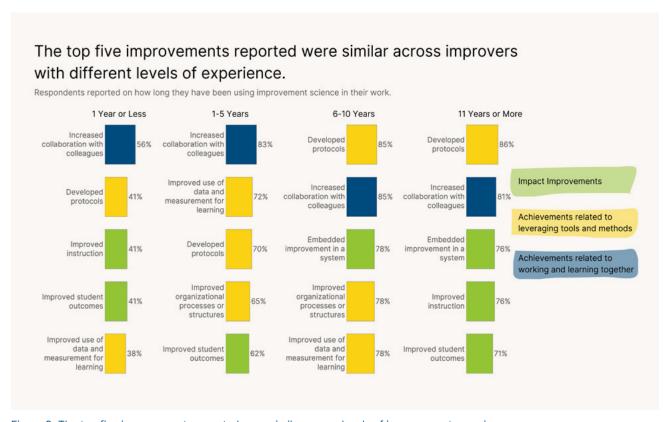


Figure 9: The top five improvements reported were similar across levels of improvement experience

When considered based on the length of time that improvers had been using improvement science in their work, some differences in the accomplishments reported most frequently emerged. As can be seen in Figure 9, more than three-fourths of those who had been using improvement for six or more years reported having embedded improvement in a system, a significant accomplishment given the time it takes to integrate new practices into established institutions. Further, three different impact improvements were among the top five most frequently-reported achievements for those with 11 or more years of improvement experience, with more than 70% of those respondents reporting that they had achieved embedding improvement in a system, improving instruction, and/or improving student outcomes. While increased collaboration and other achievements like leveraging tools and methods were similarly reported across all experience levels, as might be expected, there were higher levels of endorsement of these achievements by those who reported to have more years of experience.



CHAPTER 3

WHATDOES IMPROVEMENT LOOK LIKEIN PRACTICE?

A key premise of the book, Learning to Improve, is that "quality improvement carried out in individual organizations, and through networked communities, is a way of working that can move us from the aspirational realm toward a future where we actually achieve our goals."3 The book introduced an integrated set of principles, tools, and methods that taken together represent a set of ideas about a way of working that stands in contrast to conventional approaches to knowing, doing, and problemsolving in education. This new paradigm about how improvement happens points practitioners, researchers, trainers, and policy makers towards a very practical purpose - accelerating learning to improve together.

In this context, we sought to understand what improvers and those who support improvement work could teach us about the ways they approach their work as a result of their experiences with improvement science. Individuals were asked about how and why they use improvement in their work, and what is different in their practice as a result of their experience with improvement, if anything at all. Themes emerged that described how improvement shapes the actions and guides understandings of those who practice it. Across the different questions and responses there was a striking similarity among role groups and between people with different lengths of experience with improvement methods. In our effort to summarize, even though we did not ask or go seeking to understand the role of the six core principles in practice, we recognized shifts in language, culture, and practice that had resonance with the six improvement principles. In the section below, we offer illustrative examples of how people are living improvement in the hopes that this provides encouragement and grist for enlarging the conversation about how improvement could increase abilities to make good ideas happen regularly and well.

Improvement is disciplined

When asked to briefly describe why they use improvement science, in both focus groups and survey responses improvers spoke to the importance of having a structured approach to tackling complex and adaptive problems. They highlighted the intentionality of the improvement process and the way that it grounded decision making in evidence. For example, one instructional coach in a public school district responded, "Improvement science tools help provide structure to the work involved in exploring complex problems/challenges, and every challenge in schools is a complex one. They also help us see past our assumptions/gut feelings about an issue and get to the heart of what might really be getting in the way of success."

More than a quarter of respondents expressed that their work has changed to become more focused and strategic; using improvement methods has provided clarity to their efforts. One program coordinator in a public school district expressed that their work was, "more systematic, more rooted in process - more intentional." The phrases, "more intentional" and "more targeted" echoed across responses. This sense that improvement science offers a method for attending to change appears to be useful for individuals and their work, but it also grounds groups' efforts. For example, one participant explained, "now we don't try things for the sake of trying them" and a regional senior administrator said, "I'm not haphazard in my approach and hoping for the best. Improvement science gives me a clear path to follow and on which to guide others." Similarly, a public school district administrator wrote, "We use improvement science in order to focus our work so that we aren't just shooting in the dark. My experience has been that when you are focused, targeted, and can clearly articulate the problem and interventions ... you end up keeping the main thing the main thing. Too many times, we can't clearly articulate 'why' we have improvement."

