

Math Acceleration Program (MAP) Stepping Up to Algebra (SUTA)

Summary Report



October 2010



ALearn-SVEF-Hispanic Foundation Partnership

- MAP/SUTA Program Goals
 - 1) Increase Student Achievement in Math
 - 2) Increase Student Learning Skills and Motivation
 - 3) Raise Student Aspirations for College
 - 4) Provide Professional Development for Teachers, TAs
- 2010: expanded program to serve more Santa Clara County students
 - 9 School Districts, ~ 1000 students
 - Provide 2-year continuity for 7th – 8th graders
→ Increase success in Algebra

Result: More Students on College Track in High School



MAP/SUTA Program Description

Designed to help students gain success in Algebra

- Target students who are below proficiency in math
 - Students invited, but voluntary (with parental support)
- Math Acceleration Program (MAP) for 7th grade Pre-Algebra
 - 20 MAP Classes: 494 students (85% Retention)
- Stepping Up to Algebra (SUTA) for 8th grade Algebra
 - 19 SUTA Classes: 497 students (80% Retention)
- Majority of students from low-income, minority backgrounds

Structure

- 4-week program, 19 days total, 75 hours instruction
- 8:00am – 12:00pm daily, with morning break
- College Field Trip, College Info Night, End Program Celebration



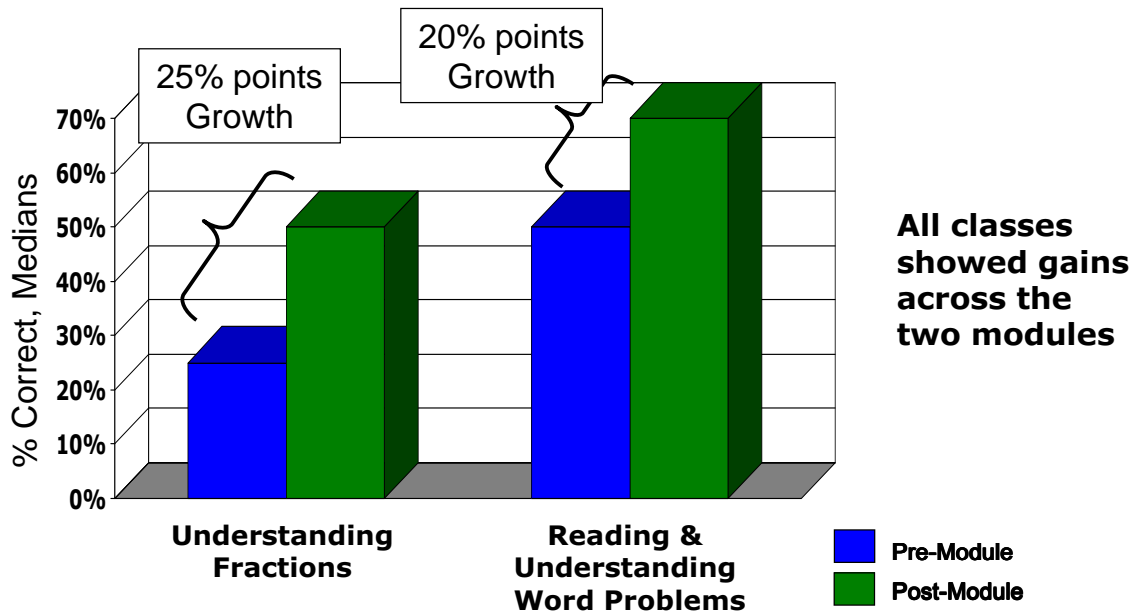
1) Raise Student Achievement in Math

- Trained teaching staff
 - 39 Credentialed Teachers
 - 41 College student Teaching Assistants
 - 3 days professional development, weekly collaboration sessions
- World renowned curriculum
 - America's Choice Navigator
- Interactive learning and enrichment
 - RAFT activities, science projects

“The teaching materials used were student centered, very hands on, students were able to learn from peers, materials taught conceptual understanding and procedural knowledge.”

