

## Research Rationale and Case Studies of Success

### A 2015 Briefing for Texas Educators

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As Texas transitions to new, more rigorous, learning standards, educators rightly fear the likelihood of initial decreases in student achievement on high-stakes assessments: Decades of research on the implementation of new instructional systems point to initial declines before gains occur. The transition to new standards is taking place at the same time as the implementation of new systems to evaluate teacher and principal effectiveness, compounding the anxiety teachers and leaders experience.

Since our founding collaboration, Agile Mind and the Charles A. Dana Center at The University of Texas at Austin, in collaboration with other education leaders, have worked to provide the highest quality research-based programs, tools, and services to America's middle and high schools. Data from Agile Mind partners indicate that the effective implementation of our programs, which support learning at the depth and rigor specified by the Texas Essential Knowledge and Skills and Texas College and Career Readiness Standards, can help mitigate the disruptive effects of these changes. Even in a first year – and particularly with multi-year partners – programmatic enactment of Dana Center/Agile Mind course programs results in dramatic growth in student achievement and provides the professional supports that educators need to meet the challenges of demanding courseloads.

In education there are no silver bullets. Research on the adoption of new innovations in education has clearly demonstrated that – even when transformative results are achieved – the path to comprehensive implementation is arduous (Hamilton, et al., 2008). Achieving transformative results requires vision, commitment, and persistence. Yet the critical importance of high quality education in science, technology, engineering and mathematics (STEM) has never been more urgent for our nation. The studies of Clifford Adelman, for the U.S. Department of Education, have identified the completion of advanced courses in mathematics and science as the strongest predictor of college success (Adelman, 1999, 2006). Other studies conclude that the quality of that coursework is more closely correlated to the attainment of a bachelor's degree than high school grades or college entrance exams (ACT, 2006 and ACT, 2010). In short, the quality of secondary science and mathematics instruction is crucial in preparing students for success in post-secondary education and equipping learners for vibrant participation in our economy and as citizens.

The Dana Center and Agile Mind respectfully partner with dedicated educators to nurture their students' intellectual passions and to prepare them for success in postsecondary education and the 21<sup>st</sup>-century workplace.

Our programs, tools, and services are explicitly designed to help education systems to

- broaden student access to rigorous college-preparatory mathematics and science experiences
- transform student engagement, persistence, and high achievement
- support exemplary, sustainable teaching practices.

The following case studies, reported by district partners, highlight the achievements district leaders who implement with fidelity can expect to achieve.

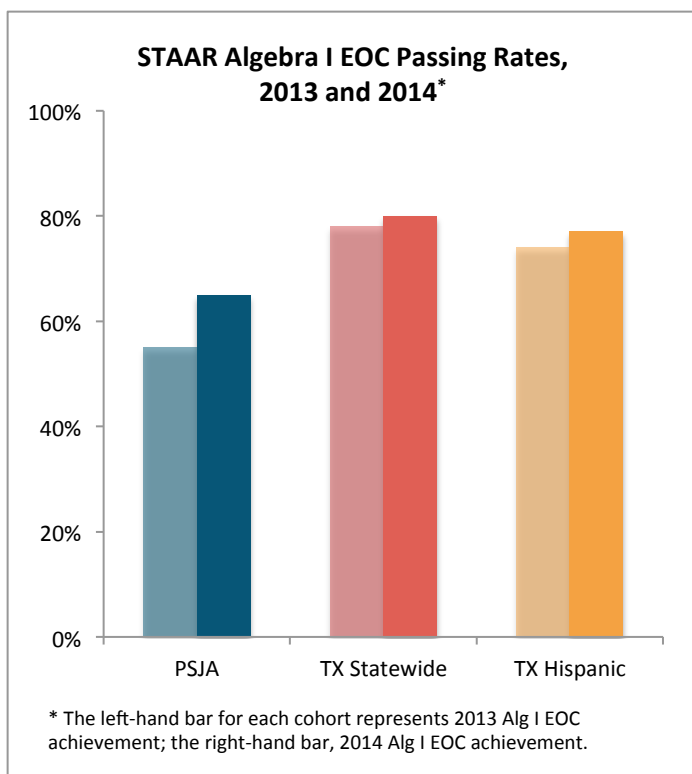
## Pharr-San Juan-Alamo, TX

Pharr-San Juan-Alamo Independent School District (PSJA) is in Pharr, Texas in the Rio Grande Valley. The district serves more than 30,000 students, 99% of them Hispanic, and more than 90% designated as Economically Disadvantaged.

