# The Impact of the Ace it! Component of the Texas Alliance of Boys & Girls Clubs' Academic Innovation & Mentoring Program

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February 2017

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## INTRODUCTION

Texas AIM—the Texas Academic Innovation and Mentoring program—is a partnership between Sylvan Learning, the Texas Alliance of Boys & Girls Clubs, and Boys & Girls Clubs around the state, designed to help students succeed in school. Ace it!, a critical part of Texas AIM, is an academic intervention program that targets those students at risk of *not* succeeding. Through Ace it!, Sylvan Learning provides 30 hours of instruction in math and/or reading, over approximately 10 weeks. It's a modest intervention, a small investment—with a big impact.

This report summarizes findings from two studies designed to assess the impact of Texas AIM. Both were conducted by Rockman et al, a nationally known research and evaluation firm engaged by Sylvan to lead the research.

**STUDY 1,** conducted in 2015 with 3,000 Ace it! 1st–8th graders from Boys & Girls Clubs across Texas, was designed to see if students made academic gains on widely used math and reading progress tests from Pearson Education.

**STUDY 2,** conducted in 2016 with a sub-sample of 200 4th–6th graders, explored whether Ace it! students were making similar strides on the State of Texas Assessments of Academic Readiness (STAAR).

The answer to both research questions was "yes."

These two studies showed that this modest intervention can make a big difference, perhaps the critical difference for minority students in high-poverty areas and low-performing schools who might otherwise fall behind in school—and not catch up.

**STUDY 1**

- Ace it! students made **statistically significant gains** from pre- to post- tests.
- Gains were **consistent across subjects, grades, & metrics**, including Growth Scale Values (GSV) & Normal Curve Equivalents (NCE).
- Students not only performed at levels expected of grade-level peers, but **often exceeded expectations** based on assessment norms.

**STUDY 2**

- A year before the intervention, Ace it! students had reading & math STAAR scores well below statewide "at-risk" averages.
- After the 30-hour intervention, **Ace it! students caught up, making greater overall gains than their at-risk peers**.
- **One year after Ace it!, those gains were sustained**, & students' STAAR scores continued to improve.

### Texas AIM and Ace it! Overview

Texas AIM focuses on students who are at risk of falling behind in school. These are minority, low-income, and limited English proficiency students in low performing schools for whom the after-school and summer all-day Texas AIM programs can, through a combination of skills gap remediation and at-risk prevention services, effectively address student achievement gaps. Since 2009, the Texas Alliance of Boys & Girls Clubs (BGC), in partnership with Sylvan Learning Centers, has provided services to more than 10,000 youth and teens in clubs around the state.

When they begin their Texas AIM participation, students are given diagnostic GRADE or GMADE tests, from Pearson, and placed in one of three Sylvan programs. Students who are performing at or above grade level receive enrichment

instruction as part of the **"GET AHEAD": Academic Camps and Group Instruction**, where they are grouped by grade and ability in camp or group instruction that best fits their needs. Though designed to target teens, this Intervention has also proved effective with younger youth. Students who are performing at grade level are placed in **"KEEP UP": Homework Help** and academic camps targeting core subjects, where they receive targeted support for daily assignments.

Students who are performing below grade level—those most at risk—receive approximately 30 hours of remediation support through **"CATCH UP": Ace it! Tutoring,** managed and administered by local Sylvan franchisees in conjunction with local BGC staff. Sylvan Learning's Ace it! program was designed to serve the remedial needs of students in kindergarten through 8th grade by providing supplemental instruction in reading and/or mathematics.[1] The multiple components of the program include:

- **Small group instruction:** Ace it! teachers provide instruction to small groups of up to eight students.
- **Specialized reading and mathematics curricula:** The reading curriculum, which includes proprietary anthologies, provides instruction in phonemic awareness, phonics, comprehension, vocabulary, and in fluency development. The math curriculum helps students progress from concrete to abstract understanding, through instruction that includes manipulatives, reinforcement of basic mathematic fact knowledge, and application of skills to solve word problems.
- **Student learning plans:** The individual learning plans that guide instructional activities are grounded in an assessment of students' learning needs and aligned with specific learning objectives.
- **Student motivation system:** Program staff use rewards to build students' self-esteem and motivate students to increase their efforts and achieve greater gains.
- **Quality assurance process:** Owners of local Sylvan franchises observe instructors during tutoring sessions and conduct quality audits of the programs delivered at local BGCs. Staff from the Sylvan Inc. national offices also conducts visits to local sites to monitor program implementation.
- **Teacher training:** Ace it! teachers, who receive certification prior to working with students as well as ongoing training, have access to training both on-line and in-person. The online training through Sylvan's proprietary training site, Sylvan University, includes instruction on the Ace it! math and/or reading curriculum, small group management, assessment and placement, and reporting. All teachers also receive up to 6 hours of in-person training from the local franchisee.
- **Standardized assessments:** Ace it! uses the Pearson GRADE and GMADE assessments to measure students' academic gains. Baseline assessments identify gaps in student learning and provide a basis for the development of student learning plans. Post-intervention assessments, administered at the end of approximately 30 hours of instruction, measure students' gains. The results from those pre- and post-intervention assessments form the basis of Study 1.

## SAMPLES AND DATA ANALYSES

[1] Kindergarten students receive instruction only in reading.

## Study 1

The study sample included 2,839 elementary and middle school students who took part in the Ace it! program offered by 11 Sylvan Learning Centers in association with more than 30 Texas BGCs. Approximately half of the students were enrolled in the Ace it! reading programs, and half, in math. Numbers of students enrolled each year varied, but figures were very similar by subject—with an average of 286 students enrolled per year (and included in the study) in reading, and 282, in math. The largest concentrations of students were in the 3rd to 5th grade groups.

**Table 1. Numbers of Students in Study 1, by Grade Band and Subject**

| | Reading | Math |
|---|---|---|
| Grades 1–2 | 431 | 307 |
| Grades 3–5 | 944 | 929 |
| Grades 6–8 | 56 | 172 |
| **Overall** | **1,431** | **1,408** |

Based on incoming or pre-test scores on the GMADE (math) and GRADE (reading) assessments, over 80% of the students in the study were considered low ability. The changes from the pre- to the post- test, administered after approximately 10 weeks (or 30 one-hour sessions) were measured in two ways: Growth Scale Values (GSVs) provide a measure of student achievement that can be compared across all grades and ages over various time periods. It is the assessment's internally derived scaled score. The Normal Curve Equivalents (NCE) is a way of measuring where a student falls along the normal curve. The numbers on the NCE line run from 0 to 100, similar to percentile ranks, which indicate an individual student's rank. NCE scores have a major advantage over percentile rank scores in that they are equal interval scores and can be averaged. As with many other scales related to the normal curve, the average NCE, by definition, is 50. If all students improve in their performance, the mean, or NCE 50, will represent a higher raw score. The standard deviation of NCE is set at 21.06. NCEs were developed for program evaluation and are usually the choice for significance testing.

## Study 2

To compile the STAAR data, Rockman submitted a formal request to the Texas Education Agency (TEA), which assisted in assembling student scores, matching approximately 400 4th–6th graders in Sylvan's Ace it! files whose names, birthdates, and enrollment periods could be confirmed in STAAR data files. TEA is bound by the policies of the federal Family Education Rights and Privacy Act (FERPA), which protect the privacy of student education records. Parents can consent to sharing their children's data, and BGCs do request consents from parents whose students are enrolled in Texas AIM programs, but student mobility, staff changes, the archival capacity of individual clubs—across a five-year time frame—meant that parent consents were generally unavailable. As a result, TEA had to mask certain personal data in the shared files or eliminate certain students from the sample. The masking reduced the numbers of students in the sample and limited Rockman's ability to break results down by grade level, but still resulted in sufficient numbers of students with pre-, post-, and follow-up scores to conduct the study:

- The **READING** sample Included 104 students who were enrolled in Ace it! as either 4th, 5th, or 6th graders (masking prevented researchers from identifying specific grade levels) and who took the standard form of the Texas STAAR (English Version) at three data points: the year prior to their involvement in Ace it!, the year during that involvement, and the year afterwards. The majority (63%) of students in the **READING** sample participated in Ace it! during 2014–15. The remaining students participated 2013–14 (19%) or 2012–13 (18%).

- The **MATHEMATICS** sample included 101 students, who were also enrolled in Ace it! as either 4th, 5th, or 6th graders and who took the standard English version of the Texas STAAR the years prior to, during, and after involvement in Ace it!. Participation in Ace it! was fairly evenly distributed for **MATH** students: 2014–15 (24%), 2013–14 (38%), and 2012–13 (38%).