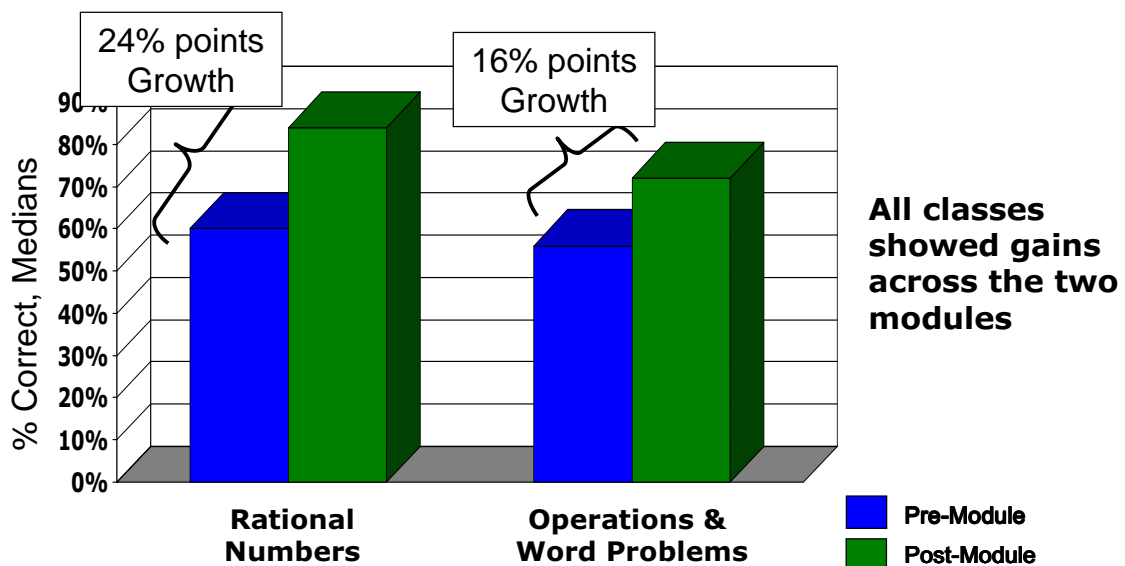


MAP Students Make Gains in Math Pre/Post Results – 7th Grade Pre-Algebra



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SUTA Students Make Gains in Math Pre/Post Results – 8th Grade Algebra Readiness



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2) Raise Aspirations for College

College-Going Focus

- College student Teaching Assistant in each classroom
- College Inspiration Night for Parents, Students
- College campus visit
- End celebration with Family

“The college component certainly opened doors of conversations between the students and their parents in the possibility of going to college.”



Students visit Santa Clara University



Student Aspirations for College Increased

“The college pieces made it much more of a reality to these students that they can and should plan on going to college.”

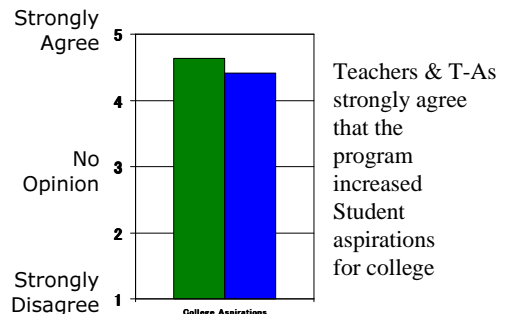
--- Teacher

“I learned that you should work hard now, so you will get into a good college.”

--- Student

“I learned how important college is and that you can benefit from college in you (sic) life.”

--- Student



3) Increase Student Learning Skills and Motivation

- Learning skills integrated in the daily lesson plans
 - Students set weekly goals
 - Homework turned in & checked
 - Journal writing for reflection
 - Note-taking and problem-solving skills
- Changing attitudes, behavior explicitly taught
 - Respect for others and self
 - Personal achievement goals: take charge of your learning



“The structure of promoting self-confidence and fostering their growth rather than emphasizing a grade has helped the students to feel safe and truly experience as much learning as possible.”

