The Student Success Network (SSN) consists of about 60 youth development organizations and schools in New York City that are dedicated to improving students’ social and emotional learning (SEL) and academic and career success. These organizations are diverse: Some are small, some are large; they are established, new, arts-oriented, academically-oriented, sports-oriented, school-based, afterschool on campus, afterschool off-campus, year-round, semester only, and multi-year. One of the hallmarks of the network is that all member organizations administer the same SEL-focused student survey twice a year and then receive individualized reports and support to help them interpret the survey’s results.

In the 2015-2016 school year, recognizing that providing data is generally not enough to spur organizational improvement, SSN began offering half-day continuous improvement (CI) workshops to help members make tangible changes aimed at boosting students' SEL. While half the participants completed a project with the support of SSN staff, the CI approach did not spread past the participants in the workshops. Reflecting on this experience, SSN decided that a single standalone workshop was unlikely to produce a shift in organizational culture. For organizations to systematically practice continuous improvement, perhaps they needed a champion who could lead CI
projects and promote a CI culture across the organization. The following year (2016-2017), SSN developed and piloted a year-long Fellowship aimed at training a set of 12 such champions. Fellows came together 10 times over the course of the year, with the goal of learning the knowledge and skills needed to drive change in their organization using the CI method. Two SSN staff members led these three-hour sessions and assigned Fellows additional work in between. To our knowledge, the SSN Fellowship is the first, year-long continuous improvement fellowship program aimed at youth development practitioners.

SSN requested that the Research Alliance for New York City Schools study the Fellowship’s pilot year, provide formative feedback, and share relevant lessons with the broader education, youth development and continuous improvement fields. To do so, we conducted focus groups with the Fellows after each semester and followed three Fellows’ work more closely, interviewing them multiple times, and interviewing the Executive Director of their organization as well as other colleagues. This brief highlights several key lessons learned from the yearlong Fellowship that may be useful for other initiatives aiming to teach CI to youth development practitioners. Additional information about our methods can be found in the Appendix.

**What Is Continuous Improvement?**

Continuous improvement is an approach to solving complex problems through the accumulation of strategic, small, iterative changes. The design and assessment of these changes are based on practitioners’ expertise, research, and organizational culture. The CI approach is guided by three central questions:

1. What do I want to improve?
2. How do I know my change made an improvement?
3. What change can I make that will result in an improvement?

The approach provides tools and structures to help organizations answer these questions and move closer to their goals. CI typically involves conducting iterative, short cycle-pilots, also known as Plan-Do-Study-Act cycles (see a diagram of the cycle to the left). The cycles can be as short as one week or as long as three months (and even...
longer in some cases). Short cycles allow organizations to quickly understand and respond to the results of a change they’ve tried out. This, in turn, can mitigate the negative effects of failure, or accelerate the adoption of more successful changes.

**ABOUT THE SSN FELLOWSHIP**

SSN staff began designing their Fellowship by scanning the field for pre-existing CI trainings and consulting with CI experts in education and business. Based on what they learned, SSN staff structured the Fellowship into a combination of workshop-based learning about the method and trying it out in practice. During the first semester, SSN staff would introduce Fellows to basic CI concepts and tools and provide the opportunity to try a PDSA cycle in small groups. During the second semester, Fellows would conduct a PDSA in their own organization, and the workshops would provide support for the process. In-person meetings were augmented with an online portal, where Fellows could upload planning documents, search for change ideas, and explore possible measures to use in their PDSA cycles.

A total of 12 Fellows from 12 different organizations participated in the program. All SSN member organizations had been given the opportunity to apply to the Fellowship, and SSN had conversations with those expressing interest to make sure they understood what would be required. Ultimately, all of the organizations that applied ended up participating. These organizations filled out a nomination form that identified the staff member they would send to the Fellowship, as well as providing some rationale for their participation. The group of 12 Fellows ranged in the roles they held at their respective organizations. Most held mid-level, student-facing positions, such as Director of Programming. In each case, the Executive Director of the organization had expressed support for the Fellow’s participation.
Close-Up: One Fellow’s Plan-Do-Study-Act Cycle

**Plan**  
*The Opportunity:* 8th grade students tended to drop out of the Fellow’s afterschool program. The Fellow wanted to make a change to help retain these students.

