

STRATEGIC ALLIANCE II

Professional development program supporting elementary school teachers in developing a deeper understanding of student mathematical learning

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PURPOSE

Having adopted a new text with a heavy emphasis on word problems, the Robla School District teachers have expressed a need for help in changing the emphasis of their instruction from computation to problem solving. They also report not knowing how to help their 3rd-6th grade children explain their mathematical thinking, especially their English Language Learners (ELLs).

SUMMARY OF ACTIVITIES

- In monthly meetings all teachers analyze videotapes of Robla School District students solving mathematics problems.
- Listen to audio-recordings of students' mathematical explanations collected during classroom activities.
- Teachers new to the Alliance conduct problem-solving interviews with their students twice a year and participate in two days of "embedded" training, with intense focus on students' explanations generated during a single math lesson.
- Summer meetings provide teachers an opportunity to reflect on their students' learning and to extend their own mathematical thinking.

PROJECT GOALS

- Promote Robla students' understanding of mathematics, particularly among ELLs.
- Extend the existing K-2 Mathematics Professional Learning Community to include teachers in grades 3 – 6 and build collective efficacy.
- Increase teachers' knowledge of mathematics concepts and children's mathematical thinking.
- Develop teachers' abilities to explain the mathematics concepts they are teaching and make it accessible to ELLs.
- Develop teachers' abilities to elicit their students' explanations of solution strategies and mathematical concepts.

OUTCOMES

- Teachers will have a deeper understanding of the mathematics they teach and be able to explain it in ways that are accessible to ELLs.
- They will elicit explanations from their students, supporting and extending their students' thinking when possible.
- Students will have learned more mathematics than children whose teachers have not been in the Alliance.
- Alliance teachers' self-efficacy for mathematics instruction will grow, as will their sense of collective efficacy, their confidence in their colleagues' abilities to teach mathematics.

RESEARCH

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