--- Teacher



Improvement in Student Attitudes Are Statistically Significant *

- Students attitudes toward math improved
 - Self-confidence, interest in math, belief in the usefulness of math
 - Goals to master math content
- Students reduced their focus on competing with others and their fear of appearing “dumb”
- Students perceived their class as more supportive than their prior year:
 - More strategies to organize math content
 - More opportunities to collaborate and help each other in math
 - Teacher checking for student understanding,
 - Continued to perceive good family involvement and teacher support

* Students participated in an attitude survey at the start and end of the program. The survey design, administration and data analysis was overseen by Asst. Professor Melissa Gilbert, Santa Clara University



Students Recommend Program to Friends

“The MAP-SUTA helped me learn so much, not just math”

“This program was an amazing (sic) experience that I want my friends to experience as well.”

“It’s fun and totally different from normal school!!! A good different, though”

“You won’t forget the math when you go back to school”

“I hope you give [the program] to the 6th graders [next year] because I want them to be prepared for Pre-Algebra the way MAP helped me.”



4) Provide Teachers/T-As With Learning Opportunities

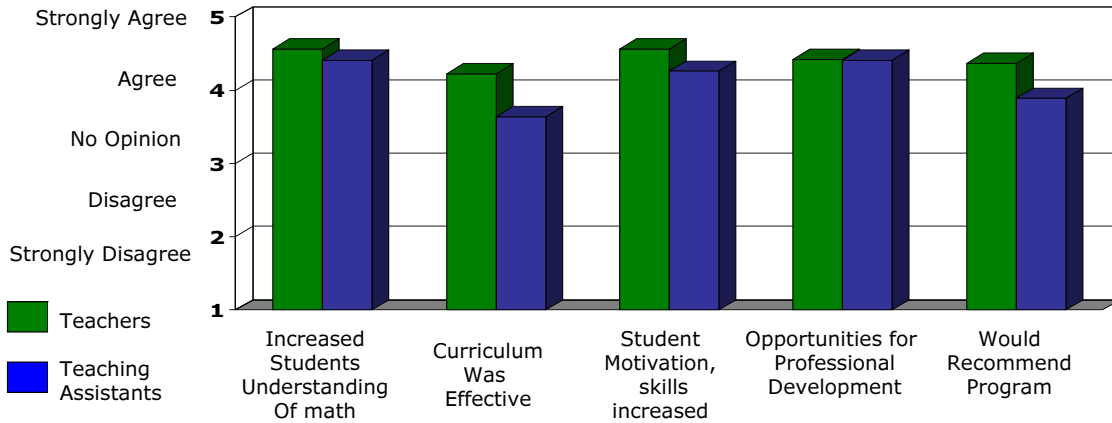
- Professional Development
- Team teaching
- Intervention strategies
- Collaboration on best practices
- Interactive Activities -RAFT, Solar Day
- Work with Navigator Coaches

“The ability to train with teachers from other districts is awesome.”

“[The program] definitely helped me become a better teacher. The curriculum helped to teach concepts, not just rules without any understanding.”