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— Administrator, public school district

Specifying the problem to be solved and identifying root causes were also called out as valued aspects of improvement science, and things that were not common across all change practice in education. Nearly 12% of respondents expressed that what was different in how they approach their work was that they seek to understand the problem before jumping to solutions. One participant shared, "I don't jump to solutions; I rely on practitioner's wisdom." Another reflected, "In the past I was ready to advocate before inquiring deeply to better understand the concern and find the best solution, or if a solution was actually needed." Describing the value of improvement, one K-12 teacher wrote, "We use it to help us really identify the components of a problem. It then helps us to have a systematic and accountable way to develop solutions." This point about seeking to understand better was echoed in other participants' comments like this improver who wrote, "I ask different questions as a result of my experience with improvement. I used to ask 'what needs to change' in my school, and now I ask, 'what is the problem I need to solve, and how do I know it is a problem?"



Focus group participants also described the value of asking questions and seeking deeper understanding for improving equity in education. They described the intentional use of data and evidence enabling improvers to test assumptions, and discussed using data to break down bias and stereotypes to focus on assets over deficits. These practices, which also help to focus improvement on equitable outcomes, support transformation.

Being methodical about understanding problems, attending to "users" and seeing the system, respondents expressed an avoidance of "solutionitis." For example, one participant explained, "I have awareness of and avoidance of solutionitis in developing change ideas - better attention to gathering input / insight from those most impacted by the problem (more orientation toward being user-focused)." Another respondent wrote, "I know how to recognize and navigate solutionitis among team members."

While for some a problem orientation was now a key part of their practice, other improvers highlighted evidence-based inquiry and the nimble learning orientation it supports as reasons why they used improvement science. They highlighted that disciplined cycles of inquiry allowed them to start with a small change and to learn by doing, in particular where specific solutions were not immediately apparent. One university administrator put it this way: "It's highly practical; our teams immediately see the logic, even if the results we begin with are small; it relieves the pressure of every new effort needing to be a success (it opens up a space for people to fail)." Many also specifically referenced using data to monitor progress and to inform decisions about adapting, adopting, or abandoning a practice.

While these themes were common across role groups and experience levels, survey respondents who support improvement work as funders, policy makers, and technical assistance providers were more likely also to highlight the value of the improvement process to bring together research and practice knowledge. This also emerged from focus group participants, many of whom stated that the capacity building focus of improvement science can have immense ripple effects for practitioners, hub leaders, school leaders, and district personnel, as it makes research practices approachable and applicable.

Improvement is results-oriented

That improvement leads to results, and that those results can be linked to specific changes, also matters. Focus group participants shared that they are drawn to improvement science because improvers can see the results of what happens when they stay committed to the process and can see tangible changes in student performance metrics. The value of being able to see and recognize the efficacy or impact of changes was echoed by survey respondents. Multiple survey respondents linked seeing results to knowing what practices to scale and increased confidence that improvement could be replicated and sustained.

Improvement centers different stakeholders

Both in describing why they use improvement and how their work has changed, improvers identified the importance of understanding perspectives of those closest to the change. Almost 15% of respondents reported how important it was to understand "users." One teacher offered that their approach has changed in that they are now an, "Empathy powerhouse. I have a deep desire to understand others and not take their words or actions personally." Others are more apt to involve more stakeholders in their improvement efforts. One school district program director shared, "I now have

an even greater focus on obtaining stakeholder support for any/all improvement efforts. Teachers and students are 'where the rubber meets the road' so to speak, and have a keen sense for what would result in improvement, and which improvements stand to be the most powerful leverage points." As another example, a professor wrote, "My team aims to improve our educational system, improvement science allows us to do that in a deliberate and sustainable way that involves those impacted by changes to play key roles in the development, design, implementation and potential adoption of changes."

By centering the needs of individuals closest to the problems and engaging them in finding solutions, improvement builds agency and capability for change. Focus group participants named that improvement helps to empower practitioners, bring in voices of stakeholders, and involve people in discussions of transformation through spaces of inclusion. Approximately 20% of survey respondents also identified increased agency as part of why they use improvement methods.

