



Ascend Math Best Practices

“Closing Math Skill Gaps Increased Student Achievement, Improved Assessment Scores and Boosted Student Confidence” By Gil-Rey Madrid, Principal, Fort Stockton Middle School, TX

Challenge

As with so many other schools around the country, it was apparent that, school-wide, too many of our students were struggling with Math, performing significantly below grade level. Many of our students came to us with skill gaps of up to six or seven years, for which they had to attain proficiency within three, two or, unfortunately, even one year. How could we reasonably expect our teachers to prepare students for higher-level Math when many of their students were still functioning at such low-grade levels?

Over the years, we tried several Math intervention approaches, but many of our students still did not understand the concepts and continued to perform at significantly lower-grade levels. We knew we needed to find a different Math intervention solution that would enable our teachers to teach the concept at grade level, but also meet the needs of those lower-grade level students, supporting a diverse set of needs and different learning styles.

Research shows that if our students fail Science and Math in the 6th grade, it will increase their risk of dropping out, and we wanted to decrease the likelihood of that happening to our students. We knew that the Math intervention solution we chose had to identify the skill gaps not mastered in earlier grade levels, and then deliver targeted instruction to close those gaps through a prescriptive course plan that would quickly bring them up to grade level.

We wanted a solution with a strong instructional component that was designed by real teachers for struggling Math learners. To support our diverse student population, we needed quality video instruction with extensive, descriptive graphics. Also, to help our students with the more difficult Math concepts, we needed educational explorations, manipulatives, and practice to reinforce learning. Other critical needs included easily accessed ongoing assessments and understandable reports for teachers, students, and parents to measure progress. In addition, we needed all of this at an affordable price.

Solution

Fort Stockton Middle School, located in west Texas, serves 540 students in a district of 2,378 students. 65% of our students are economically disadvantaged, 412 are minority students, and many are English language learners. While Fort Stockton Middle School has a rich tradition of

outstanding student achievement and provides a sound, standards-based education, some of our students continued to demonstrate weaknesses in Math achievement year after year.

We turned to Ascend Math, a complete Math intervention program, which combines continuous assessment, targeted instruction, prescriptive tutorials, and powerful reporting tools to give students a direct route to improved Math performance. The instructional components of the Ascend Math program are incredible. Master teachers give systematic, step-by-step instruction for the students in a particular concept. The research was compelling, demonstrating that Ascend Math closed math gaps two or more grade levels in a semester.

We identified students with the greatest need in closing the math gaps as the first cohorts of Ascend Math students. These students were those failing their Math class at grading periods, special education students, the Texas Discipline Alternative Education Program (DAEP), our attendance credit recovery Saturday school students, and 8th graders who failed the state assessment in Math for several years.

Prior to using Ascend Math, students were assigned 30 minute tutorials with Math teachers, three times per week. This proved to be ineffective and failed to produce the improvements that were so critically needed. Integrating Ascend Math gave our teachers the opportunity to work with more students throughout the week and helped struggling students get back on track. Our teachers particularly appreciate Ascend Math as a complete Math intervention solution that begins by diagnosing students' strengths and weaknesses and follows up by prescribing and delivering targeted instructional activities ensuring consistency of progress monitored by ongoing formative assessments.

Implementation

We began with any student who failed their Math class for any grading period and expanded to students in a Saturday attendance credit recovery. All students remanded to the DAEP program were assigned to Ascend Math, and we regularly added students based on identified needs. Students used Ascend Math during their regular Math class along with an after-school lab for 90 minutes, two to four times per week. They typically spent 6 to 12 weeks learning with Ascend Math.

Results: Year One

The staff at Fort Stockton Middle School has widely embraced Ascend Math after seeing the significant improvement of our students' math skills. The impact Ascend has had on our school is tremendous. Teachers can tell which students are on the Ascend math program because of their improved math abilities, skills in the classroom, and on their assessments.

