This year only 36% of Arizona's 8th graders were prepared to be successful in High School Mathematics based on AzMERIT data. Only 27% of Arizona's 8th graders were proficient on the National Assessment of educational progress (NAEP).

Why Middle School Mathematics?

**AzMERIT**

- **Arizona**: 36%
- **Pima & Santa Cruz**: 35%
- **Cochise**: 28%

**NAEP**

- **Arizona**: 27%

IMPACTS—MS

**Improving Mathematical Problem solving, Agency, & student-Centered instruction for 6-8 Teachers and Students—Middle School**

CENTER FOR RECRUITMENT AND RETENTION OF MATHEMATICS TEACHERS

Rodrigo Gutiérrez, Co-Director  rodrigog@math.arizona.edu
Melissa Hosten, Co-Director  mhosten@math.arizona.edu
http://crr.math.arizona.edu/
**IMPACTS-MS Goals**

- Improve teachers’ professional agency and confidence in conceptual mathematics instruction
- Improve students’ mathematical agency and confidence
- Increase the use of student-centered instructional strategies

**Elements of the IMPACTS-MS Program:**

**Site Facilitator Teams**

This program provides professional development opportunities for 5 teams, each team has one teacher from grades 6 or 7 and one teacher from grade 8 from the same school site. Teams will be recruited from the 50+ middle grades schools partnered with the CRR to encourage diversity. Each district will have one team annually. Important to this program is the work that teams will do with their site administrators to develop plans to disseminate content and pedagogy at their schools.

**Professional Development Workshops**

All middle grades teachers and 6-12 grade special education teachers from all partner schools will have the opportunity to participate in any number of the six school year workshops. Site Facilitators will participate in at least two of the six workshops offered for teachers during the academic year. Workshops have a strong emphasis on multiplicative and proportional reasoning as well as algebraic thinking and problem solving. Each workshop includes a job-embedded implementation component with evidence-based reflection. Workshop topics are determined by data from partner districts and schools, AzMERIT scores, and professional development and workshop surveys. Through the workshops, facilitators will identify teachers with positive mathematics dispositions for subsequent year participation as Site Facilitators and/or Teacher Leaders.

**IMPACTS-MS at a Glance**

**Summer Middle School Mathematics Institute**

A one-week intensive summer institute is provided to the 5 teacher teams who show productive mathematics dispositions, commitment to their schools, and the capacity to become school site mathematics facilitators. The content and pedagogy focus will be deep understanding in ratio and proportional reasoning and algebra.

**Teacher Leaders & the Leadership Retreat**

Teacher Leaders are teachers identified as having a positive disposition towards mathematics and teaching, and who are ready to lead at a regional level (beyond just their school site). Each year the program will seek to identify three Teacher Leaders. A fall leadership retreat is provided to the Teacher Leaders. This retreat will serve to continue professional growth in content and facilitation skills while reinvigorating the Teacher Leaders to take on greater leadership roles beyond their individual school sites, including the facilitation of CRR school year workshops, as well as at local, regional, and/or national conferences.

**Mathematics Educator Appreciation Day**

The Site Facilitator teams and Teacher Leaders will present at CRR’s Mathematics Educator Appreciation Day (MEAD) conference, the largest K-12 mathematics education conference in Arizona.