*Drivers of Change:* He theorized that students might be more willing to attend the afterschool program if they made a personal connection with one of the program staff and had a fun incentive. He predicted that improving 7th grade attendance in the afterschool program would improve 8th grade retention and thus focused his intervention on his 7th grade students.

*The Plan:* The Fellow identified a group of 7th grade students with low attendance who he felt were disengaging from the program. He wanted to find a way to develop a personal one-on-one connection with these students. Because he was the basketball coach, he decided to invite each of them to meet in the gym with him during program time. While in the gym, the Fellow would talk one-on-one with students about their personal lives, behavior, and attendance at the program, and play basketball together, an activity they would all enjoy.

**Do**  
*Trying the Change:* The Fellow brought two groups of five students out of the last 30 minutes of their afterschool class every other week. He checked in with each student individually while the rest played basketball.

*Facing Resistance:* Some of the other staff at the Fellow’s program initially resisted his intervention because they were unaware of why students were being asked to leave regular programming. His immediate supervisor helped mediate with the teachers, and they developed a hall pass system to show that students had permission to leave regular programming to participate in the attendance intervention.

**Study**  
*Data Analysis:* Using attendance data gathered by his program, the Fellow found that students’ attendance in the program increased 11 percent from November to January.

**Act**  
*Response to Data:* Because attendance increased, the Fellow continued his intervention—and even decided to test whether other practitioners could implement it: He asked the Dean of the school to try running the program and invite groups of students to play basketball, in hopes of developing relationships that could promote attendance and retention. This began his next PDSA cycle.
LESSONS FROM THE SSN CONTINUOUS IMPROVEMENT PILOT

Conducting continuous improvement projects is hard work. It requires substantial time, effort and skill to plan and implement a change, collect and study evidence, and reflect on the effectiveness of the change. It often requires collaboration and a willingness to try new things from multiple people within an organization. Training practitioners to have the understanding, technical skills, and leadership skills to conduct continuous improvement projects is also hard work. SSN anticipated a challenging first year and planned to learn while they piloted their Fellowship program. Below are three central lessons that emerged from our study of the SSN Fellowship. We believe these may inform other efforts to train youth-focused practitioners in the continuous improvement approach.

Lesson 1: Implementing CI Requires a Shift in Mindset.

Our interviews with Fellows suggest that training in CI requires more than just introducing key tools and processes. Rather, to successfully implement the PDSA cycle, Fellows said they had to make a larger conceptual shift—changing how they think about problem solving and putting the tools in the context of a larger CI framework. We coined the phrase “CI mindset” to draw attention to the conceptual shift that Fellows reported occurred during the Fellowship and that appear to be a pre-requisite for conducting a successful PDSA cycle.

The CI mindset involves five key components: diagnosing the problem, planning with the end in mind, starting small, collecting and analyzing data systematically, and learning from failure. The Fellowship cultivated a CI mindset by emphasizing the reasoning behind each of these components and applying them to concrete problems of practice, with the aid of CI planning tools and graphic organizers. Below we describe the five components and how Fellows made sense of each component, as well as some challenges Fellows faced and changes SSN made to the Fellowship to address those challenges.

**Diagnosing the problem:** Sometimes the problem that an organization identifies is a symptom of a deeper problem, or root cause. If we only address the symptom, we will never truly solve the
root cause. The Fellowship introduced the idea of a root cause analysis and provided two CI tools to help Fellows identify the root cause of a problem of practice: the 5-Whys exercise and the Fishbone diagram (multiple versions of these are available online). The 5-Whys exercise prompts Fellows to continually ask why a problem exists until a root cause is identified (sometimes up to five times). The Fishbone is a graphic organizer used to group possible root causes into themes. For example, if the problem was employee turnover, one theme of root causes might be compensation or organizational culture. Below a Fellow provides an example of using the 5-Whys to understand the root cause of student absences from school.

“Why was the student absent? Because his mom didn’t take him to the bus. Why didn’t his mom take him to the bus? Because the mom is in the hospital…. We get to the actual root of the cause instead of thinking the student is absent because he doesn’t care about going to school. We realized, maybe, another person needs to take him to the bus, and maybe [we should be] having that honest conversation with the family versus [thinking] the student is not caring.”

