



Evaluation Final Report Executive Summary: October 26, 2023

Improving Practice Together

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Executive Summary

“Improving Practice Together” (IPT) (Weiss & Borko, 2017-2023, NSF DRL #1720894, #1720930) was a six-year research-practice partnership (RPP) to build a school district's capacity to teach scientific argumentation in elementary school by developing sustainable teacher leadership. The RPP involved three partners: (1) a professional learning (PL) team from the Lawrence Hall of Science of the University of California at Berkeley (the Lawrence); (2) a Research and Evaluation (R&E) team from the Graduate School of Education, Stanford University and the Lawrence; and (3) and a team of teachers and administrators from the Santa Clara Unified School District (SCUSD). Partners worked collaboratively to adapt a PL model from a previous project, PRACTISE (Strang & Osborne, 2014-2017; NSF DRL #1223021; #1220666), to be implemented in SCUSD. The project further aimed to develop the capacity of the district to independently lead PL opportunities beyond the conclusion of the project through the development of a team of teacher leaders (TLs). The COVID-19 pandemic, which commenced in the middle of the project, significantly affected the latter phases of the work, drastically changing the dynamics of the partnership and requiring adaptation of all parties.

The IPT Evaluation Team played multiple roles over the course of the project. Much of the Evaluation Team's work centered around four evaluation questions:

- **Project Implementation:** To what extent was the Improving Practice Together project implemented as planned?
- **Participants' Attitudes and Confidence:** Did participation in Improving Practice Together support changes in teachers' perceptions, attitudes, and confidence around supporting argumentation in science classrooms?
- **Participants' Leadership Development:** Did participation in Improving Practice Together support changes in teacher leaders' confidence in and preparation for leading professional learning experiences for their fellow teachers?
- **Perceptions of Value:** Did participants value their experiences in Improving Practice Together? What aspects of the project did they identify as being most helpful in supporting them to become more effective teachers and/or teacher leaders?

To answer these questions, the Evaluation Team observed and documented project activities and administered a series of participant surveys. As the project evolved to adapt to the COVID-19 pandemic, so, too, did the Evaluation Team's work—specifically, to focus less on the original evaluation questions, and more on supporting the team in navigating project adjustments through documentation and formative feedback. In total, between Summer 2018 - Spring 2021, the Evaluation team prepared 18 internal reports, summarizing survey findings for the project team and providing recommendations. This Executive Summary synthesizes findings across these reports.

Findings

EQ1 Findings – Project Implementation

Project activities and timelines were closely aligned with the original plan through the first half of Phase 3, when the COVID-19 pandemic struck in the spring of 2020. The pandemic significantly altered the trajectory of the project for Phases 4 and 5. Below, we describe the key activities each year.

Planning Year: [Phase 1] Fall 2017- Spring 2018

The first nine months of the project were dedicated to preparing for the 2018 Summer Institute, including: relationship building, developing shared understanding of the project, revising the PRACTISE materials for use in SCUSD, developing research plans, and recruiting the first cohort of teachers.

Program Year 1: [Phase 2] Summer 2018 - Spring 2019

In Summer 2018, the PL team facilitated the revised PL program for Cohort 1 teachers. Ten teachers participated in the 2018 Summer Institute, which introduced them to the value and implementation of classroom argumentation. The R&E team observed the Institute and took field notes, which were summarized into formative feedback at the end of each day. The following school year (2018-2019), the PL and district teams hosted six follow-up days with Cohort 1, to revisit concepts and strategies.

Program Year 2: [Phase 3] Summer 2019 - Spring 2020

The Summer of 2019 included two institutes: a Leadership Institute and a second Summer Institute. The Leadership Institute was designed to develop the leadership capacity of Cohort 1 teachers to become Teacher Leaders and prepare them to co-facilitate PL activities. The 2019 Summer Institute, co-facilitated by the teacher leaders and Lawrence PL team, introduced a new cohort of Teachers (Cohort 2) to the value and implementation of argumentation. The subsequent academic year (2019-2020) included a series of three follow-up days for Cohort 2 teachers.