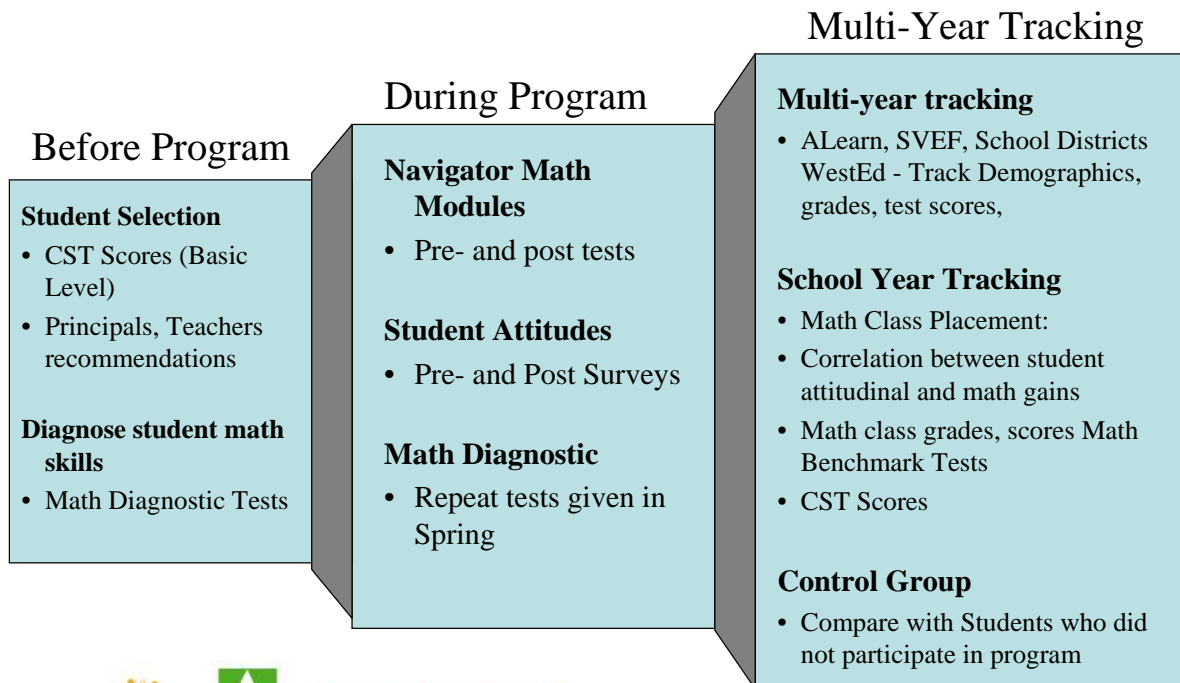


Teachers and Teaching Assistants Give High Scores to Program



“I was surprised how much the students changed over the 4 weeks. They went from not wanting to be in summer school and hating math and teachers to loving math, feeling confident, and building relationships with their teachers and TAs.”

Comprehensive Assessment Multi-Year Tracking of Student Success



What to Maintain in the Program

- Goals and Focus of Program
- Navigator Curriculum
 - Very engaging, foundational
- College Focus
 - College student T-As
 - College Night, Campus Visits
- Strong Teacher – T-A development, collaboration



“I think this is an excellent math program that has kept my students engaged and has enriched their learning experiences.”

--- Teacher



What to Improve in the Program

- School district support varied per district
 - Need more focus on student recruitment during Spring
 - Better communication with teachers during recruitment process
- Coordination and communication
 - Overseeing 11 school sites was a challenge
- More efficient assessment process
 - Pre-program test tracking
 - WestEd data repository should help



MAP SUTA Program 2010: Summary

- Overall, the Program met its Goals
 - Increased Student Achievement in Math
 - Increased Student Learning Skills and Motivation
 - Raised Student Aspirations for College
 - Provided Professional Development for Teachers, TAs
- High Value to School District
 - More students in 7th Grade Pre-Algebra, 8th Grade Algebra
 - Increased Teacher intervention instructional skills
- More students on path to college



MAP-SUTA 2010 Report Appendices

- Math Placement Results
- Student Recruitment Statistics
- Navigator math module results by Classroom
- MDTP Post vs Pre-program test results