To calculate the comparison scores—and examine how at-risk students in the same grade range as the students in the Ace it! sample performed on the STAAR during the same time period—Rockman researchers calculated the weighted average of statewide scores for at-risk youth in grades 4–6 during the corresponding school years. *(See the Appendix, p. 11, for a technical description of the sampling and study design.)*

# FINDINGS: STUDY 1

## ➢ *Does participation in the Ace it! program affect students' academic growth?*

Test results from almost 3,000 students with pre- and post-test scores say "yes"—Ace it! had a positive impact on performance. In both reading and math, and for all three grade bands, students made pre- to post-test gains. Students' GSV scores increased by 17 points in **READING** and 10 points in **MATH**; NCE scores increased 9 points in **READING** and 18 in **MATH**. Results generally reflected typical growth trends, with the younger students showing the most growth. GSV and NCE gains from pre to post test for all groups, except for grades 6–8 in reading, were statistically significant.

### GSV Results

- In **READING**, 1st and 2nd graders' GSV scores on the GRADE test rose 27 points, from 351 to 378. Pre- to post-test gains were smaller for students in grades 3–5, but students still made, on average, a 15-point gain. Sixth through eighth graders' scores increased by narrower margins. (See Figure 1.)

- In **MATH**, students in grades 1–2 and 3–5 made similar GMADE gains from pre- to post-tests, at 11 and 10 points, respectively. (See Figure 2.)

**Figure 1. READING: GRADE Pre- and Post-GSV Scores**

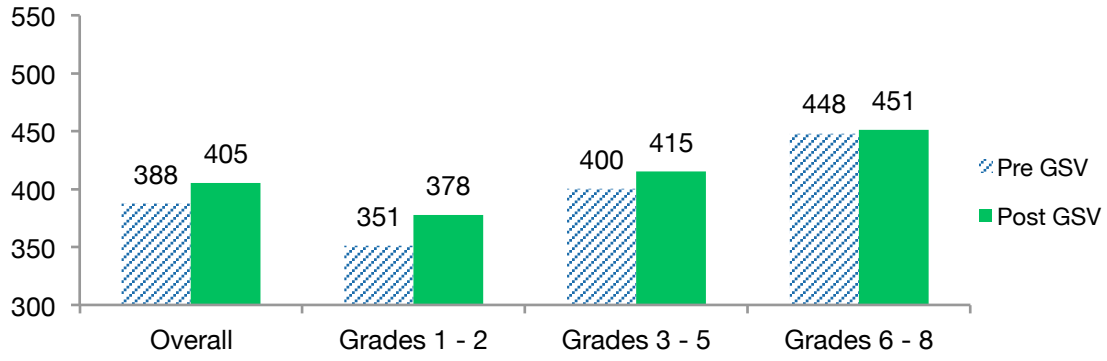
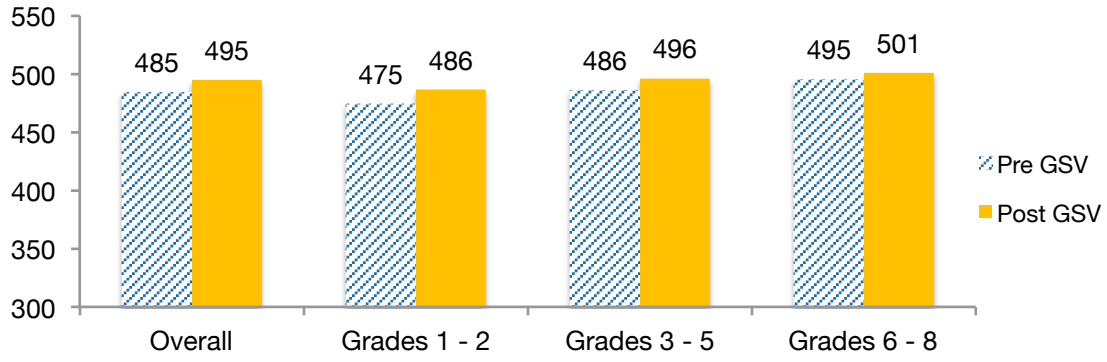



**Figure 2. MATH: GMADE Pre- and Post-GSV Scores**



## NCE Results

The NCE results also show pre- to post-test gains—again in **READING** and **MATH**, and again across grade bands.

