

## FINAL REPORT – June 13, 2011

### Site-Based Self Study of Best Practices in Mathematics

Distinguished Teacher in Residence Assigned Time Grant 2010-2011

Escondido Union School District

Rong-Ji Chen & Brian R. Lawler

This Distinguished Teacher in Residence Assigned Time Grant (DTiR-ATG) allowed for collaboration between Escondido Union School District (EUSD) and California State University San Marcos (CSUSM), DTiR partners. Through this grant, Drs. Rong-Ji Chen and Brian R. Lawler have built relationships with members of the district in the context of working to improve the teaching and learning of mathematics at the middle grades level in EUSD.

The specific objectives identified for the 2010-2011 school year were:

- Continue to formulate and strengthen a shared vision of Best Practices for teaching mathematics among the appropriate constituents involved in EUSD's middle schools. Teachers will be able to name and identify Best Practices for teaching mathematics. Teachers will begin to implement such practices in their classrooms.
- Continue to support the instructional coaching of principals toward the support of teacher implementation of these Best Practices. The principals will organize teams of mathematics teachers. The team members will observe and provide feedback to each other with respect to the efforts to implement Best Practices.
- Continue to build middle grade's lead mathematics teachers' capacity to facilitate the growth of the school site PLC, with a focus on these Best Practices.
- Continue to work with EUSD to shape professional development opportunities.
- Continue to collaborate with mathematics teachers at Hidden Valley MS and Mission MS sites in lesson design, implementation, and assessment. Teachers will implement Best Practices.

Our shared work toward these objectives will increase student mathematics comprehension, a EUSD district goal.

To date, the work that has been accomplished can be summarized in four key areas.

- 1) Drs. Chen and Lawler have developed a rapport and worked as members of the professional community among district-level employees. This includes the Assistant Superintendent and one teacher on special assignment (TOSA).
- 2) Drs. Chen and Lawler met with the district middle school principals once a month. At the meetings, we discussed the district's goals for all classrooms—teaching and learning—and to consider the particular ways these goals might be achieved in the mathematics classrooms. Connections were made from the district language to messages about “best practices” in mathematics teaching. Principals were asked to reflect on the professional development agenda in place in their schools for mathematics instruction, and to consider the ways their observations as instructional leaders can be utilized to influence positive change.
- 3) Drs. Chen and Lawler have continued a quarterly professional development activity with all 6<sup>th</sup> grade math teachers in the district. The focus has been on supporting their implementation of a new textbook, through the pedagogical structures suggested by the Best Practices framework organizing our larger district work.

- 4) Dr. Lawler collaborated with the 6<sup>th</sup> grade math team at Hidden Valley Middle School. His work began with becoming a part of the team, rather than a punishment for poor test performance. As time passed, he began provoking their learning community and teaching about Best Practices when invited. The relationship that evolved allowed for productive and powerful rounds of modified Lesson Study. The 6<sup>th</sup> grade team set goals and focus to continue their professional work for the next school year. These goals aligned well to the Best Practices that underlay this project, namely to continue their efforts to figure how to draw out children's thinking and involve students in mathematical interactions.
- 5) Dr. Chen has worked closely with the 6<sup>th</sup> grade mathematics teachers at Mission Middle School. He observed teaching and learning activities in all sixth grade classrooms, paying special attention to students' conceptual understanding of mathematics. The relationship that evolved allowed for active observation, and he interacted with students and probed for their thinking as they worked on math tasks. He discussed students' learning with the teachers and suggested strategies for providing further opportunities for student thinking and problem solving. He also maintained detailed observation notes and shared them with the teachers, which was a means for engaging the teachers in reflective practices.
- 6) An end-of-year workshop was offered for middle school math leaders by the district math specialist. Principals were selective about who they sent. The math specialist was purposeful about pushing the onus for professional growth onto the middle school teachers, requiring them to draw up their school site plans for professional study during the coming year, and how they would invite him to provide support for this work. This aligns well with one of the Best Practices we intended to implement, the notion that the development of mathematical professional learning communities was a key component of the work necessary toward transforming the nature and improving the quality of mathematics instruction at each school site.

Appropriate evaluation data were collected. Meeting notes and classroom field notes were used to further refine the agenda for the year's work. The district will share with us student testing data, as it becomes available during the summer. Drs. Chen and Lawler obtained CSUSM IRB's approval to report the results of the data analysis in publications and other settings. This final analysis will inform their ongoing research agendas. They will seek to report the findings through teacher educator conference presentations and journal publications.