Improvement is systemic

Voices lifted in this effort also revealed ways that improvement practice is being integrated into system structures and processes. Although not widespread among responses about how people use improvement, some practitioners reported using improvement science methods to develop or carry out



their school improvement plans, and some district leaders are redesigning their local school planning processes to be more improvement-learning focused. Some respondents working at the state level reported incorporating improvement science processes and methods into their accountability and support processes for schools. "I began because it was the way CA did Differentiated Assistance, but I have dug in deeply because it works! I believe it is the best way to solve complex, adaptive problems that are really hard to solve. The teams that we work with may start a bit hesitant, but are quickly won over by the structures, protocols, and routines introduced through the improvement process," one director at a county office of education reported. Still others were applying improvement science in designing other programs, including MTSS systems.

People also reported using improvement methods because those methods support taking a systems view of problems and potential solutions. A number of responses identified systems change as necessary to make progress on equity challenges. Capturing this perspective, one district administrator wrote, "I believe [improvement science] provides space and opportunities for all who are interested in making our educational systems work for those who have been historically marginalized and underserved. [Improvement Science] doesn't level the playing field but rather helps improvers redesign the game."

Notably, a small set of people attributed improvement science's structured approach to helping align change efforts in their systems, so that different groups and stakeholders were better able to work together towards shared goals. Echoing some of the accomplishments improvers described, respondents mentioned how the collective use of improvement science created a shared language and shared commitments.

Focus group participants also identified improvement science as a way to transform systems in education, highlighting that it allows for intentional inquiry into how to scale for impact and shift the way things are done. One focus group participant said, "We don't want to just impact a team or a site. So in the last year or so, we've been really focusing in on how we can really impact that system, the whole system, the district system. [With improvement science], it's not just the approach that [is] sustainable, but the systems themselves are sustainable. Really, what we see are the fundamentals that we want to help improve so that they can continue improving those and going deeper after we're gone."

Although not as explicit or prominent in the survey responses, some of those improvers also cited the importance of changing systems in order to sustain improvement. One senior leader in a nonprofit wrote, "[Improvement science] is the only way to make systemic change that is sustainable."



Similarly, one focus group participant said, "[Improvement science] is truly the path to transforming school systems.... I have seen across the country how continuous improvement brings that trust and collaboration together to improve our systems. I think this is the way to support our schools in sustaining the improvement and transformation. It goes beyond just one person and one person's knowledge. It really is about the collective transformation."

Improvement is collaborative

Improvement is also being used to structure and improve collaboration. Improvers reported using improvement in professional learning communities and other collaborative groups, and consistently referenced working with teams. Focus group participants similarly described improvement learning as learning as a community, not as an individual. They emphasized that improvement greatly values the "we" and sharing learnings with one another.

Describing how their work had changed, people explicitly referenced being more collaborative and learning together to get better. Several people referenced how a driver diagram anchored their collective work, which allowed them to navigate challenging times and ground their work in their shared goals. That mindset of collaboration, sharing ideas and learning over punishment, was also a reason focus group participants gave for their commitment to improvement methods.

The organization of people's improvement work is further evidence of its collaborative nature. Nearly 10% of survey respondents described working in or leading a network or networked improvement community using improvement methods, and several others identified using improvement science in a research-practice partnership. Notably, a handful of respondents specifically identified improvement work that brought together different organizations around shared problems of practice.

Improvement is transformative for individuals

People who shared their improvement stories overwhelmingly described improvement science as a way that they approached learning and change across many areas of their work. One school leader expressed, "this is how we do school now," referring to the use of improvement science. One of the improvers on the survey expressed that their job is doing improvement. They wrote, "My entire job is about improvement and 5 years ago, it was not. The past 5 years, I have been 'all in' with improvement and I have watched change happen over and over again! My work is more systemic, and I am more confident that if teams follow the framework we use, they will improve their systems and the student outcomes that their systems produce. Our team believes in improvement and we use it to improve our work as well."

Some improvers saw their experiences as their work - and therefore, nothing was particularly different about their work. In fact, some people simply said, "nothing" when asked on the survey how their work is different as a result of their experiences with improvement. One improver explained, "I believe in this strategy deeply; it's been how I worked with both adults and students throughout my career. I lean towards systems thinking; improvement science creates clear language and processes to do meaningful systems work." One respondent expressed that they were too new in their role to consider how things may be different. However, the vast majority of respondents (68%), indicated that they recognized a change in how they approach their work, which they attribute to their experiences working with improvement.

