

Central Texas Achievement Gaps: Are They Closing or Not?



This issue of Implications was developed by Dr. Jim Van Overschelde, E³ Alliance

Introduction

Several reports of achievement gaps in Texas have shown conflicting data. Some show the gaps shrinking, and others show the gaps unchanged or widening.¹ What is often not discussed or not clear in these articles is that different methods for reporting achievement gaps are being used. In this short article, we explore two common methods of computing student achievement and achievement gaps, and we show how each method produces markedly different results.

The two common methods of reporting student achievement on Texas Assessment of Knowledge and Skills (TAKS) reflect answers to different questions.

Did the student demonstrate a minimum amount of knowledge and skill?

Answer: Met/Not Met

How much of the tested knowledge and skill did the student demonstrate?

Answer: Score

Most of the state's accountability system is based on the percentage of students on a campus or in a district who took the TAKS test and met the state's minimum standard by grade and subject (percent-met). However, each student actually receives a score based on the number of questions the student got correct. For example, Grade 8 TAKS Reading in 2008-09 has 15 possible scores that indicate the student met the minimum standard, and 33 scores that indicate they did not meet this standard.

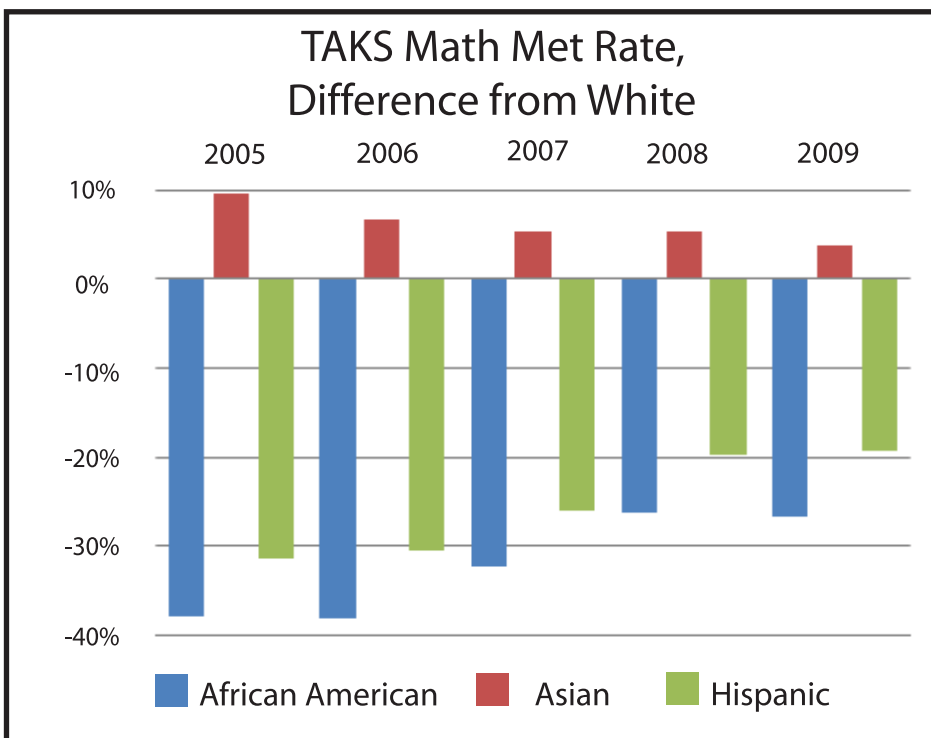
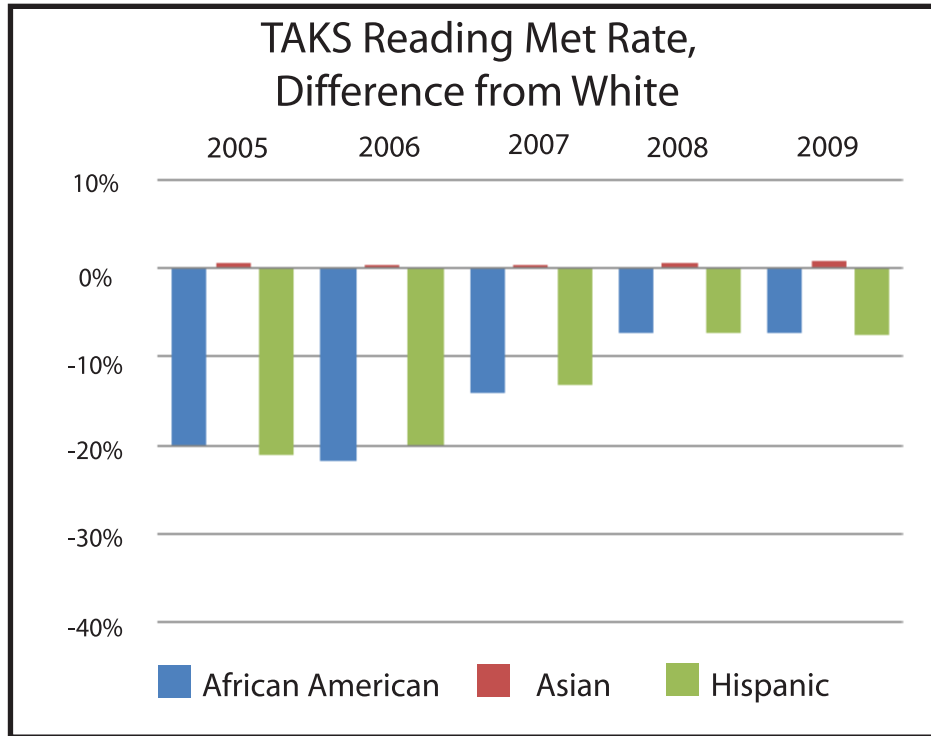