Math Placement 2010

District	Math Placement	District	Math Placement
Alum Rock	Moved SUTA students up to Algebra	Oak Grove	Moved SUTA students up to Algebra
Berryessa	Placement determined before summer program; will consider for 2011	Orchard	One level math class for 7 th & 8 th grades
Franklin-McKinley	All SUTA students in Algebra; All MAP students in Pre-Algebra	San Jose Unified	All 8 th grade students take Algebra
Milpitas Unified	All 8 th Grade students in Algebra; All 7 th Grade students in Pre-Algebra	Sunnyvale	Placement determined before summer program
Mt Pleasant	One level math class for 7 th & 8 th grades	ACE Charter	All 7 th grade students in one level math class

Discussions with Assistant Supes of Instruction planned for October to review how next summers programs will be integrated into their math placement procedures

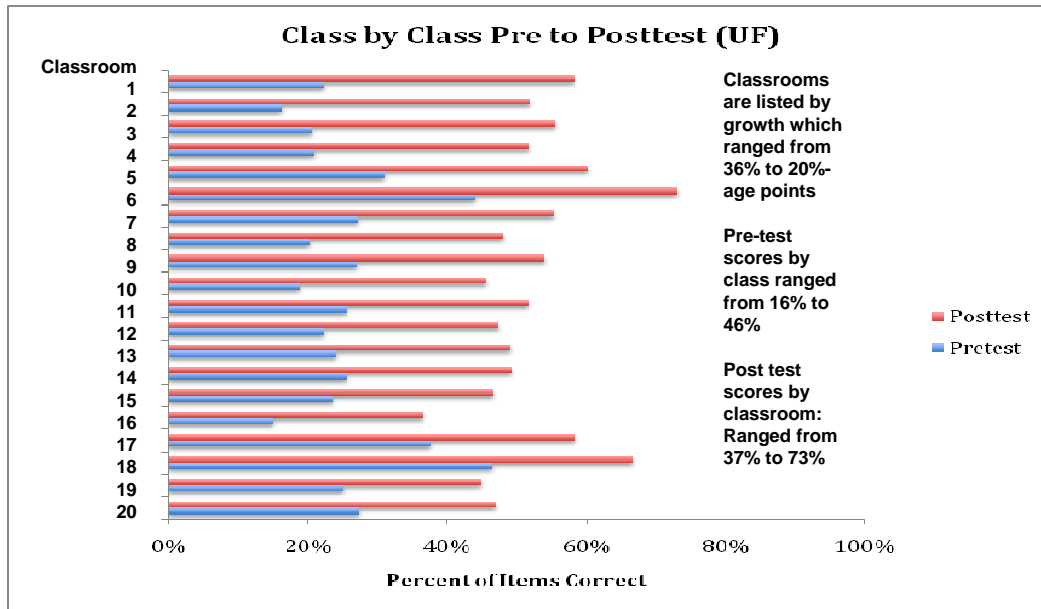