- In **READING**, NCE scores among 1st and 2nd grades rose 15 points; 3rd through 5th graders' scores improved by 9 points, and 6th through 8th graders' scores, by 2 points. (See Figure 3.)
- In **MATH**, students in grades 1–2 and 3–5 made similar NCE gains, of 21 points and 18 points respectively.
- 6th through 8th graders' **MATH** performance, based on NCE scores, increased by 11 points from pre- to post-tests. (See Figure 4.)

**Figure 3. READING: GRADE Pre- and Post- NCE**

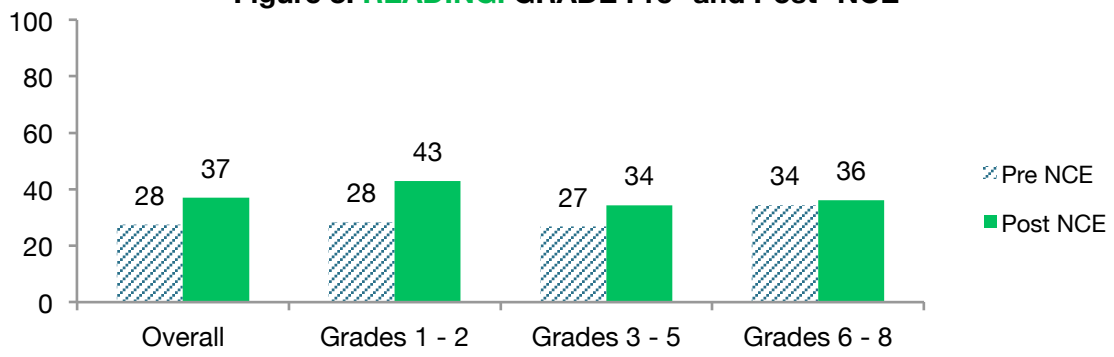
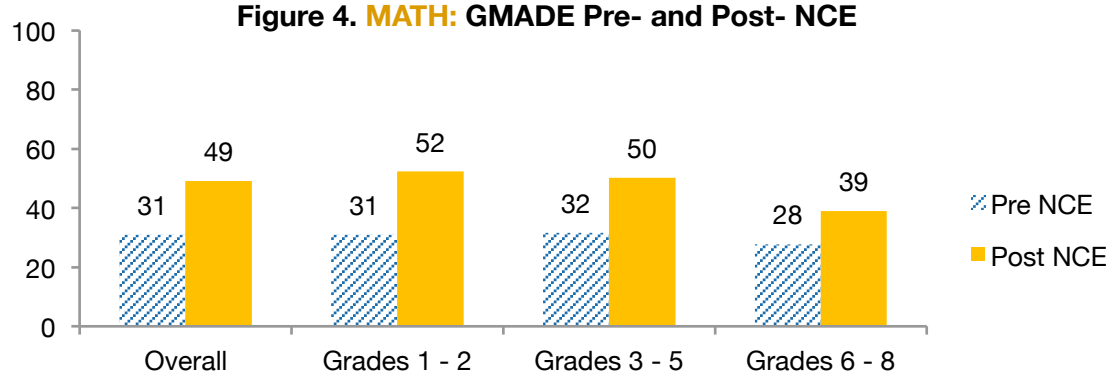



**Figure 4. MATH: GMADE Pre- and Post- NCE**




# FINDINGS: STUDY 2

### ➢ *Do Ace it! students' STAAR scores reflect similar academic growth?*

Again, results say "yes"—overall, the analysis of the STAAR data indicated that Ace it! bolsters students' performance in both **READING** and **MATH**, further confirming the initial findings from the Ace it! progress assessments. Pre-test scores confirmed Sylvan's identification of the Ace it! students as the most at-risk, even among a population of students at risk of falling behind. The Ace it! group started around 30 points *below* the statewide average among at-risk students, but after just 30 hours of the Ace it! supplemental instruction their average gains exceeded the state at-risk average.[2]