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Relationships to data and learning have also shifted. Nearly 13% of respondents reported that what has changed about their approach to work is related to how they use and feel about the use of data, which included ways to understand their systems, challenge biases, identify solutions, monitor and evaluate changes, and use data and evidence to learn. For example, one respondent wrote, "Data is for curiosity, not compliance or punishment. I'm a recovering perfectionist because of what I've learned with improvement. Better is what we strive for and is worth celebrating because perfect is not possible and the standard for perfect will always be changing. So, I investigate, use data, talk and listen to people closest to the work. I also challenge people when they are stuck in old patterns with guestions that get them to think."

This notion that people must abandon "perfectionism" was common across several respondents who expressed that they could embrace failure as something they could learn from, which set them free. "I am willing to try things quickly and then learn from them. I used to think you needed to spend forever planning before execution but now I am more willing to take risks and then pause, reflect and adjust to meet the needs of clients and students," explained one respondent. Another offered, "Improvement science gives us language that promotes trying new things and expecting things to 'go wrong' — and seeing that as learning towards improvement."

Improvement is empowering, and requires perseverance

Power is not evenly distributed through education systems, which can be experienced as hierarchical. Improvement science helped to build agency and efficacy for practitioners. One program coordinator in a private school shared, "I have seen how the methods can deeply empower teachers — the methodology causes shifts in self-perception and modes of engagement with one's own work and learning. This can spark a transformation in self-understanding that is beneficial beyond the targeted area of improvement. There are fewer barriers to uptake that for traditional action research, and improvement science can be applied with powerful effects even at small scales in relatively unsupportive environments."

Some respondents spoke specifically to building practitioners' agency with using data to inform changes. One focus group participant described how improvement science puts people in different relationship with each other and with data in this way: "We have been thinking a lot about mutual accountability. Finger pointing and using data for blame or in a punishing sense is different.

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[Improvement science] is being accountable to each other and to the young people and going to the community. We are having honest conversations about the data, the reality of how we are doing and about our desire to learn and improve."

A school district administrator described the agency built through improvement practice when describing their improvement accomplishments, writing:

"We have successfully moved our chronic absenteeism team through the core improvement principles from identifying the problem through our first two PDSA cycles using improvement science tools. Supporting the school team's disciplined approach and watching them learn and develop an inquiry mindset have been so exciting to watch! We are thrilled to see how using continuous improvement tools empowers the staff to be more collaborative, more transparent with stakeholders, and better poised to use their failures to accelerate learning."

Across responses, there was a consensus of sentiments that people's approaches to work had improved through the use of improvement science. There were no respondents who expressed that their use of improvement science had complicated their work or made it more challenging, or had made them more pessimistic. Rather, among this set of responses, it seemed like there were echoes of one participant's expressed sentiment that through the use of improvement science, work had changed because we can "remain optimistic."

Alongside their optimism about improvement science and the six core principles, people also expressed that improving is a journey that takes time. The iterative nature of continuous improvement is that one is constantly seeking to close the gap between what is the ideal and our current state. For example, one school district administrator explained, "With our experience with improvement, it has really helped us see that this is not an overnight success. We have to constantly revisit our problem of practice and instructional practice to determine what we will adopt, abandon or adjust for improvement opportunities." Several respondents reflected that adopting improvement science takes

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time and "it's not for the faint of heart" because it is challenging with "many stops and starts" but, there were others who acknowledged that the work of continuous improvement becomes a journey of continually seeking opportunities to get better, especially as a matter of equity. "I see all improvement as continuous. Before I began improvement work I believed that once a change was established it was final. Now I believe that we should constantly examine our practices for equitable outcomes," another school district administrator explained.

While the work can take time and can be challenging, several respondents noted that they felt better — more confident, more optimistic, more nimble, and had a greater sense of agency — because their experiences with improvement science had granted them an awareness that changing a troubled, inequitable system was possible, and that they could be the source of change. Some of this optimism stemmed from their ability to engage in new practices. One consultant explained, "Fear drops away after working with improvement for a while and that is empowering." And another consultant working for a non-profit wrote, "I have a shift in mindset when it comes to challenges. I am more excited about tackling these opportunities."