Student Recruitment, Retention 2010

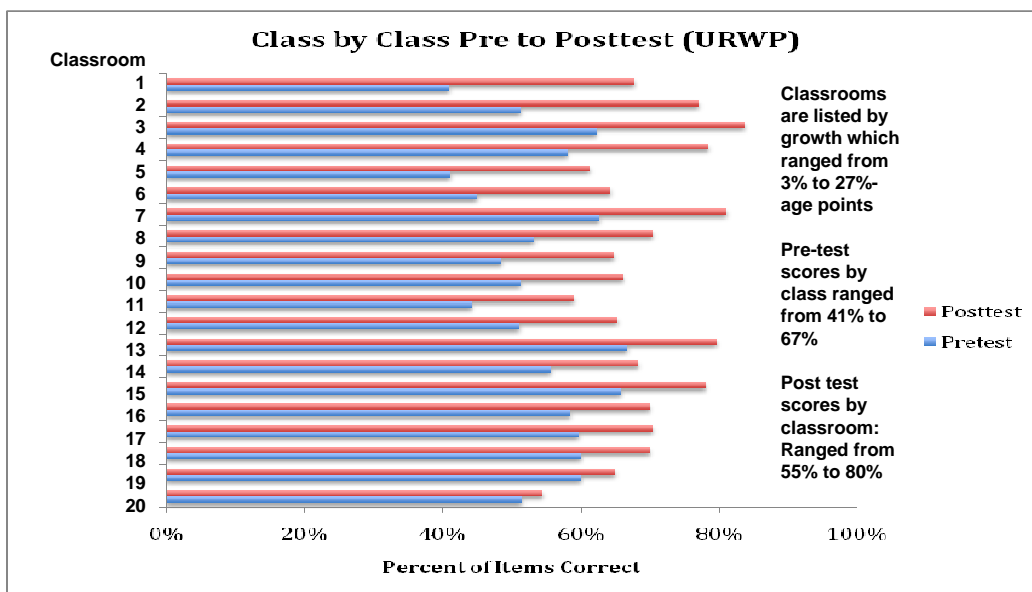
By District	# Classrooms	Program Start		Program End		Retention
Alum Rock	2 MAP, 2 SUTA	103	~26/class	77	Down 26	75%
Berryessa	2 MAP, 2 SUTA	114	~28/class	106	Down 9	93%
Franklin-McKinley	2 MAP, 2 SUTA	120	~30/class	107	Down 13	89%
Milpitas	2 MAP, 2 SUTA	118	30/class	101	Down 17	86%
Mt Pleasant	2 MAP, 2 SUTA	81	~20/class	54	Down 27	67%
Oak Grove	2 MAP, 2 SUTA	105	~26/class	92	Down 13	88%
Orchard	1 MAP, 1 SUTA	47	~24/class	38	Down 9	81%
San Jose Unified	4 MAP, 4 SUTA	195	~ 24/class	146	Down 49	75%
Sunnyvale	2 MAP, 2 SUTA	89	~22/class	73	Down 16	82%
ACE Charter	1 MAP	19	19/class	23	Gained 4	121%
All SUTA	19 Classrooms	497	~26/class	397	Down 100	80%
All MAP	20 Classrooms	494	~25/class	420	Down 74	85%



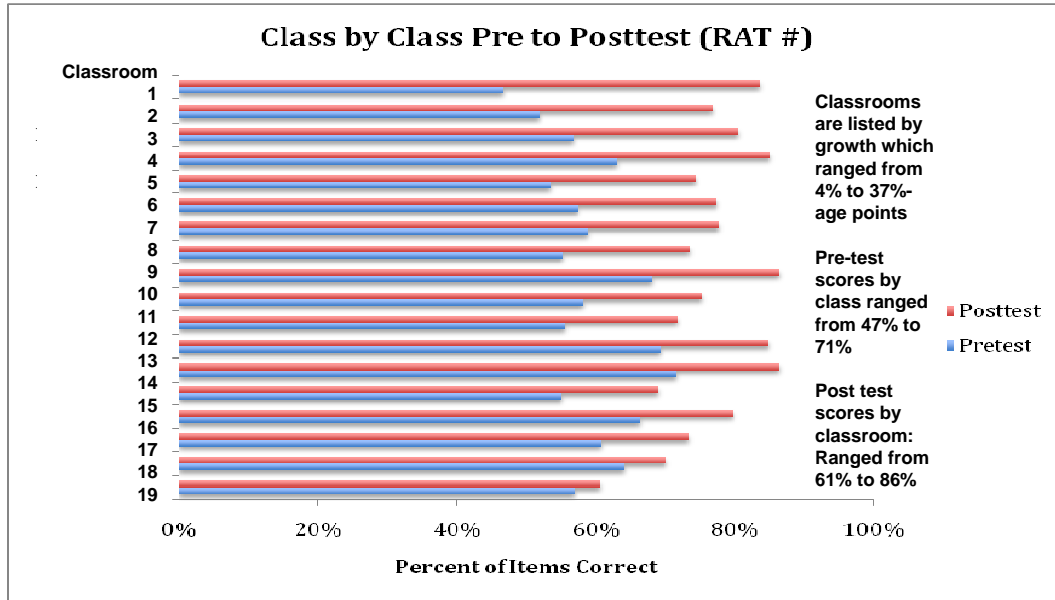
Navigator Results - MAP Understanding Fractions