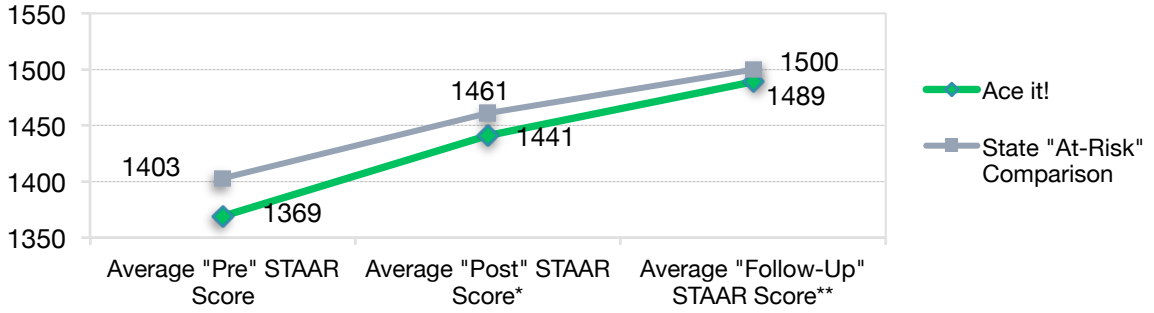
[2] *NOTE: In the discussions of Study 2 findings,"post" STAAR score* refers to the scores posted by students at the end of the Ace it! intervention year; the "follow-up" score** refers to the year after the intervention year. The "statewide at-risk average"*** refers to the weighted average based on grade level and testing year.*

## STAAR Performance in READING

Ace it! students had an average pre-test score of 1369 on the STAAR **READING** test, 34 points below the statewide average among at-risk students of 1403. After the intervention year, they were catching up; a year later, gains were sustained.

- By the post-test, Ace it! students had narrowed that gap, with an average post-test score of 1441, compared to the statewide at-risk average of 1461.
- A year after the intervention year, growth continued: Ace it! students had caught up to their peer statewide at-risk group, with average scores almost on par, or 1489 vs. 1500. (See Figure 5.)

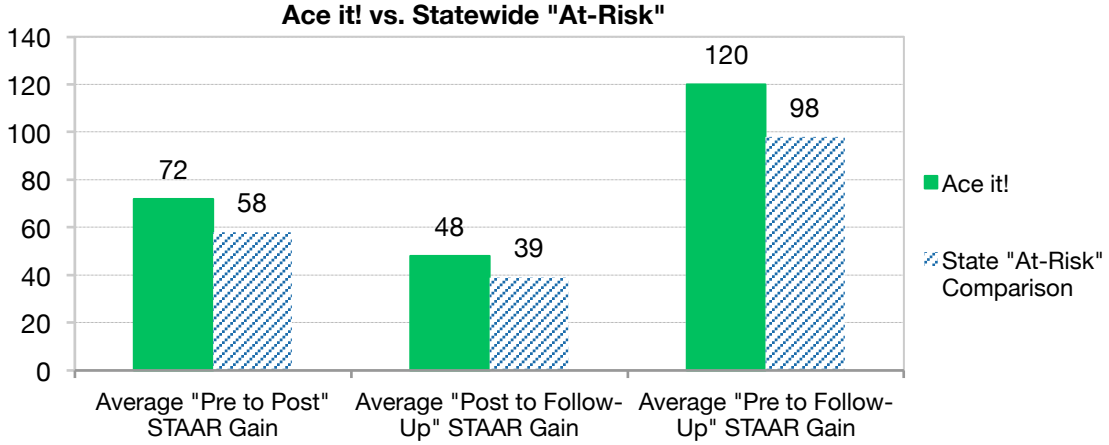
**Figure 5. READING: Pre, Post, & Follow-up STAAR Scaled Scores—Ace it! Average vs. Statewide "At-Risk" Average*****




Most students make gains from a pre-test to a post-test, but data showed that Ace it! students saw *greater* gains.

- The average pre- to post-test gain for Ace it! students was 72 points, compared to 58 points for the state at-risk average.
- A year later—a year after the Ace it! intervention—the difference was 48 vs. 39 points. The overall gain from the pre-test administered prior to the Ace it! intervention, to the post-test two years out, was 120 points for the Ace it! students, compared to the 98-point state-wide at risk average. (See Figure 6.)

