

Secondary Education and School Improvement



Mathematics Improvement Services

Overview

Improvement Services in Mathematics delivered through the *WIIN* Center support educators to build capacity in evidence-based leadership and instructional practices. The primary purpose is to increase district capacity in implementing a coherent K-12 Mathematics System.

Key professional learning outcomes that apply to teachers and leaders include the following:



- **Develop effective structures and conditions** to support system-wide improvement of teaching and learning in **mathematics**;
- **Enhance instructional leaders' capacity** to support, promote, lead, and sustain professional learning that improves teaching practices and learning outcomes in **mathematics** for all students; and
- **Build deep understanding of mathematical** knowledge, standards, and pedagogy, as well as the capacity to apply evidence-based instructional practices demonstrated to be effective in increasing student achievement.

Mathematics Systems Improvement Framework

The *Framework* provides the foundation for professional development and technical assistance in Mathematics. Created by a team of experts, including district leaders from across the state and ESD and OSPI staff, the *Framework* offers Washington's school districts actionable steps and guidance upon which a comprehensive K-12 Mathematics System can be built.

Anchored in current research and the recommendations of the *National Mathematics Advisory Panel*, the *Framework* provides clarity and vision for school districts to improve mathematics teaching and learning.

As indicated in the descriptions that follow, professional development offerings are designed to reflect key elements in the *Framework*:

- Mathematics Leadership
- Core/Tier I Mathematics Program
- High-Quality Mathematics Instruction
- Mathematics Assessment System
- Tier II and Tier III Mathematics Intervention

A copy of the *Mathematics Systems Improvement Framework* is available at <http://www.k12.wa.us/mathematics/>.

Technical Assistance / Monitoring Implementation and Impact

Each Mathematics professional development offering generates actionable next steps for district and school leaders. Subsequent technical assistance will support leaders in successfully implementing next steps for improvement. Additional follow-up activities with the district include the collection and analysis of evidence of implementation and its impact on student learning.

Secondary Education and School Improvement



Improvement Series 1—Developing a Comprehensive Mathematics System

Key Elements in Framework	Module	Participants	Description
Mathematics Leadership	Mathematics Systems Gap Analysis (1 day)	District/school math leadership teams	Facilitates teams in reviewing the current research and leadership, curriculum, instruction, assessment and intervention components of their K-12 mathematics program to: (1) provide evidence of strengths and opportunities for growth, and (2) identify systemic “gaps” to guide future planning.
Core/Tier I Mathematics Program High Quality Instruction	Mathematics Education Research (1 day)	District/school math leadership teams	Reviews current research so that districts can align their mathematics curriculum, assessment, and instruction with effective practices.
Core/Tier I Mathematics Program	Washington State Mathematics Standards (1/2 day)	District/school math leadership teams & additional teacher leaders	Provides a deep understanding of the <i>Washington State Mathematics Standards</i> .
Core/Tier I Mathematics Program	Instructional Materials Alignment (1 1/2 days)	District/school math leadership teams & additional teacher leaders	Provides knowledge and tools for educators to unpack standards and analyze the alignment of current instructional materials; participants identify the degree of alignment for each standard and alignment gaps that may exist.
Core/Tier I Mathematics Program	Curriculum Guide Development (2 days)	District/school math leadership teams & additional teacher leaders	Facilitates teams in creating comprehensive curriculum guides to address the pacing and sequencing of instructional materials, standards alignment, and assessments; provides teacher supports to ensure all students have access to standards-based instruction. Prerequisite: <i>Instructional Materials Alignment</i> Module

Improvement Series 2—Developing a Comprehensive Mathematics System – Continued

Key Elements in Framework	Module	Participants	Description
Mathematics Leadership	Mathematics Leadership and Implementation Research (2 days)	District/school math leadership teams and school principals	Participants review current research-informed practices in leading, implementing, and monitoring comprehensive mathematics improvement and apply learning to their specific roles. The second day focuses specifically on the role of the school principal in leading mathematics improvement efforts.
High-Quality Mathematics Instruction	High-Quality Mathematics Instruction (1-2 days)	District/school math leadership teams	Uses both current research and observation to support district teams to develop a shared definition of high-quality mathematics instruction and an observation tool that reflects their vision.
High-Quality Mathematics Instruction	Formative Assessment in Mathematics (2 days)	District/school math leadership teams & additional teacher leaders	Reviews research around the role of formative assessments in improving student outcomes; supports teams in building processes for creating and implementing formative assessments which will inform decision-making in instruction and curriculum.
Mathematics Assessment System	Mathematics Benchmark Assessments & Supports (4 days)	District/school math leadership teams & additional teacher leaders; Assessment Directors	Provides overview of the purpose and test design of the math benchmark assessments, administration procedures, and the web-based student assessment system. Following each benchmark administration, participants will understand how to access and analyze data and use student results in an instructional decision-making process.