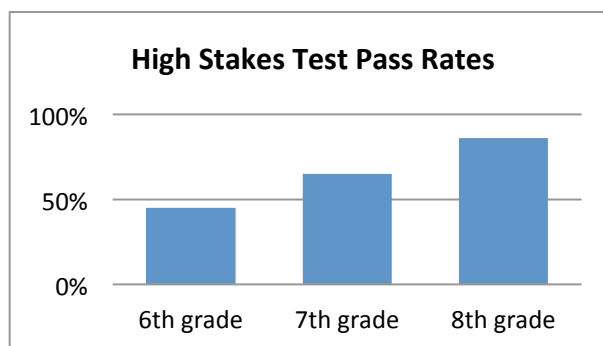
Recently, we had forty-six 8th grade students who failed the TAKS state assessment test in Math on the first administration. We took those 46 students and put them on Ascend Math for three weeks. Four days per week they worked on the program for 75 minutes after school, as well as 4 hours each Saturday. During these three weeks, the students worked on Ascend

between 6 to 9 hours. Almost half of the students on Ascend passed the TAKS test on the second administration. Those that did not pass their second attempt only missed passing by one or two questions. They are predicted to pass on the last administration.

Other results during the last six months:

6th Grade: 69 students doing Ascend 1-2 hours a week resulted in a 45% pass rate. Of those that did not pass, four students gained more than a year's progress in Math on the TAKS test.

7th Grade: 26 students doing Ascend 1-2 hours a week resulted in a 65% pass rate. Of those that did not pass, three students gained more than a year's progress in Math on the TAKS test.



8th Grade: 60 students doing Ascend 1-2 hours a week resulted in a 63% pass rate. Of those that did not pass, 12 students gained more than a year's progress in Math on the TAKS test. After the second administration of the TAKS test, the entire 8th grade pass rate rose from 74% to 86%. The only real difference was the use of Ascend Math for three weeks during which time the students worked between 6-9 hours each week before the second administration of the test. A selective few had never passed a TAKS Math test in middle school, or their entire academic lives, until this year. We attribute this success to the use of Ascend Math.

A particular achievement that comes to mind involves a special education student who was motivated to work over 23 hours on the Ascend Math program. This student received a commended performance on the state assessment in Math.

Some Keys to Success

1. Having worked in the district for 15 years, I was well positioned to propose to teachers and parents that the Ascend Math program was something different.

I demonstrated how teachers would be able to spend more time working with their struggling students and less time creating lesson plans for the extra tutorials. I could also show that teachers using Ascend were doing better with their struggling students. The little resistance quickly faded as successes became apparent.

2. A major aspect was getting students to work on the program with fidelity. After meeting with students and parents, a rigorous schedule was implemented. Automatic daily phone calls and second phone calls to parents helped as a reminder of the next day's schedule. Students who missed a tutorial session were assigned a make-up day.

3. Parental buy-in was important!

"My child has needed something that they can work on at home that reviews the Math with them. I have trouble helping my kid when I don't really understand the Math. Ascend does this for my child." -Parent

How are students feeling?

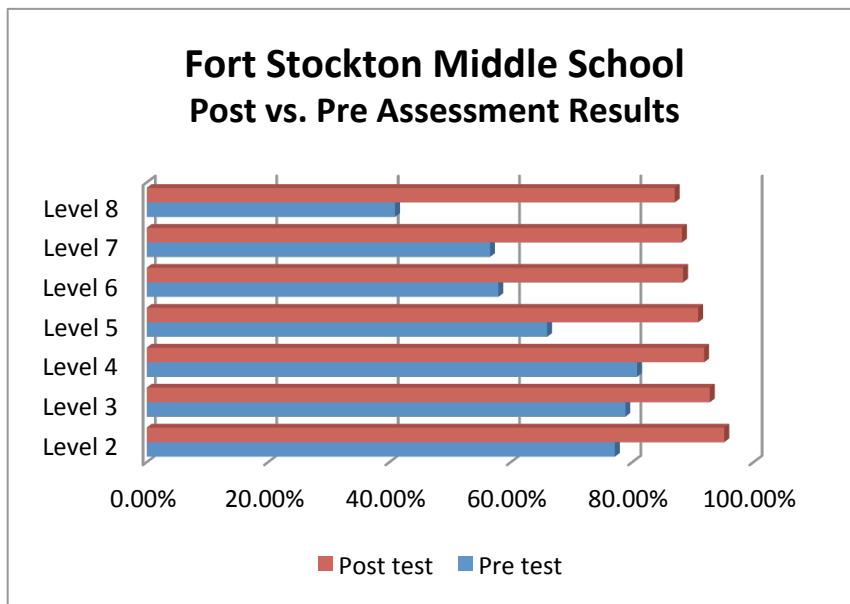
"I was able to work out the problems the way it showed me how to on Ascend Math."- Student