**Figure 6. READING: Pre, Post, & Follow-up STAAR Scaled Score Gains—Ace it! vs. Statewide "At-Risk"**

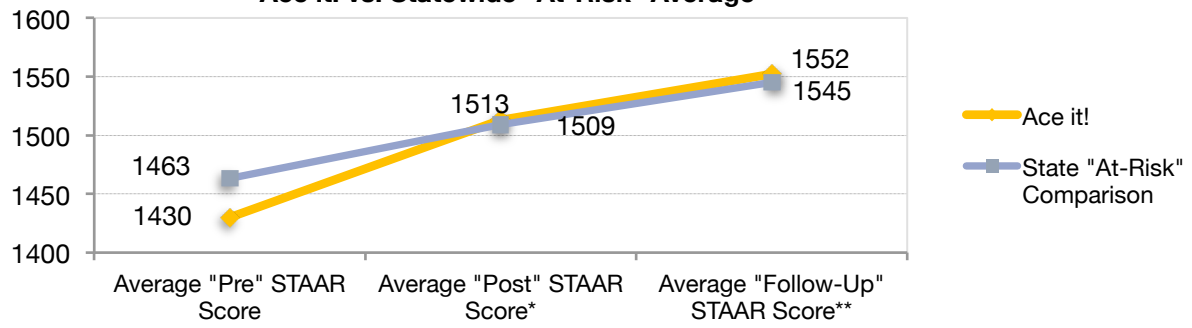


## STAAR Performance in MATHEMATICS

In **MATH**, the Ace it! students again started lower and made greater gains, after the 30 hours of remedial instruction, not only catching up to the state at-risk average but edging above it.

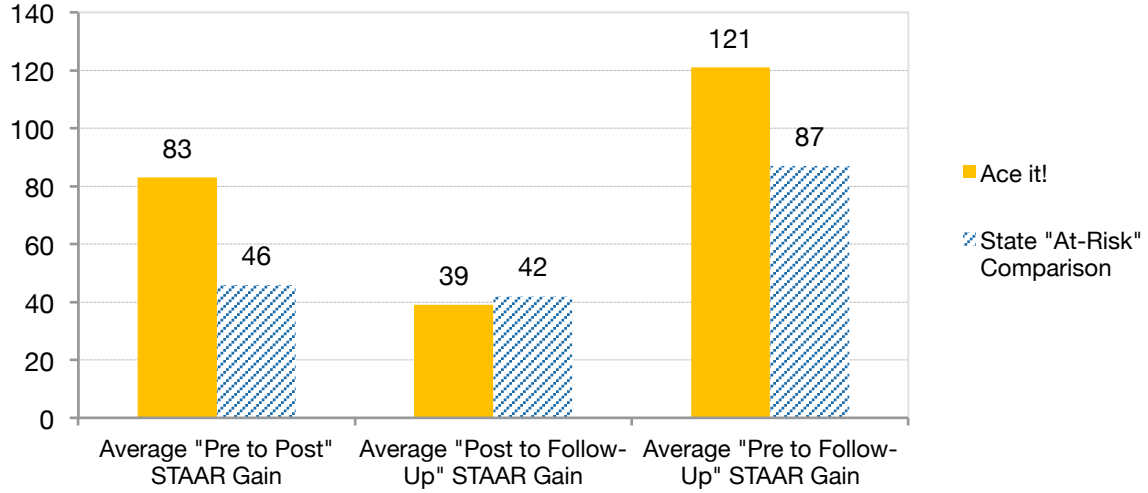
- Similar to reading, average pre-test **MATH** scores among Ace-it! students were 33 points below the state at-risk average.
- By the post-test, the gap had not only narrowed, but Ace it! students, with average scores of 1513, had out-paced the statewide average of 1509.
- A year later, the Ace it! group maintained a slight point edge, with average follow-up scores of 1552, vs. the statewide at-risk average of 1545. (See Figure 7.)

**Figure 7. MATH: Pre, Post, & Follow-up STAAR Scaled Score—Ace it! vs. Statewide "At-Risk" Average*****




STAAR data again indicated predictable increases in the Ace it! state at-risk averages as students progressed from year to year. Again, the Ace it! students made *greater* gains overall. Their gains were also more consistent across subjects, with an average gain of 120 points in **READING** and 121 points in **MATH**, from the pre- to the follow-up test, compared to average statewide averages of 98 points in **READING** and 87 points in **MATH**. (See Figure 8.)

**Figure 8. MATH: Pre, Post, & Follow-up STAAR Scaled Score Gains—Ace it! vs. Statewide "At-Risk" Gains**



## SUMMARY

The results of **STUDY 1** suggested that the Ace it! component of the Texas AIM program had a positive impact on the academic growth of hundreds of students. The results were not only positive but also consistent—across subjects, grades, and measures. The NCE gains are particularly notable because they show that these students are not only holding their own, and performing at levels expected of grade-level peers, but that they are exceeding those expectations and norms.