The district's comprehensive, innovative approach and proven results have garnered the attention of many national publications. The U.S. Department of Education, the Texas Education Agency and local, state, and national elected officials have highlighted PSJA ISD for its solutions to the dropout crisis and for its success in preparing students to be college ready. PSJA has been identified as a national model for putting dropouts "Back on Track to College" by Jobs for the Future (JFF). JFF is working to expand key components of the model to other states across the United States.

PSJA enacted Dana Center/Agile Mind Algebra I as a supplement for several years before electing to adopt a programmatic approach starting in 2013-14. In their first year of comprehensive enactment,

- The district achieved an 18% gain in student achievement in Algebra I.
- Statewide gains were 2.5% over the period.

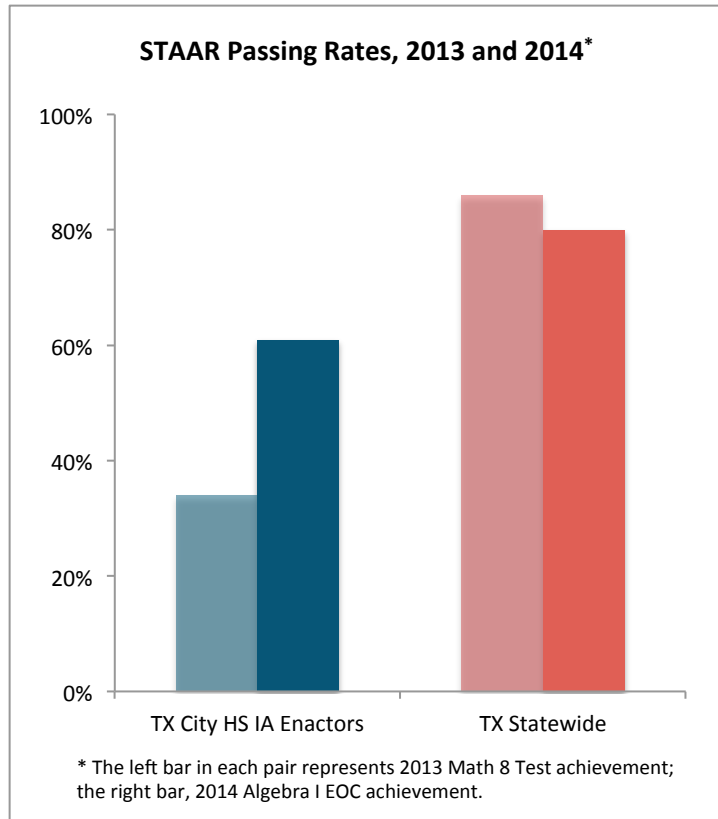


## Texas City, TX

Texas City Independent School District serves the city of Texas City, southeast of Houston, TX. The district serves 7000 students in a city of 45,099, as of the 2010 census. The student population is 40% Hispanic, 38% White, and 21% African American.

In 2013, district leaders decided to work to address the lack of student success in mathematics, focusing on those students designated as 1-3 years behind as measured by 8<sup>th</sup> grade achievement outcomes, as a part of their overall strategy. Several highlights of their success:

- Texas City ***Intensified Algebra*** students increased their passing rates between 8<sup>th</sup> grade mathematics and Algebra I by 79%.
- State wide, students showed a decrease of 6.9% in passing rates between 8<sup>th</sup> grade mathematics and Algebra I.