Given these different ways of computing student achievement, the achievement gaps among groups of students can be computed either as differences in percent-met or as differences in average scores. Because percent-met is simply a yes-no criterion, two groups of students in a school could have identical percentages meeting the standard (e.g., 90% met; no gap) but radically different average scores (e.g., 2150 points vs. 2500 points; large gap). Over time, a group of students could make dramatic improvements in average score with no change in percent-met, or make substantial improvements in percent-met with minimal change in average score. Therefore, reporting only percent-met by school or group lacks sufficient detail to convey whether students, who are above or below the passing standard, are actually improving.

Trends Over Time

Percent Passing: For the first analysis, only students in Grade 8 in Central Texas districts who took the first administration of English versions of TAKS Reading or TAKS Math were included.ⁱⁱ Figure 1 shows the differences in percent-met rates on TAKS Reading (left panel) and TAKS Math (right panel) for African American, Asian, and Hispanic students versus the nominal passing rate of White students. Negative

Figure 1: TAKS Percent-Met Rate Differences from White Students for Central Texas Students



values indicate a greater percentage of White students met the standard than in the other group.

The TAKS Reading percent-met gap for African American students decreased from 26% in 2005 to just over 7% in 2009. Similarly, the percent-met gap for Hispanic students decreased from 25% to slightly more than 7%. Asian students did roughly equal to or nominally better than White students across all five years. Caution must be exercised when interpreting these results however because in 2008 and 2009 over 98% of White students met the TAKS Reading standard.

As a result, there was essentially no room for White student improvement (a so-called ceiling effect) and any improvement by the other groups would manifest as a decrease in the percent-met achievement gap. For TAKS Math the percent-met gaps are again closing for African American (39% to 27%) and Hispanic (35% to 19%), but both groups have much farther to go to eliminate the gaps. A ceiling effect is less evident with Math because smaller percentages of White students met the TAKS Math standard (92% in 2008 and 94% in 2009).

Source: Data compiled by University of Texas at Dallas Education Research Center researcher using TAKS data from Texas Education Agency.