"I understand math more than I used to." - Student

4. Professional Development: Teachers were trained by Ascend on all aspects of the program including how to set goals for students and interpret readily available reports to easily monitor their progress. Our teachers viewed how Ascend could supplement their teaching and how it addresses many different learner needs that are difficult to meet during the regular school day.

5. Feeder School Buy-In: Close collaboration with our feeder school was important so that skill gaps at the lower grades were closed as much as possible before students entered middle school.

"All our bi-lingual 5th grade students passed the Math TAKS test and they were all on Ascend Math."-Principal, feeder school



We are going to continue our use of Ascend Math at Fort Stockton Middle School and are looking at creative ways to schedule class time throughout the day for those students who are struggling most with Math.

As for our district plans, the high school principal stated, *"If you're having that much success with your students on Ascend Math, I wonder if we need to be using it as*

well since you have got the 4th/5th grade campus started on it." Our Superintendent was even more excited about the potential for the entire district saying, *"Wow! Ascend Math is working well with our students! We need to take a look at expanding its use on other campuses where we have students struggling in Math. Ascend Math is a winner and a keeper!"*

Results: Year 2

Even after the previous partial year of improvement we had 112 students who did not pass the TAKS (end of year) test. These students were placed in a math study hall where they used the Ascend Math program throughout the school year. Pass rates for these students went from 0% the prior year to 70% passing.

It's important to note that we did not meet Adequate Yearly Progress (AYP) for math the previous year. In this second year of implementing Ascend Math we not only met AYP, our students achieved the highest performance in math of any middle or junior high school in our region. Looking at the AYP TAKS Bridge study, which is how we track AYP in Texas, you can see the substantial improvement. Passing rates for all students improved from 77% to 86%. Our LEP students went from 53% to 75% passing. Economically disadvantaged students went from 73% to 82% passing.

Fort Stockton Middle School	2010-2011 AYP	2011-2012 AYP	Gain/Loss
All Students (498)	77%	86%	+9%
African American (1)	0%	100%	+100%
Hispanic (430)	74%	84%	+10%
White (62)	97%	95%	-2%
ECD (325)	73%	82%	+9%
Special Ed (30)	65%	67%	+2%
LEP (79)	53%	75%	+22%

Beyond Year 2

From the onset, our biggest challenge came from those students who in 2011 were in the sixth grade. There were over 200 in that class, while our other two grades levels (7th and 8th grade) were at about 150 students each. These students had a large number of failures on past state assessments. We quickly learned that this group of students required special attention. We handpicked their teachers, changed their tutorial schedules, and allocated resources for a dedicated math computer lab.

6th	7th	8th
69%	82%	96%
2011	2012	2013

+ 27%

The initial passing rate for these sixth graders in the spring of 2011 was 69%. By the Spring of 2012, during the second year of implementation their passing rate increased to 82%. This was after intense interventions focused on closing math skill gaps utilizing Ascend Math.

After the second year of implementation I moved on from the middle school campus accepting the position of principal at the Fort Stockton High School. Luckily, the former assistant principal at the middle school (now the

principal) along with the math teachers, and staff, have continued the great implementation we began three years ago resulting in great results for these formerly struggling students.

At the conclusion of the 2012-13 school year, as eighth graders, these students jumped to a 96% passing rate in math. That's an improvement of 27% in the passing rate for a group of students that two years ago was in need in of improving. The middle school also received two academic distinctions from the Texas Education Agency. The academic distinctions were Academic Achievement in Mathematics and Top 25 Percent Student Progress. We are proud of what our students, staff, and school have accomplished with the help of Ascend Math.

To learn more about how Ascend Math students are realizing significant gains at other schools and districts, visit www.ascendmath.com or call 1.877.843.0277.