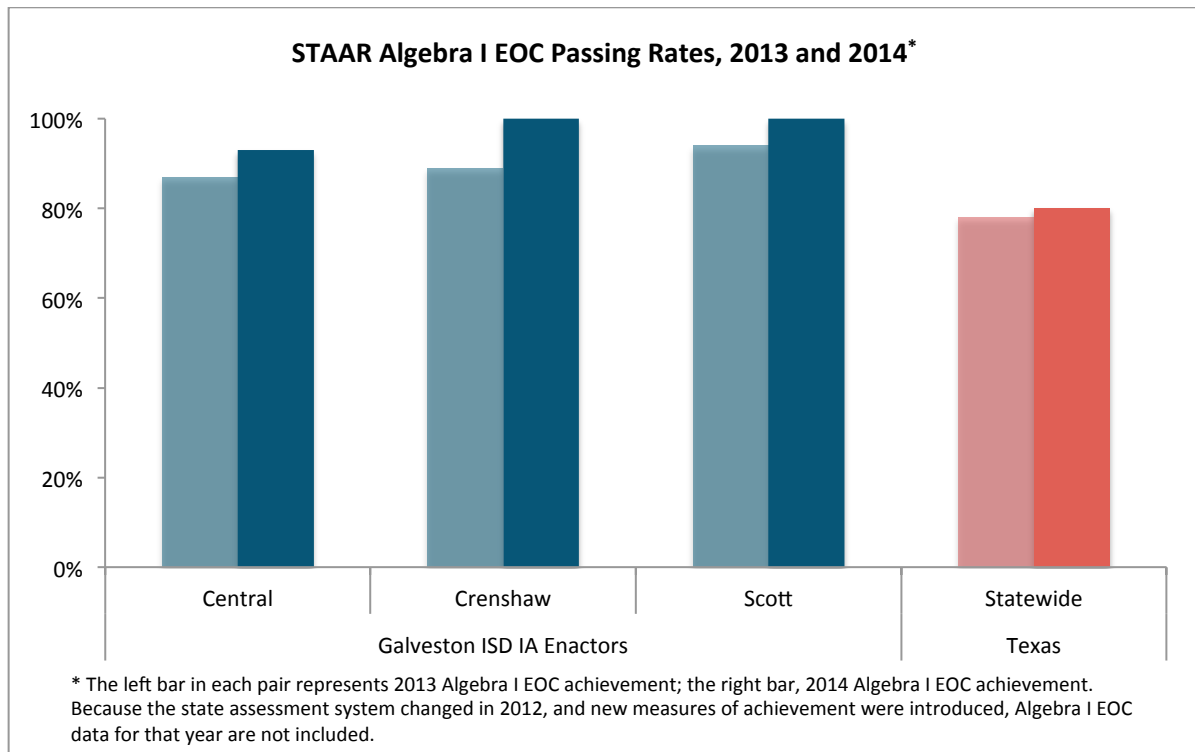
## Galveston, TX

Galveston ISD serves 6350 students in the coastal city of Galveston, located on Galveston and Pelican Islands. The community has a population of 47,762. The student population is 25% White, 25.7% African American, and 47% Hispanic, and 69.2% of students are designated Economically Disadvantaged.

District leaders decided to enact ***Intensified Algebra*** for those students whose achievement, as of 8<sup>th</sup> grade, indicated they were 1-3 years behind grade level. They believed that the program's intensification strategies, combined with the double period experience, could restore students to on-grade-level achievement within a year.

Galveston has enacted the ***Intensified Algebra*** program in 3 of 6 schools. Over the 2 years of the program enactment students have, for each of the years, outperformed students deemed to be at grade level.

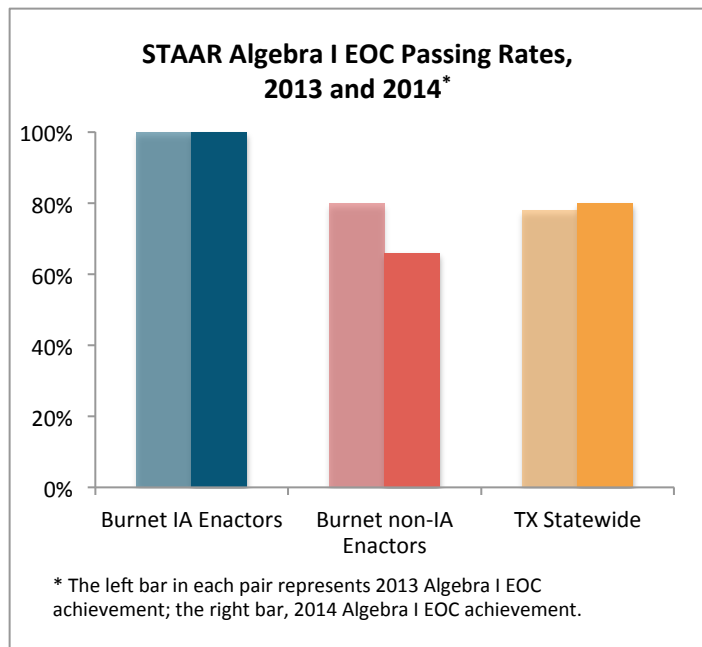
Where the district overall showed growth of 10%, from 68 to 75% of Algebra I students passing, the three participating schools showed both higher overall passing rates and gains from 7 to 12.5 %, for *Intensified Algebra* students.