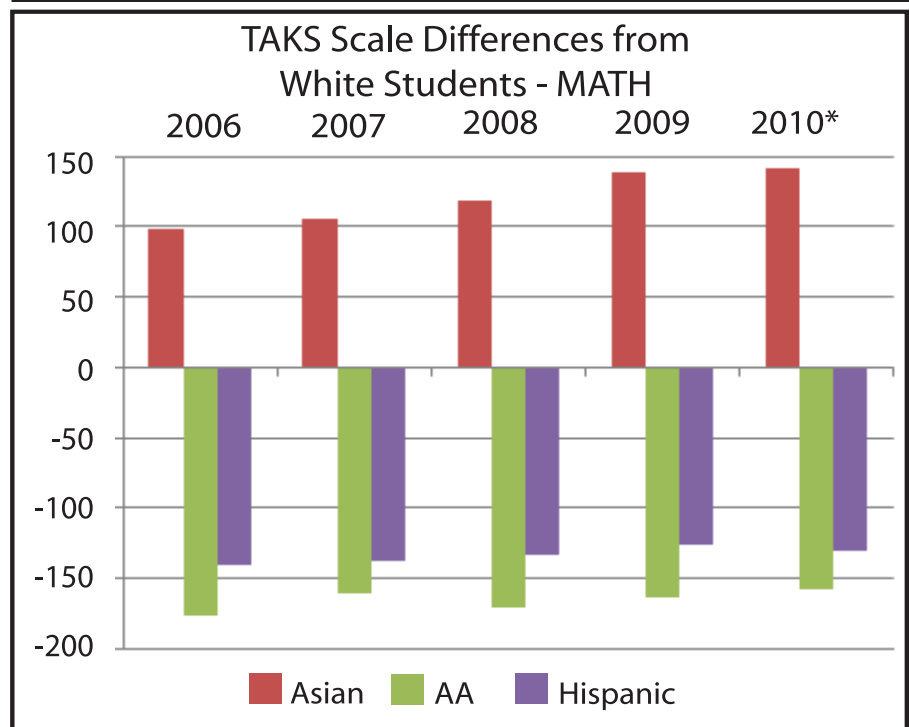
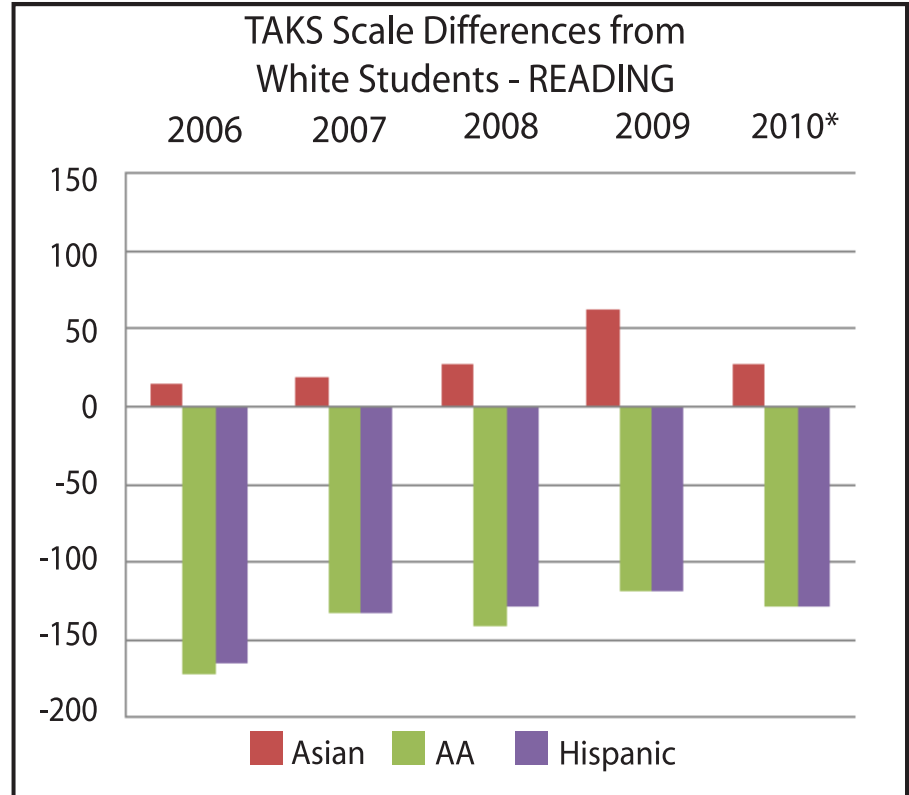
Trends Over Time