The results of **STUDY 2** indicated that Ace it! helped the students who needed help the most: the 30 hours of remedial instruction brought them from performance levels below their at-risk peers, to levels on par and even above them. The study also indicated that a year *after* the Ace it! intervention, performance levels were holding steady and gains were sustained. These durable gains were made by students whose limited English proficiency and socio-economic challenges put them behind even their at-risk peers.

These two studies showed that this modest intervention can make a critical difference for students whose academic struggles could be insurmountable without the instructional support they receive through Ace it! and Texas AIM. Moreover, the positive results suggest that the partnership between Texas AIM, BGCs, and Sylvan is a viable after-school supplemental support model that changes the academic performance and prospects for at-risk students.

# APPENDIX

## Calculation of Comparison Values

To calculate the comparison scores—and examine how at-risk students in the same grade range as the students in the Ace it! sample performed on the STAAR during the same time period—Rockman researchers calculated the weighted average of statewide scores for at-risk youth in grades 4–6 during the corresponding school years.

The process of creating the weighted averages began with accessing the publicly available STAAR Statewide Summary Reports for the years 2011–12, 2012-13, 2013–14, 2014-15, and 2015–16 through the Texas Education Agency website. As an example, the 2012–13 summary reports can be found here: http://tea.texas.gov/student.assessment/staar/rpt/sum/yr13/

Summary reports for grades 3–7 were examined for each year so as to include the relevant grade ranges for our Ace it! students who participated as 4th–6th graders during the years 2012–13 through 2013–14 (including a grade level prior for the pre scores and a grade after for the post scores). The summary reports present the average STAAR score for all students in a particular grade as well as for several sub-groups. Because the students who participated in Ace it! would be considered as "at-risk," the averages used in our calculations were for the "at-risk" subgroup.

Under normal circumstances, the way in which to select the comparison score for a student would be to find the precise corresponding "at-risk" average for the participant's grade at each testing year. So, if we had a 5th grade student who participated in Ace it! Reading instruction during the year 2013–14, we would find the statewide average for other 5th grade "at-risk" students during 2013–14 to use as the comparison "post" score (in this case, a scaled score of 1483). We would then look at 2012–13 4th grade students for the comparison "pre" score (scaled score of 1441) and 2014–15 6th grade students for the comparison "follow-up" score (scaled score of 1512). These scores are represented by the blue boxes in Table 1 below. By finding the difference between these scaled scores, we can generate a comparison average gain (shown in Table 2 below).

**Table 1. At-Risk Scaled Scores at Study Data Points (Grades 4–6)**

| Using as comparison for… | Source | Grade 3 | **Grade 4** | **Grade 5** | **Grade 6** | Grade 7 |
|---|---|---|---|---|---|---|
| Pre | At Risk Scaled Score Statewide 2013 | 1369 | 1441 | 1475 | | |
| Post (End of Participation Year) | At Risk Scaled Score Statewide 2014 | | 1435 | 1483 | 1512 | |
| Follow-up (1 year after) | At Risk Scaled Score Statewide 2015 | | | 1483 | 1512 | 1561 |

**Table 2. Scaled Score Gains at Study Data Points (Grades 4–6)**

| | **Grade 4** | **Grade 5** | **Grade 6** |
|---|---|---|---|
| Pre to Post Gain | 66 | 42 | 37 |
| Post to Follow-up Gain | 48 | 29 | 49 |
| Pre to Follow-up Gain | 114 | 71 | 86 |

Unfortunately, due to masking required by TEA to adhere to the Family Education Rights and Privacy Act (FERPA), which protects the privacy of student education records, specific grade levels of the Ace it! students in our sample were omitted. Instead, the final data file included only each student's "grade band," in this case grades 4–6, rendering it impossible to complete a precise matching to the corresponding "at-risk" statewide average for a particular grade. To work around this issue, while still accounting for differences in the comparison values by grade level for our overall sample, Rockman computed weighted averages of the values above based upon the distribution of 4th, 5th and 6th graders in the original Ace it! sample sent to TEA for matching. Based upon these calculations, a weighted scaled score of 1401 was used as the "at-risk" comparison "pre" score for 2013–14 participants. This calculation of a weighted average was repeated for "post" and "follow-up". Then the entire process was repeated for the remaining Ace it! reading and math participants across each participation year. (See Table 3.)