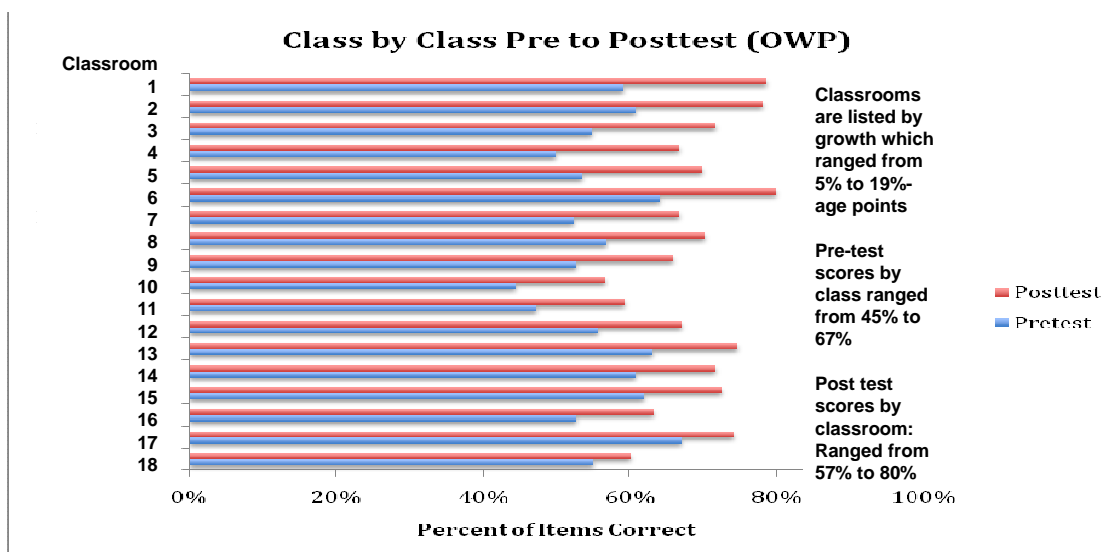
Navigator Results - MAP Reading/Understanding Word Problems



Navigator Results - SUTA Rational Numbers



Navigator Results - SUTA Operations & Word Problems



MAP: Pre-Algebra Readiness MDTP Results

From Bruce Arnold, Director CSU/UC MDTP, 9-29-2010
MDTP results from AR, BE, FM, Mil, MtP, OG, Orch, SV

- Overall: 7%age point gain from Pre to Post
 - Pre-Test 45% average overall; Post-Test 52% average overall
- All topic scores showed increases
 - from 3% for Integers to 10% for Geometry
- Pre-Test Results: Weakest topics: Fractions/Decimals, Graphical representation, Geometry
- Post-Test Results: Weakest topics: Fractions/Decimals, Graphical representation, Geometry – but show growth
 - Graphical representation score average 46% and only 18% students meet/exceed critical level
- Teachers should review reports specific to their students



SUTA: Algebra Readiness MDTP Results

From Bruce Arnold, Director CSU/UC MDTP, 9-29-2010
MDTP results from AR, BE, FM, Mil, MtP, OG, Orch, SV

- Overall Gain: 4%age points from Pre to Post
 - Pre-Test: 54% average; Post Test: 58% average
 - Fractions gained 7%age points
 - Data Analysis dropped 1%age point
 - Other topics showed gains
- Pre-Test Results: Fractions weakest topic
- Post-Test Results: Fractions, Geometric objects, Graphing showed growth but remain weakest topics
 - 30% of students reached critical level for Graphing
- Teachers should review reports specific to their students

