

Building a Strong Foundation: Improving Student Achievement in Mathematics and Science

Professional Development

Following are brief descriptions of professional development recommended for both the intensive and the open session work with participating leaders and teachers in Rhode Island. Initially, these sessions will be led by Dana Center staff; eventually, they will be led by the state's intermediary service providers. This professional development is designed to support schools and districts as they work to increase student achievement in mathematics and science.

In this document, we describe five professional development seminars:

- Gap Analysis
- Leading Change
- Study the Standards
- Classroom Walkthrough for Continuous Improvement
- Structures and Leadership Practices

Gap Analysis

Participants use a set of field-tested tools and processes to assess their current status and describe the desired future state. From this analysis of the gap between current status and desired future, they then determine the actions to be taken.

Session participants will learn how to:

- Establish a three-year goal—with annual benchmarks of progress—for student achievement.
- Examine the gap between the current state of student achievement and the three-year goal for achievement.
- Define the issues causing the gap through an initial examination of research-based school improvement indicators.
- Generate a description of an ideal state to be achieved that will contribute to the desired goal for student achievement.

Leading Change

Participants take part in a simulation of a 3-year change initiative in a school district. Participants also examine research about—and strategies for—implementing a change initiative in an education system.

Session participants will learn:

- How their actions within the education system shape the work of others in that system.
- Strategies, processes, and models of organizational change necessary to implement the guaranteed and viable curriculum.

Study the Standards

Participants gain a common understanding of the state standards. They then identify—and commit to taking—actions designed to improve the alignment of curriculum, instruction, and assessment practices around the state standards.

Session participants will learn how to:

- Use the state standards and a set of tools and processes designed to guide decisionmaking about teaching, learning, and assessment.
- Use a set of structured tools to promote conversations and collaboration around the state standards.

Classroom Walkthrough for Continuous Improvement (a multipart series)

Over the course of this series and beyond, participants familiarize themselves with—and commit to using—a tool and process designed to collect and analyze data on curriculum and instruction. Participants then conduct reflective conversations about—and plan actions based on—the results of the data collected. Participants will examine their work together as a group, come up with strategies for improving group effectiveness, and identify steps they will take to ensure their reflection informs future actions.

Session participants will learn:

- A process for collecting schoolwide data about implementation of the guaranteed and viable curriculum.
- The use of a tool for gathering and aggregating data about the school’s instructional program and a process for analyzing that data.
- Steps that help ensure that the data collection and analysis is accurate and efficient.
- The trends and issues emerging from the ongoing data collection and analysis.
- A process for initiating reflective conversations and actions among faculty members.

Structures and Leadership Practices

Participants use a set of tools and processes to document outcomes of previous actions, examine leadership practices related to implementing the guaranteed and viable curriculum, determine the current state of essential structures, create action plans to develop or strengthen essential structures, and take action to develop or strengthen three essential structures designed to increase alignment: *collaboration*, *common lessons and assessments*, and *the guaranteed and viable curriculum*.

Session participants will learn:

- How to benchmark their leadership actions against effective research-based practices.
- A process for documenting the current state by examining the three essential structures of collaboration, common lessons and assessments, and the guaranteed and viable curriculum.
- How to examine results and determine whether, and to what degree, the *intended* results have been achieved.
- Methods for implementing changes in structures and among team members to create effective and sustainable improvements.