TAKS Scale Score: As noted above, a more informative analysis involves examining changes in average TAKS scores across school years.ⁱⁱⁱ Figure 2 shows the differences in average scale scores for TAKS Reading (left panel) and TAKS Math (right panel) between the different ethnic student groups and the White student group. Negative values indicate White students had higher average scale scores.

Figure 2. TAKS Average Scale Score Differences from White Students for Central Texas Students

For TAKS Reading, initial decreases in the TAKS score gaps for Hispanic and African American students were followed by minimal changes in the last few years. At the current average rate of scale score improvement, it will take 13 years to eliminate the TAKS Reading scale score gap for African American students and 15 years for Hispanic students. The current reading scale score gap of 129 points for Hispanic and African American students indicates they are approximately 2.2 grade levels behind the White students. By contrast, for TAKS Math average scale scores, minimal improvements were observed across the five years.

At the current rate, it will take 44 years to close the scale score gap for African American students and 42 years for Hispanic students. The current math scale score gaps of 130 points for Hispanics and 157 points for African Americans indicates they are approximately 1.8 and 2.2 grade levels behind the White students, respectively.^{iv} Asian students consistently outperformed White students and the Asian student advantage on TAKS Math continues to grow. The Asian students' gap indicates they are half a grade level ahead of White students in reading and two grade levels ahead in math.



Note: For 2009 TAKS Reading, 49 different scale scores are possible. * indicates vertical scale score was converted to horizontal scale score using TEA's published formula so comparisons across years were possible. Data are from www.pearsonaccess.com, Assessment Summary, Region 13.

Conclusion

Despite the facts that the Central Texas public school student population grew by 11% between 2005-06 and 2008-09 and that 58% of the growth was low-income students, the percentage of African American and Hispanic students meeting the TAKS Reading and Math minimum passing standards in Grade 8 has increased substantially. Unfortunately, looking at the actual level of performance using scale scores, the achievement gap decreased only minimally and African American and Hispanic students are about two grade levels behind White students. At the current rate of improvement, it will take approximately 14 years to close the reading scale score gap and 43 years to close the gap in math.

ERC Disclaimer: The conclusions of this research do not necessarily reflect the opinion or official position of the Texas Education Agency, the Texas Higher Education Coordinating Board, or of the State of Texas.



- i e.g., Dallas Morning News, August 22, 2010; National Governors Association report at <http://www.subnet.nga.org/educlear/achievement/>.
- ii Data from students in Grade 8 were used because Grade 8 is the focus of Goal 2 of The Blueprint for Education Change and because Grade 8 performance is predictive of success in high school. Student who took Braille, online, TAKS-LAT, TAKS-M, and TAKS-Alt versions were excluded.
- iii For this analysis, scale score data from the Pearson website for Region 13 were used.
- iv The gap-score to grade-level conversions were made by computing the average differences in vertical scale scores for the met standard across Grades 6, 7, and 8 for that subject. The average increase from the met standard in one grade to the met standard in the next grade for reading was 28 points and 31.5 for math.



Guided by an objective data map and a clear community vision, we propose to better align the system components and practices of our regional education system and allocate our investments and services more efficiently to dramatically and sustainably increase educational outcomes within a decade. By doing so, we can increase our global competitiveness and the economic vitality and overall quality of life in our region.

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