Carnegie Foundation
for the Advancement of Teaching

Professional Learning

Improvement Science in Practice: Finding Solutions Through Iterative Testing℠

This intermediate-level course provides hands-on, contextualized experiences of improvement learning through iterative testing for individuals and small teams who are seeking to deepen their knowledge of and skill in practicing improvement science methods. Building on the conceptual foundations developed in Carnegie's Introduction to Networked Improvement Basics℠ course, **Improvement Science in Practice: Finding Solutions Through Iterative Testing℠** focuses on building participants' skills and experience with running Plan-Do-Study-Act (PDSA) cycles that test and iterate changes designed to improve specific outcomes.

Through the **Improvement Science in Practice** course, Carnegie coaches provide support as participants test changes in their own systems and share their learning with their cohort. For this activity, participants are encouraged to work in one of several problem areas offered by course instructors; alternatively, a team may focus on a problem area of its own choosing.

Upon completing the course, participants will be equipped with the tools and resources to engage in disciplined inquiry through small, iterative tests that can be used to adapt and refine change ideas.

SITUATING THE COURSE IN AN IMPROVEMENT SCIENCE LEARNING JOURNEY

While every improvement journey follows a unique path, there are some predictable stages that a change effort traverses as it progresses from problem identification to a successful result. These stages include:

- Understanding the problem and the system that produces it
- Focusing collective efforts
- Generating ideas for change
- Learning in practice
- Sustaining and spreading learning

These stages reflect a journey that begins by building deep understanding of the current context and progresses by using that understanding to set a specific aim and develop a working theory of improvement. The working theory becomes refined as improvers learn through disciplined inquiry and build evidence of the efficacy of the changes that they put in place. Only when there is evidence of efficacy is a change then implemented in the system and shared to new contexts.

The **Improvement Science in Practice** course picks up in the middle of that improvement journey and provides focused instruction on activities that advance learning in practice. Tools and methods used in the course will support participants in the identification, testing, and refinement of change ideas so that they can learn about the impact of the changes in the system. This concentrated attention on a specific phase of improvement work allows participants to deepen their practical skills with substantial hands-on experience.

WHAT WILL YOU LEARN?

In this course, participants will:

- Identify and prototype potentially high-leverage changes by drawing upon an established understanding of the problem, a theory of practice improvement, and established research
- Design tests of change
- Practice executing, testing, and refining changes
- Practice documenting PDSA results and learnings
- Process PDSA learnings to inform future testing cycles (adopt, adapt, again, abandon)
- Build knowledge of how to move up a ramp of tests to promote change at scale

Course activities will guide participants through a process of selecting and prototyping change ideas, as well as designing, executing, and monitoring tests of change. Participants will also share their learning with others who are running similar tests so that they can learn from work in different contexts.

WHO SHOULD PARTICIPATE?

This is an intermediate-level course designed for people who have solid conceptual understanding of the improvement science enterprise and who seek to develop concrete skills for learning through testing. To be successful in this course, participants must have previous experience with problem investigation and developing a theory of practice improvement or a driver diagram. This experience may be developed through one of the following:

- Successful completion of the Carnegie Foundation's **Introduction to Networked Improvement Basics**[SM] course
- Participating in a NIC or on an improvement project team engaged in system investigation and aim setting
- Alternative coursework or experience with problem investigation and improvement theory development or use

This course is designed to support collaborative improvement activity both within and outside of a NIC. To get the most from the course, individuals should **be prepared to run tests of change in their local contexts at least once a week** and to share their experience of those tests within a small coaching group.

Registration for this course, which is presented virtually in its entirety, is $2950 per person. Course registration includes a course workbook with templates that can be used beyond the course; two-days of facilitated, virtual workshop sessions; small-group coaching sessions; and a final webinar.

HOW IS THE COURSE STRUCTURED?

The course begins with a two-day intensive workshop that grounds participants in the fundamentals of PDSA cycles and learning through testing. During the workshop, participants will identify a change idea to try in their own system and will plan a first test of change. Over the seven weeks that follow, participants will meet in small, problem-specific coaching groups with a Carnegie instructor to share learning, work through challenges, and plan successive tests. At the end of the course, participants will gather for a final session to present, reflect upon, and consolidate their learning.

As part of the registration process, participants are asked to prioritize several focus areas for their improvement work. This information will help to organize smaller coaching groups within the cohort. While specific focus areas vary from cohort to cohort, they may include:

- Effective feedback for teachers/adults
- Student agency
- Chronic absenteeism
- Instructional practice in literacy, mathematics, or science

Ideally, participants have some familiarity with their chosen problem area in their local context and may be aware of the results of investigation into the problem in their own system. Teams that are currently working on an improvement project or within a networked improvement community and have developed a theory of practice improvement (or a driver diagram) may seek to adopt that as their area of focus for course activities.

Upcoming course dates and registration for **Improvement Science in Practice: Finding Solutions Through Iterative Testing** are available at the Carnegie Foundation website at www.carnegiefoundation.org/professional-learning. There you can also learn more about the Carnegie Foundation and its other professional learning courses and sign up to receive updates about future opportunities.

For more information about this course, please contact a member of our professional learning opportunities team at professionallearning@carnegiefoundation.org.

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for the Advancement of Teaching

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The Carnegie Foundation for the Advancement of Teaching is committed to solving long-standing inequities in educational outcomes. The Foundation addresses problems that impact large numbers of students; tests innovations on the ground; understands what works, why, and in what contexts; and shares what it learns for use by others. In so doing, Carnegie integrates the discipline of improvement science and the use of structured improvement networks to build the education field's capacity to improve.