We invited eager storytellers to reflect on what they believed enabled and hindered their abilities to accomplish what they have with their use of improvement science. We also asked people to share what resources, besides time and money, that they wished they had to support their improvement work that they currently do not have. Finally, in our most forward looking considerations, we asked people to articulate what they believe is needed to make the use of improvement science more common in education.

Across the responses to these questions on the survey and from focus groups, we heard improvers articulate a set of challenges and needs that must be met for improvement in education to deliver on its promise of changing relations between research and practice, upending stubborn inequitable systems, and halting a reform pendulum that chips away at public faith in the power of education in American society.

Below, we outline the set of challenges and needs for a future of improvement in education that emerged.

The future of improvement demands commitment

Overwhelmingly across the various types of improvers and the distinct locations where they work, it was clear that commitment was an important contributing factor to participants' accomplishments as well as what held up the work. In looking at Figure 10, you can see that there were 254 references that suggested commitment is a key factor. This number extends beyond the 193 respondents who completed this section of the survey because it was one of the most frequently-cited enabling factors and it was also the factor named most often that constrained people's abilities to make progress in their improvement work when it was missing.

As a factor, commitment had to do with "buy in," which for some meant, "school wide buy-in via an implementation team approach" or "buy-in from engaged stakeholders" or "buy-in from the highest levels of the organization."

Amid the responses, it was clear that engaging in improvement demanded that the users were willing to imagine that things could be different than they are now. For example, one non-profit leader explained that what enabled success with improvement was when people were curious and willing "to re-envision their role and their job." Another person suggested educators' enthusiasm and "willingness to reform questions and aims" led to success.

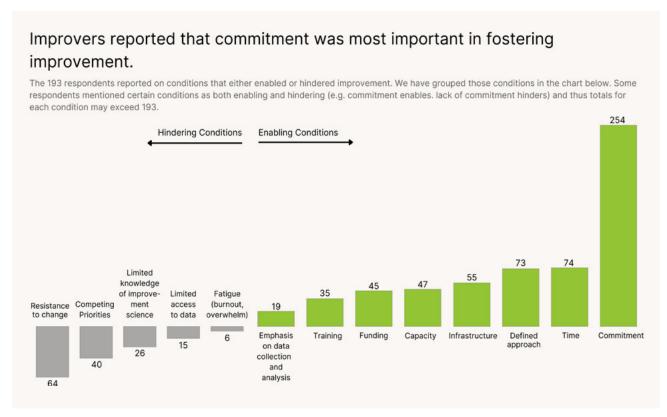


Figure 9: The top five improvements reported were similar across sectors

For many of the improvers that we heard from, they experienced success when they either overcame the environmental factors in their schools, districts, institutions, or partnerships so that improvement methods, mindsets, and approaches to practice became the norm, or when conditions that support improvement practices were permitted or embraced by the organizations in which they worked.

In looking across the set of responses, it was clear that for improvement to be successful at scale, if all of the current conditions in our systems remained the same as they are today, then individuals who are interested in using improvement methods must be willing to do something different than what they may have been trained to do, or has been done before; they may need to define roles differently than they had previously been defined. One participant explained that commitment demands, "being brave and having a willingness - and ability to gather outside of work hours."

Finally, there were many people who commented that what enables achievements with improvement is a "commitment to the long haul." Improvement journeys take time, and as such, demand that people, organizations and institutions remain committed to continuous improvement over time.

The future of improvement needs to grow top-down and bottom-up

When asked what was needed to make improvement more common in education, whether people were new to education or were well established educators, their responses revealed common themes about what would enable more people to take up improvement. People wanted more leaders or those setting direction and policy to have a greater understanding of improvement work and its merits, as well as its learning demands; they wanted leaders to understand and embrace improvement's transformational power. There was a suggestion that if those "at the top" had a better or deeper understanding or, better yet, were engaged in improvement work themselves, that they would create conditions, provide incentives, and change structures in necessary ways that would make improvement work easier for everyone else. For example, one participant explained, "Leaders must believe in it; cultural shifting is required for organizational shift."

