

Since opening in 1992, Estrella Mountain Community College has been heavily vested in the improvement of student learning. Just over ten years ago, the college determined a specific need to focus on mathematics and science. Even though new strategies had been implemented, student success along the pre K-20 pipeline remained a concern.

After an exhaustive review of Estrella Mountain student placement scores, it became clear that the College needed the support of its local educational partners who comprise the membership of the West Valley Think Tank (WVTT), a leadership group consisting of West Valley superintendants, community college presidents and university faculty. Since forming in 1999, the WVTT has provided a collaborative and supportive structure to address pipeline challenges that concern all educators.

After sharing data with the WVTT, a suggestion was made to create a day long summit devoted to the topic of mathematics along the pre K-20 pipeline. A math planning group was created that included instructional personnel from West Valley feeder schools and the three community colleges that have membership in the WVTT. The Math Summit convened in February, 2010. In attendance were 100 educators that included faculty, staff and administrators.

Issues identified during the Math Summit included:

- The need for improved/increased opportunities for faculty professional development
- A determination as to where gaps in assessment and placement exist in the pipeline
- A need for better understanding of what is actually taught at various levels
- A need to address retention from one semester/year to the next at all levels

To begin addressing these issues, the mathematics planning group held a conference for teachers in June, 2010. Attendees determined there were additional issues that should be considered such as:

- Effective testing discussions (how to write effective test questions)
- Building common language using current research and best practices (not reinventing the wheel)
- Creating sessions on teaching teachers how to teach specific topics
- Sharing best examples of teaching topics
- Developing professional growth courses for K-12 that focus on best practices
- Determining what students need to know and are not prepared to do



In addition to the summit and conference, an initial analysis has been performed on a small sample of high school transcripts for EMCC students coming from West Valley feeder high schools. A summary of that analysis follows:

- Highest level high school math course taken predicts how students will place at EMCC, but many students who have passed Algebra II in high school are still placed in developmental classes.
- AIMS also predicts placement at EMCC. However, even though nearly all students “meet standards”, 41% have a developmental math class as their first class. (Of those students 30% do not pass that developmental math class).
- AIMS scores do not predict whether students pass or fail their first EMCC class, but they do predict whether students will obtain an A or B.
- Both overall math GPA (2.5 or higher) and final math grade (2.0) predict whether a student will do well in their first EMCC math class (i.e., obtain a A or B).
- The following factors play a large role in student success: 1) Highest math class achieved in high school, 2) Grades in math class, and 3) Student’s AIMS scores.
- The number of math classes a student has taken plays little role in predicting student success at EMCC. More important are the quality of the classes and the quality of the students’ performance.

The analysis of transcripts will continue as students from the feeder high schools begin their studies at Estrella Mountain Community College. Additionally, a second conference will be held in June, 2011 that includes professional development opportunities for teachers to improve student success along the mathematics pipeline.