In the original project plan, TLs (Cohort 1 teachers) would assume increasing levels of leadership and autonomy over the course of the year, positioning them to independently facilitate PL activities for more cohorts in the future. However, with the onset of the COVID-19 pandemic in the spring of 2020, follow-up sessions were canceled for the remainder of the 2020 school year, recruitment of a third cohort was on hold, and plans for the Summer 2020 Institute were upended.

Program Year 3: [Phase 4] Summer 2020 - Spring 2021

Amidst the lockdown restrictions of the COVID-19 pandemic, the PL team responded to Cohort 1 and 2 teachers' emerging needs through a two-week virtual institute in June 2020. The 2020 Institute aimed to develop participants' leadership capacity and ability to teach science in a distance learning context, including strategies to support argumentation in a digital environment. Discussions also emphasized equity and anti-racist education in light of the 2020 Black Lives Matter uprisings. During the 2020-2021 school year, TLs participated in four follow-up days, co-led by the PL and SCUSD teams, to share tools and strategies to engage students effectively in remote learning, including online discussions.

Program Year 4: [Phase 5] Summer 2021 - Spring 2022

Alongside the challenges of COVID-19, there were also significant personnel shifts in the district that made the originally planned institutes for summer 2021 and 2022 untenable. Instead, the project team shifted to focus on developing a website to disseminate resources to those interested in supporting classroom argumentation, developing teacher leadership, or forming research practice partnerships.

EQ2 Findings - Participants' Attitudes and Confidence

While the onset of the COVID-19 pandemic required modifications to programming, overall, teachers across the two cohorts demonstrated and expressed growth in their attitudes toward argumentation and confidence in implementing argumentation in science classrooms. Growth was attributed to the professional learning sessions helping cohort members understand the value of argumentation and a culture of talk in a science learning setting – and even in interdisciplinary settings. These increases also stemmed from the sessions providing participants with examples of and strategies for productive scientific dialogue.

EQ3 Findings - Teacher Leaders' Leadership Development

At the start of the project, Teacher Leaders reported moderate confidence and sense of preparedness in facilitating professional learning and engaging in leadership activities among their peers. While they felt prepared to teach their peers about argumentation strategies and engage participants in reflection on practice, they expressed a need for more support with building science content knowledge and pedagogical content knowledge among their peers, and requested continued feedback on their presentation and facilitation skills. In 2020, teacher leaders reported much lower confidence in leading professional learning experiences online as compared with in-person.

EQ4 Findings - Teachers' Perceptions of Value

When asked to rate the impact of this program as science teachers and as science teacher leaders, a majority of respondents (n=6) reported IPT having a “significant impact” on them as teachers and half reported the program having a “significant impact” on them as teacher leaders. In their short-answer responses, respondents shared that IPT provided the opportunity to build community with other teachers and to learn from and with others. They also appreciate the structures, tools, and strategies they taught in order to build a culture of talk in their own classrooms. As one teacher summarized, the program provided strategies “about teaching science and also changing my perspective around student misconceptions and how to deal with them.” Lastly, teachers commented on how the program helped them expand their definition of teacher leadership, to include “sharing information, modeling practices and working collaboratively in teams” or simply having conversations with colleagues.

Summary

The Improving Practice Together project aimed to build the capacity of a school district to implement high-quality science instruction by providing direct professional learning experiences to teachers while also developing a team of teacher leaders to support their peers. Evaluation results showed that the project

supported changes in teachers' attitudes toward argumentation, confidence teaching science, and preparation and confidence as teacher leaders. Moreover, the project team was adaptive in responding to challenges posed by COVID-19 and the subsequent shifts in district staffing and priorities. Participating teachers reported significant impact on their teaching and reflected that the project had provided not just new strategies and techniques, but also community. As one teacher shared, "Being part of this group is one of the [...] highlights of teaching currently. I am so glad I made the decision to join."