Similarly, there were a number of suggestions that the only way to see improvement be more common in education is to create spaces and provide resources and opportunities for teachers and practitioners to understand and engage in improvement work. Ensuring that teachers were "part of the change process" that introduces improvement and integrates it into current initiatives was seen as vital. It seemed important that any chance at spread meant that there needed to be will among teachers, as well as ample opportunities to make this part of standard practice. A program coordinator in a school suggested making processes standard so "it doesn't feel like another thing for educators to do." One school district administrator explained, "I think more understanding of the how and why behind improvement and national awareness could be a valuable tool in helping teachers speak a common language that grows students." The calls were also for more faculty and administration in higher education institutions aware of and using improvement methods. "There needs to be a larger platform of dissemination to administration and faculty at higher education institutions," one researcher suggested.

Nearly 32% of respondents who shared what resources they wanted that they do not currently have mentioned "coaching" as being an important part of extending understanding. Some requested coaching generally, while others requested specific coaching for "improvement" or the "development of aims" and for "equity." Among these responses, it seemed that coaching was a necessary and integral aspect of growing understanding, top-down and bottom-up, that was needed to make the use of improvement methods more common.

The future of improvement requires education-specific materials and matter

For the past decade, the field of education has been borrowing from health care and industry for explanations of how to use improvement tools. This meant that teaching materials, case studies, exemplars of quality improvement work were analogies that required interpretation and inferences in order to see how they may be applied in an education environment or to education specific problems. What we heard from the stories is that people would like more materials that point clearly to education, including PK-12 and higher education examples. People asked for education-specific improvement tools including examples of change packages, aim statements, driver diagrams, banks of process maps and PDSAs. Part of these requests were calls for "jargon free" descriptions that made it easier to apply lessons and use models in educational spaces.

In addition, there were multiple calls for changing certification and "pre-service training" for educators and leaders. For example, one executive in a technical assistance organization explained, "Improvement science must be taught in teacher preparation programs [in order] to enter classrooms and districts nationwide." A program coordinator suggested, "Infuse the principles/philosophy into teacher and school leader education/certification programs." These calls seem to suggest that changing professional training is an opportunity to accelerate the paradigm shift that improvement in education demands. "Teaching programs have to change. We are not trained to use data — so we are usually intimidated and scared of it," one program coordinator wrote. They continued, "We have to shift thinking that using data is about teacher accountability; instead, we need to realize that data is about student progress and perfecting our craft to increase student learning for all students in our classrooms. As teachers, we want nothing else than to see our students succeed."

In addition to pre-service training and certification, there were calls for curriculums, guidebooks, handbooks, short videos and "tool kits" that could be used to help people train and teach others. There is a collective desire to codify improvement methods in education, which would serve to legitimize improvement as part of professional practice.

The future of improvement requires widespread dissemination of proof points and data solutions With two core principles of improvement being "embrace measurement" and "engage in disciplined inquiry," it seemed fitting to hear calls from improvers asking for more evidence. We heard in the stories that improvers requested more "proof of concept" that improvement methods are impactful. For example, one school district program director suggested that for improvement to become more commonly used in education, it would require, "Proof that it works articulated more clearly.

The lagging measures are too often the only focus for district leaders and broader public. Increased awareness and incentivization and belief in the importance of showing immediate improvement on process and driver measures seems it would do a good bit of service to increase demand for improvement science efforts in education."

In addition to needing to see more "proof that it works" and calls for more data to show impact and value of improvement, there were also calls for broader access to data and mechanisms that allow improvers to collect, analyze, and display data. As seen in Figure 10, access to data was identified as an enabling factor to success, while "limited access to data" is a hindering factor. The calls for greater access to data, evidence, measures, databases, and data dashboards appeared to align with wanting to increase accountability for making an impact, as well as to encourage broader cultural shifts that treats data and measurement as necessary for learning. People want support for identifying and accessing "actionable data," and "improved use of data and measurement for learning."

To accomplish this, education may need new technical as well as adaptive solutions. This point was expressed by one focus group member who reflected, "Part of [the challenge] is we don't have the data infrastructure ... for a lot of places to do [improvement science]. I think access to data, the ability to ask the right learning questions, create the right data displays, and have people be able to understand and interpret the data in order to be able to tease apart some of the things that [arise] is a huge stumbling block. On so many different levels, our systems are not equipped to be able to capitalize or use data in the way that is necessary in order to drive really meaningful improvement. And I don't know how to solve that."