The Fellows reported that the 5-Whys was an intuitive process that helped them brainstorm multiple root causes of a problem. Likewise, they said the Fishbone diagram was a valuable tool that helped them understand problems more clearly and identify more appropriate solutions to try in a PDSA cycle.

**Planning with the end in mind:** Fellows noted that sometimes a sense of urgency led them to rush to find a solution too quickly. The Fellowship helped Fellows think more strategically and plan backwards with the end goal in mind. They began the improvement planning process by diagnosing the problem, then brainstorming the levers to improve that problem, identifying which changes could lead to the desired outcome, and lastly selecting a change idea and planning to pilot it. One Fellow described the shift in thinking required:
Getting folks to understand there has to be a strategy and plan for why you’re doing Program X, and “Hey, do your students need Program X? Have we surveyed? Have we asked them? Have we talked to them about what their needs are? Have we measured it?” and then going from there.”

SSN taught Fellows how to use a driver diagram—a graphic organizer used in CI that is similar to a theory of action or logic model. The driver diagram begins with a specific aim, then identifies how that aim can be reached via specific levers, and lastly specifies a change idea that can alter the specified levers. The driver diagram is the theoretical underpinning of why a change idea is worth testing in a PDSA cycle. Generally, Fellows found the driver diagrams less intuitive and more difficult to master than the 5-Whys and Fishbone diagrams mentioned above.

Collecting and analyzing data systematically: Fellows reported learning the value of using systematic data to understand if their change idea made an improvement. Fellows were encouraged to identify easily collected data that could shed light on the results of their intervention. Below, one Fellow described how gathering data helped her define the problem and track if her change resulted in improvement.

“In years past, I’ve dealt in the anecdotal… ‘I can see Student A did this yesterday, so they will probably do this today.’ Obviously that’s problematic because when you’re trying to decipher trends, your own memory can deceive you sometimes, either in terms of morphing what actually happened or forgetting.”

While almost all the Fellows mentioned that they now have a deeper appreciation of the potential benefits of using data, they also asked for more tools and examples to help them identify practical measures, collect data, and conduct data analysis. Analyzing data is the core
activity during the Study stage of the PDSA cycle and provides the feedback necessary to determine if and how the change idea should be adapted to be more successful. Our interviews with Fellows suggest that many organizations could use additional guidance about how to identify and collect data that will help them better understand their students and inform meaningful program improvements.

**Starting small and scaling up:** CI suggests viewing change as an incremental process, meaning that any new idea should be tested on a small scale first and then expanded, discontinued or adjusted over time, based on the initial results. Youth development practitioners may be eager to implement a new solution for everyone, all at once, because they want to help all students as quickly as possible (and they believe their new solution will work). Large-scale and disruptive change, however, can be difficult to implement well, often requires substantial effort and resources, and can produce unforeseen and unintended consequences. Fellows reported that the CI mindset helped them think about starting small and with minimal resources to test and improve their solution. SSN provided Fellows with planning documents to help them select a small group of participants for their first PDSA cycle.

**Learning from failure:** In PDSA cycles, failure and success are seen as equivalent learning experiences and opportunities. By reducing the fear of failure, practitioners can be more innovative when planning change ideas and less defensive when analyzing evidence. Fellows reported the value of this shift in perspective. For example, rather than scrapping an idea that appeared to fail, Fellows were taught to make small adjustments to the idea, using what they learned from the failure.
Challenges to Implementing a CI Mindset

While Fellows expressed that adopting a CI mindset had been valuable and important for them as individuals, they found it difficult to share what they had learned with colleagues. Fellows reported that “turn-keying” their CI learning and teaching others at their organizations about CI and CI tools was difficult and beyond their level of expertise. Fellows requested more explicit support in this area.

Changes to SSN’s Practice

In Year 2 of the Fellowship, SSN provided more support and structures to help Fellows turn-key lessons for others in their organization. SSN included reflections and discussions about how to bring tools and concepts back to Fellows’ home organizations as part of the Fellowship sessions. SSN added two meetings for the Executive Directors of the Fellows to share the work the Fellows were doing and to support the Fellows in spreading CI language and practice throughout organizations. SSN also provided Fellows with the opportunity to practice introducing CI and CI tools at network-wide events.

Lesson 2: Creating Community Deepens CI Learning.

