



The Rice University Mathematics Leadership Institute: Empowering Teachers for Student Success

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MLI Definition of Student Success

MLI defines student success in mathematics as the ability of learners to develop their:

- Conceptual understanding
- Problem-solving skills
- Confidence

for

- Success on state-mandated high-stakes assessment
- Desire to enroll and succeed in higher-level mathematics courses

Active student engagement in rigorous, student-centered mathematical experiences is understood by MLI lead teachers to be an important precursor to and aspect of “student success.”

Challenges

- Omnipresent goal was for students to meet minimal standards on the state-mandated assessment.
- Focus on testing precluded teachers from engaging their students in rich mathematics activities.
- Students lacked preparation for advanced mathematics courses and foundation for success in STEM careers.
- It became necessary to provide lead teachers with mechanisms to prepare their students for state assessments in creative ways which promoted higher-order thinking.
- Transition to the new state accountability system may create future challenges.

Research Design related to Student Success

Formative Evaluation

- Lead teachers’ knowledge about mathematics content, current mathematics education reforms, mathematics pedagogy, and diversity issues related to STEM
- Lead teachers’ efficacy in classroom instruction

Summative Evaluation

- Lead teachers’ knowledge about mathematics content, current mathematics education reforms, mathematics pedagogy, and diversity issues related to STEM
- Lead teachers’ efficacy in classroom instruction
- Lead teachers’ students’ achievement in mathematics
- All campus students’ achievement in mathematics
- Lead teachers’ students’ interest in and awareness of the importance of studying advanced mathematics
- Campus students’ interest in and awareness of the importance of studying advanced mathematics

Roles of Stakeholders

University Faculty:

Provided strong mathematics content and pedagogical foundation to lead teachers during summer institutes and academic-year meetings.

K-12 School District Administrators:

Offered support to lead teachers as they transferred learning from MLI to their schools.

Researchers and Evaluators:

Afforded feedback to MLI Directors and identified potential disconnects between MLI activities and classroom practice.

MLI Lead Teachers:

Used knowledge gained through MLI to improve student success for their students and the students of other teachers at their schools.