"Part of [the challenge] is we don't have the data infrastructure ... for a lot of places to do [improvement science]."

— Focus group participant

The future of improvement needs community

Given Carnegie's decade-long investment in hosting the Carnegie Summit on Improvement in Education, we were curious about its impact. Forty percent of the survey respondents and 78% of focus group participants had previously attended a Carnegie Summit. In questions about the Summit, as well as those questions about what it will take to continue the growth of the field, it was clear that people appreciate access to a community where they can access new ideas and step out of their own



contexts to learn about improvement in other places. These social opportunities are rich sources of learning, insight, and inspiration. Whether people were new to improvement or had multiple years of experience, opportunities to learn from others who have had some success with improvement, as well as from the insights gained through failed attempts, were incredibly valuable.

People cited the Summit community as being useful for expanding their own improvement knowledge. However, the unique features of the Summit community where you could encounter others who are eager to change systems, disrupt inequities, and embrace improvement methods and mindsets seemed to motivate people to persist with trying to tackle the problems and continue their learning journeys. People talked about connecting with other people and the value of those connections made possible through a community environment. It is in those environments where belonging and identity are fostered.

Improvers are supported and motivated by being part of a community.

The annual Carnegie Summit on Improvement in Education has become one opportunity to connect with other improvers.

- "The most notable influence that the Summit has had on my personal journey has been the opportunity to connect with other colleagues who are passionate about anti-racism and transformation being a centered discourse in improvement science."
 - Senior Leader, non-profit organization
- "Summit has given me the space to be open to new ideas, practice my language around improvement work, question our current practices, and set a high vision for when I return to my district. Summit was so powerful that I advocated for district leadership to attend this year and we are sending 20 people. Summit supported my continuous improvement of my OWN skills which has helped me influence and inspire those I work with."
 - Coach, public school district
- "Attending the Summit makes me feel more like a professional. Many educators, due to the day-to-day grind of the work, often feel like professionalism has been removed. However, attending the Summit reminds me that we are education professionals with much to offer."
 - District Administrator, public school district
- "I have gotten new ideas for things we can do with our network and I have continued to stay connected with people that I have either heard present at Summit or who I met in sessions. I appreciate the Summit for the broad network of voices that it brings together from across education."
- Coach, non-profit organization

Beyond the Carnegie Summit, many called for professional learning communities, site visits, miniregional summits, and "consistent communities across organizations" because these arrangements allow for cultural aspects that make learning, which can be challenging, feel better.

Certainly improvement work has technical demands that can be heavy lifts in education; however, what we heard loud and clear was that for improvement to become more common in education, we will also need to create social spaces that allow people to meet and learn to get better together. It is this kind of gathering that also helps to transform systems by breaking down the silos that often stymie efforts to change them. For example, one focus group member shared, "I think this this idea of professional learning communities and affinity groups to get people together around common problems of practice and have and sort of accelerate the learning could be a model for this community because there is still a lot to learn and and we are sort of doing it in pockets and sharing once a year. There could there be a quarterly meeting of 10 affinity groups and maybe once a year [we meet] in person. I think there's a lot of potential for learning around certain topics that we just don't have right now because everyone is sort of working in their own little space."

This set of needs and challenges are not unique to improvement in education. Taken together, this set points to similar challenges that reforms that have sought to change education systems in the United States have persistently faced. Yet, to date, there have been fewer methods for collective learning that could reasonably stand up to the task of transforming educational systems. We think this set of needs and challenges could be barriers to scale. By turn, they could also be opportunities for building and learning together.



5 | WHAT ARE THE OPPORTUNITIES WE HEAR?

Marshall Ganz explains that, "Stories are how we learn to make choices. Stories are how we learn to access the moral and emotional resources we need to face the uncertain, the unknown, and the unexpected mindfully. Because stories speak the language of emotion, the language of the heart, they teach us not only how we 'ought to' act, but can inspire us with the 'courage to' act. And because the sources of emotion on which they draw are in our values, our stories can help us translate our values into action."4

In this project, we heard multiple headlines and stories about people's experiences with using improvement science, what they find challenging and rewarding, and why they remain committed to using it. The energy and emotion shared in even short responses revealed the resolve many have to use improvement to take on their most pressing challenges. In addition, there was a major press among all of the voices to find more ways to help more people understand and use improvement science in education.