SSN designed their Fellowship to create a group of CI champions who could support one another throughout the Fellowship and beyond. Community-building ice-breaker activities, small-group work, and discussion times were built into all of the Fellowship sessions. In the fall, Fellows were organized into small groups, called Collabs, which were centered on common themes underlying individual interventions. The Collabs served two purposes: They motivated Fellows to learn and practice CI, and they provided Fellows with sounding boards, so they could share their experiences and receive feedback on their work.

Fellows used the time in the Collabs to discuss the problems they wanted to work on within their organizations and the challenges they experienced when trying to implement the PDSA cycle and to brainstorm solutions to those challenges. For example, one Collab group was dedicated to discussing attendance, and they felt daunted...
by the task of increasing attendance for students who were habitually absent. However, drawing from the CI principle of starting small and scaling up, these Fellows encouraged each other to identify small changes that had the potential to make a difference. Sharing their difficulties and working through them together helped these Fellows overcome their resistance to tackling such a seemingly intractable issue by taking some initial small steps.

The Collabs exposed Fellows to various perspectives on common challenges and themes throughout the PDSA cycle. One Fellow described how she enjoyed hearing from other Fellows with different organizational roles: “It’s different backgrounds that are coming together… For me, it’s learning from folks from the data side, the strategic planning side, and the leadership side.” This helped Fellows broaden their perspective on a given problem, and better understand the many moving parts that should be considered when proposing a change.

**Challenges to Creating Community**

Interestingly, we found that even with explicit community-building structures in place, many Fellows wanted more time with one another—either to meet with their Collab group, or to build relationships with other Fellows who were not in their Collab. Time is one of the scarcest resources in education and youth development programs. Both SSN staff and Fellows reported that, in the workshops, there wasn’t enough time to cover the CI content, promote deep relationship building, and support Fellows’ individual progress on their own CI projects. Likewise, Fellows found it challenging to attend workshops, conduct their own CI project, and connect with other Fellows—all in addition to their existing full-time jobs.

**Changes to SSN’s Practice**

In Year 2, the Fellowship added structures enabling Fellows to interact with one another more often and with greater depth. At the beginning of the Fellowship, each Fellow presented about their organization while other Fellows took notes on synergies between the Fellow’s role and organizational theory of action and their own. In all sessions, Fellows
did small group work and community building activities. At various points throughout the year, Fellows were asked to reflect on their strengths and skills with one another to support each other’s development.

Lesson 3: Gathering Support from Within Organizations Is Critical to Making Change.

Fostering change within organizations is complicated. Our interviews with SSN Fellows underscored the importance of gathering support from colleagues and leadership when embarking on the CI process. To encourage change, CI champions need to convince their colleagues why the change is necessary, articulate how it will result in an improvement, and explain what is required of various individuals.

In the pilot year, we found that the Fellowship was mostly concentrated on training each Fellow in CI methods. Many Fellows experienced resistance from their colleagues and noted a disconnect between the work of their PDSA and their normal duties. Executive Directors we spoke with expressed the need to more clearly link the Fellowship’s activities to the broader organization. They felt this would generate more buy-in and improve the effectiveness of the changes being proposed. Both SSN staff and Fellows suggested conducting more outreach to colleagues and the Executive Director at each Fellow’s home organization—to build support for CI projects and begin integrating CI into their organizational culture. Fellows’ experiences during the pilot year suggest that it may be important to engage a team of people with different roles in each organization to lead a change effort. This team would learn about the continuous improvement process, develop the change idea, and implement the PDSA cycle together.

Ensure that colleagues are bought-in:

Many Fellows found it difficult to execute their first PDSA cycle when they were dependent on colleagues to do the work. Colleagues sometimes did not...
understand the change idea (see, for example, the textbox on page 4), and better communication about the PDSA cycle and change being tried might have helped the situation. As one Fellow explained, “It’s buy in, not only for the process itself, but also the project that you’re implementing.” This Fellow noted that the ultimate goal was for colleagues “to utilize the (CI) process themselves.” PDSA cycles often require action on the part of a variety of people within an organization—to change how they implement their program, or maybe just to collect data. Having colleagues become a genuine part of the process may help motivate them to undertake this work.

**Ensure leadership is bought-in:** Fellows noted that it was particularly important that their own supervisors supported the work of the Fellowship. The Fellow whose quote appears in the margin expressed that, in retrospect, she wished she had taken more time to connect with her program’s Executive Director about the change she was testing in her PDSA cycle.

