

Riverpoint Advanced Mathematics Partnership - Algebra (RAMP-A)

Improving coherence and depth of mathematics learning
 Jacqueline Coomes and Cathleen Kennedy, MSP 2014 Annual Conference

Findings: Student Achievement

Changes in % of HS Students meeting State Standards: RAMP-A and Comparison Students



Changes in % of Middle School Students Meeting State Standards: RAMP-A and Comparison Students



Project Goals

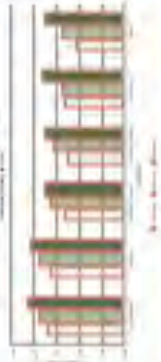
- 1) Increase Algebra 1 teachers' content knowledge in algebra and functions in the Common Core State Standards in Mathematics.
- 2) Improve teachers' instructional strategies in Algebra 1.
- 3) Improve teachers' understanding of and ability to teach the Standards for Mathematical Practice.
- 4) Increase principals/assistant principals' knowledge of and ability to support improved mathematics instruction, and
- 5) Improve student achievement and interest in math.

Coherence and Depth

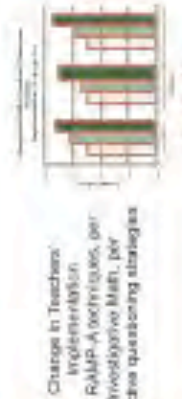
- Improve teachers' mathematical knowledge for learning and use of student thinking to improve their ability to teach mathematics with coherence
- Administrators meet with their PLCs to understand effective teaching and learning

Findings: Teaching Practices

Change in Teachers' Classroom Culture



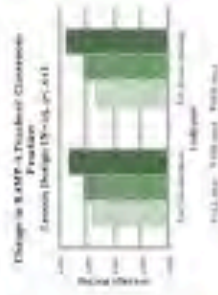
Change in Teachers' Implementation of RAMP-A techniques, per Investigative Math, per Effective questioning strategies



Change in Teachers' Main Content Significant, engages students intellectually, shows teacher understanding



Change in Teachers' Lesson Design for Collaboration & Student Sense-Making Opportunities



Professional Learning Communities

- Work in school-based groups of 2-4 teachers.
- Meet in their buildings to look at student work and data, plan lessons, sometimes joined by administrators.

Partners

Eastern Washington University Mathematics Dept., Washington State University College of Education, Education Services District 161, Republic SD, Spokane PS, Mullan SD, Wainwright SD, Central Valley SD, Cheney SD, East Valley SD, Garza High Preparatory School

Participants and Context

- 66 middle and high school math teachers
- 25 schools in 6 districts
- 9 administrators
- 6 3.5-day school-year workshops each year
- 3-day summer workshop each year
- PLC meetings in their buildings
- Observations and coaching by project leaders

Findings: Teacher Knowledge and Beliefs

Teachers' Content Knowledge: Most Substantial Gain in the Area of Equations & Inequalities



Change in Teachers' Pedagogic Content Knowledge



RAMP-A Teachers' Knowledge of Mathematical Practices