Even as we looked for variation in the stories and experiences, a shared "improver" identity became increasingly visible to us. We set out to ask open questions and to hear responses whatever they might be — including that improvement work did not matter, it did not work for people in practice, or that a community gathering such as the Carnegie Summit was no longer necessary. But what we heard was overwhelmingly positive about the power of improvement work in education. We heard that a community of improvers endures and continues to grow; teams and organizations are tackling equity challenges and common problems of practice and anchoring their efforts in the improvement principles. And importantly, improvers feel a sense of agency to effect real, positive change in the world around them.

When we consider the set of stories that we were able to capture with this project, we are moved to reflect on what we think are the learning challenges for improvement science in education that require greater action. We think the stories in this project inspire us to have courage to act upon the following opportunities facing the field:

 Broaden the aperture to increase diversity of voices in our efforts to understand "the field." We must strive for more inclusivity and diversity in order to understand how improvement is practiced and experienced.

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- Understand better how we move from general aspirations to improve to more specific aspirations to reduce marginalization. The field has more to learn about how the improvement methods we are learning to use and iterate create opportunities.
- Cultivate and strengthen collaboration between research, practice and policy communities to attend to our most pressing educational equity challenges. Coordinated effort across these groups can help us learn from failure and catalyze systems to re-shape in ways that advance improvement aims and support practice guided by the six improvement principles.
- Foster the community using improvement as well as improvers' opportunities to connect meaningfully with each other. Innovate to create social learning structures that allow for deepening and expanding access to the knowledge and motivation that improvers can offer each other.
- Manage inherent dilemmas between living improvement and codifying knowledge and expertise in education. Creating vibrant professional knowledge to engage and lead improvement will demand navigating variation and autonomy meaningfully.
- Keep going. Improvement in education remains a fairly nascent field. There are pockets of great success, but the promise of the core principles has yet to be fully realized.

We find great hope from the ways that individuals described an improvement orientation becoming fused into their practices and identities as educators and professionals, and even more so from the ways that a commitment to equity was evident in those identities. The achievements and impact that were shared signal ways that systems are reorganizing and transforming to support and reinforce these principled ways of approaching change. In descriptions of integrating improvement approaches into school planning or state accountability processes and building new routines for collaboration, we see people creating structures that affirm these improver identities. Embedding those structures into systems so that continuous improvement practice becomes more normalized across the education field will help us to meet the challenges we face, together.

5 WHAT ARE THE OPPORTUNITIES WE HEAR?

At this time in our country when public institutions are under attack and we reckon with this inequitable society, we know that public education holds promise for transforming society and increasing social and economic mobility and civic responsibility. There has been tremendous activity and courage over the last ten and more years. The agency individually and collectively expressed by the voices who contributed to this project, coupled with the transformations in ways of working and the impact on outcomes that have been realized, suggests the importance of continuous improvement and the potential of improvement science for helping the field of education.

As part of the community of improvers, we at Carnegie remain firmly committed to catalyzing transformational change in education and getting better at getting better. Alone, we cannot meet our mission of advancing education so that every student can live a healthy, dignified, and fulfilling life. We want to elevate and craft more stories with others that translate into transforming systems and getting the results we know young people deserve. We have come so far, and there is so much more to do. We are eager to continue the learning journey together!

Endnotes

¹ Ganz, M. (2009). What is Public Narrative: Self, Us & Now (Public Narrative Worksheet). Working paper, retrieved: http://nrs.harvard.edu/urn-3:HUL.lnstRepos:30760283.

² Bryk, A.S., Gomez, L.M., Grunow, A., LeMahieu, P.G. (2015). Learning to Improve: How America's Schools Can Get Better at Getting Better. Harvard Education Press: Cambridge, MA.

³ Bryk, A.S., Gomez, L.M., Grunow, A., LeMahieu, P.G. (2015). Learning to Improve: How America's Schools Can Get Better at Getting Better. Harvard Education Press: Cambridge, MA, pg. 194.

⁴ Ganz, M. (2009). What is Public Narrative: Self, Us & Now (Public Narrative Worksheet). Working paper, retrieved: http://nrs. harvard.edu/urn-3:HUL.InstRepos:30760283.