Another Fellow, who conducted his PDSA around improving data collection, reported that he was successful in part because of the support he received from his organization’s leadership. They provided time and resources to conduct the individual CI project, but they also helped the Fellow foster a culture of CI across the organization (e.g., by inviting him to conduct staff trainings on CI methods). This level of engagement from leadership was not consistent across Fellows, but many Fellows articulated the importance of program leaders having an awareness of—and offering support for—their CI work.

**Challenges to Garnering Support**

Fellows’ colleagues and Executive Directors did not always understand CI terminology, how the Fellowship activities related to their organization, and what their roles should be in the project. Interviewees highlighted the need for more explicit training to help Fellows communicate with their organizations about their project and the CI process.
Changes to SSN’s practice

In Year 2, at least one workshop was held at each Fellow’s home organization, with additional staff from the organization invited to attend the workshop. SSN also developed instruction about how to generate buy-in and communicate plans for a PDSA cycle across an organization, including added emphasis and curriculum surrounding change management.

To promote buy-in from Executive Directors, SSN held two CI webinars for them. The first was aimed at teaching basic CI concepts and introducing the Fellowship’s structures and activities before they begin. The second provided a “check-in” midway through the program to share successes and challenges. In addition, throughout the year, Fellows were asked to debrief with organization leaders on a monthly basis, to discuss change ideas, set goals for Fellows, and practice CI terminology.

Closing Thoughts

The Fellowship pilot highlighted several promising aspects of the CI approach for youth development practitioners, including particular tools and processes that Fellows found useful. Many Fellows also valued the sense of community the Fellowship afforded. However, the pilot year also underscored that CI concepts and processes can be challenging to understand and implement; doing so well requires intensive training and support.

More research is needed to inform the development of effective CI training. For example: What strategies work best for helping practitioners learn about the more complicated CI tools? What supports do practitioners need to help them identify, collect, and interpret data? How can CI training be integrated into an organization’s culture?

We also have much to learn about the longer-term impacts of participating in CI training programs. And even more basic, there are few commonly agreed upon measures of success. Taking note from CI itself, it is imperative to know and be able to measure the outcome of CI training in order to improve it. We look forward to continuing to explore these issues with SSN, its members and the field.
Endnotes

1 Bryk et al. 2015
2 Langley et al. 2008
3 Park & Takahash, 2013
4 Park & Takahashi 2013

References


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Research Questions

What did CI Fellows learn from the CI Fellowship? How did fellows apply their learning at their home organizations? What were the challenges associated with learning CI and implanting PDSA cycles at youth development organizations? These questions guided our study as we conducted focus groups and interviewed Fellows throughout their Plan, Do, Study, and Act cycles.

Sample

The CI Fellowship engaged 12 practitioners from 12 different youth development organizations based in New York City. A variety of small, medium and large organizations participated. They served students ranging in age from 13 through 24, both during and after school. Fellows ranged in their position, years of service to their organizations, years of service in youth development, as well as their familiarity with Continuous Improvement theory and methodology. The fellows were nominated for the Fellowship by their organization’s executive director.

Methods

During the fall semester, we invited all Fellows to participate in two focus groups in both the spring and fall semesters. Seven chose to participate. During each 40-minute focus group, we asked the Fellows 12-15 questions regarding their interest in CI theory and practice, what they learned in the Fellowship, challenges they faced with CI tools and concepts, and general challenges they faced participating in the Fellowship.

In the spring semester, we chose three Fellows for a more in-depth analysis consisting of three 40-minute interviews during the Plan, Do, and Study phases of their PDSA cycles. Fellows selected for the deeper analysis all held positions that involved implementing or designing programs for students, had been employed by their organization for over a year, and had better-than-50-percent attendance at CI Fellowship meetings, as of the fifth month of the Fellowship. The selected Fellows were demographically diverse and represented a range of organization styles, missions and sizes. As a part of this deeper analysis, we also interviewed each Fellow’s Executive Director and one coworker for one hour each.

Analysis

We conducted a content analysis of all interviews by inductively developing a set of codes according to the stages of the PDSA cycle. We refined and added codes based on respondents’ actual answers. These codes were used to examine focus group and individual interview transcripts to identify connecting themes between interviews.
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