### Burnet Consolidated Independent School District, Texas

The Burnet Consolidated Independent School District (CISD) serves students of Burnet, a town of almost 6000 in Central Texas, as well as those of families in surrounding areas. The district serves 3,300 students, 60% of whom are economically disadvantaged.

In 2012-13, Burnet CISD began implementing *Intensified Algebra* with some 8<sup>th</sup> grade students. This represented a change in policy for the district, as Algebra I had not been an option for any 8<sup>th</sup> grade students the prior year. Because of the success of participating students, the district expanded the offering of Algebra I in the 8<sup>th</sup> grade, as a part of its strategy to create a college-ready culture.



Data on the initiative point to early benefit to middle school students from this change. Every 8<sup>th</sup> grade student enrolled in *Intensified Algebra* passed the state- administered Algebra I End-of-Course exam (100%) in both years, while those students in single block Algebra achieved a passing rate of 79.6%. More than twice as many of the *Intensified Algebra* students achieved at the commended level as compared to those in typical Algebra I courses.

## **Rio Grande City, TX**

Rio Grande City is located in the southern tip of Texas, on the border of Mexico. Rio Grande City High School (RGCHS) serves 2,000 students, 99% of them Hispanic and over 95% Economically Disadvantaged.

RGCHS has partnered with Agile Mind to support high-quality mathematics instruction since 2003. The partnership began with a handful of Algebra I teachers. It now encompasses the Dana Center/Agile Mind Algebra I, Intensified Algebra, Geometry, and Algebra II programs as the primary mathematics curriculum for the school. Over our 12 years of partnership, RGCHS students have made significant gains in achievement, and now, since 2008, consistently outperform their Texas peers.

In 2003, the passing rate on the Texas Assessment of Skills and Knowledge (TAKS) for RGCHS' 11<sup>th</sup> graders trailed the statewide average by almost 30%. Over the next 8 years of partnership,

- The RGCHS 11<sup>th</sup>-grade TAKS passing rate increased to 95%, compared to a 20% increase across the state
- Between 2008 and 2011, RGCHS 10<sup>th</sup> graders outperformed their Texas peers on TAKS -- in 2011, the RGCHS pass rate for 10<sup>th</sup> graders exceeded the state's by 16%

In 2012 Texas initiated a major shift in statewide assessment, implementing the State of Texas Assessments of Academic Readiness, or STAAR, as the new system of end-of-course exams. In each year since that time, RGCHS students have significantly outperformed their Texas peers, in each of the past 3 years, have exceeded both the state average and, by a wider margin, and have exceeded that of Hispanic and Economically Disadvantaged students. This means that, while students across the state struggled with the transition to a new testing system, with the statewide pass rates for the Algebra I exam flattened from 2012 to 2014, RGCHS students have maintained outstanding achievement.

This year, the district was named Top 25% in Closing Performance Gaps and tied for first place among Texas schools.

## Rio Grande City ISD Implementation of *Intensified Algebra*

In 2013-2014, RGCHS district leaders decided to work to address the lack of success in mathematics among those students who had not passed the 8<sup>th</sup> grade STAAR test. Those students were chosen to participate in *Intensified Algebra* for the year. This program is intended, through a set of research-based intensification strategies, including a double-period of instruction, to support students who are 1-3 years behind succeed in recovering lost time and in achieving at grade level within a single year.

- Participating students achieved an 88% passing rate on the Algebra I End-of-Course Exam in 2014
- Achievement of students in the state over all between 8<sup>th</sup> grade mathematics and Algebra declined 6.9%
- Achievement of Hispanic students in Texas between 8<sup>th</sup> grade mathematics and Algebra declined 6%