**Table 3. Calculating weighted average comparison "PRE" scaled score based on distribution of grade levels in the cohort that participated in Ace it! during 2013–14**

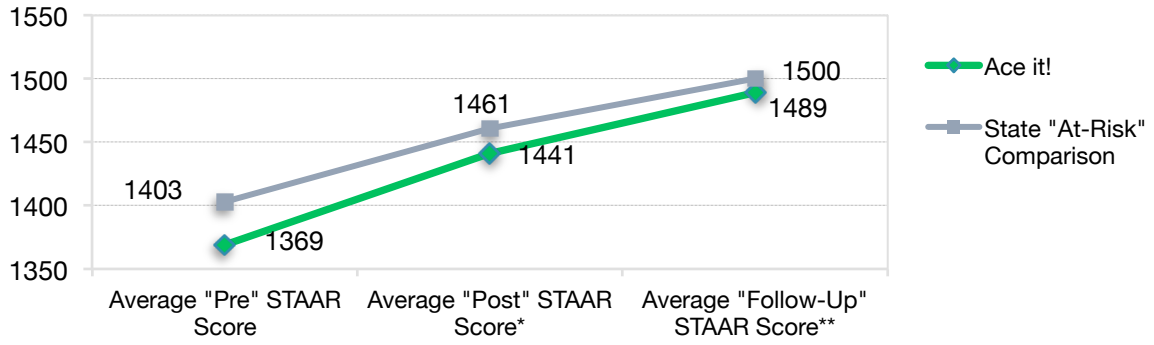
| | "Pre" scaled score for "at-risk" | % in original Ace it! sample | Weighting Calculation |
|---|---|---|---|
| Grade 4 Cohort | 1369 | 0.58 | 794 |
| Grade 5 Cohort | 1441 | 0.38 | 548 |
| Grade 6 Cohort | 1475 | 0.04 | 59 |
| | | | **SUM=1401** |

As a final step, because the Ace it! study uses a combined sample across all participation years (to maintain an overall sample of greater than 100 per subject), we needed to calculate the distribution of students across the three years of participation (2012–13, 2013–14 and 2014–15). Year of participation was NOT masked in our final sample and therefore the percentages represented in the table below are actual final sample proportions. As seen below, this final step involved taking a weighted average of the previously computed grade-level weighted averages (e.g., the 1401 calculated in Table 3 is highlighted in green in Table 4 below). The new weighted "pre" comparison score for the overall Ace it! reading sample is 1403, which is represented in the line graph from the full report (see Figure 9 below). Again, the process was repeated to generate the other final "at-risk" comparison values in the reading and math line graphs.

**Table 4. Calculating the weighted average comparison "PRE" scaled score based on cohort distribution (participation years) in the final Ace it! sample**

| | "Pre" scaled score for "at-risk" | % in Final Ace it! File | Weighting Calculation |
|---|---|---|---|
| 2012–13 Cohort | 1381 | 0.18 | 249 |
| 2013–14 Cohort | 1401 | 0.19 | 266 |
| 2014–15 Cohort | 1410 | 0.63 | 888 |
| | | | **SUM=1403** |

**Figure 9. READING: Pre, Post, & Follow-up STAAR Scaled Scores—Ace it! Average vs. Statewide "At-Risk" Average*****




## Supplemental Data

The full report presented Ace it! students' STAAR scaled scores. Scaled scores are more sensitive to change than a percent proficient metric, which represents a threshold to be crossed. Ace it! students typically began the program far below this threshold, as noted in the body of the report, even lower than their at-risk peers. While the Ace it! students made substantial scaled score growth, that growth is not reflected in the proficiency levels—which are a formidable challenge and often take longer to reach for students who start so far behind.

- In **READING**, only 5% of the students were proficient (Level II) prior to their participation; that figure doubled to 10% by the end of their participation year, and, a year later, held steady, even rising a little higher to 11.
- The percent proficient for Ace it! **MATH** students were 10% the year prior to participation, but rose after the Ace it! intervention to 15%. Similar to reading results, proficiency percentages for **MATH** held steady on the STAAR tests students took a year later, edging up to 16%. (See Figure 10.)

**Figure 10. Pre, Post, and Follow-up Proficiency Levels for READNG and MATH**