

CAN STATE ACCOUNTABILITY SYSTEMS DRIVE IMPROVEMENTS IN SCHOOL PERFORMANCE FOR CHILDREN OF COLOR AND CHILDREN FROM LOW-INCOME HOMES?

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States and school districts throughout the nation have developed or are developing accountability systems to spur improvement in student achievement. Researchers, policy makers, and practitioners have both praised and criticized accountability systems, particularly concerning their impact on children of color and children from low-income homes. Do accountability systems harm the education of children of color and children from low-income homes, or do these systems drive educational improvements for these students? Few state accountability systems have been in place long enough to help answer this question; however, the Texas public school accountability system has been in place for several years, providing a useful case for analyzing the impact of accountability systems on student achievement. Additionally, Texas is a useful case for study because of the wealth of disaggregated student achievement data available through the state education agency.

If the accountability system in Texas were driving improvements in student performance (particularly for children of color and children from low-income homes), one would expect to see substantial increases in student achievement over time on multiple measures of student performance, including the state's Texas Assessment of Academic Skills (TAAS). One would expect to see increases for children of color and children who meet low-income criteria. Furthermore, one would expect to see those increases result in a narrowing of the achievement gap when their performance is compared with that of White students and students with typical family incomes.



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One would expect the improvements to be a fair reflection of the performance of all students without the omission or exclusion of significant populations of students. Furthermore, one would hope that the results would represent real improvements in student achievement, as opposed to artificial indicators of success. Finally, if the accountability system were to be considered at least partly responsible for these changes in achievement, one would expect to see some evidence that the accountability system had prompted changes in schools and school districts that led to changes in student performance. This article examines these issues in an attempt to consider the extent to which the Texas school accountability system may have driven improvements in school performance for children of color and children from low-income homes.

CHANGES IN TAAS PERFORMANCE IN TEXAS PUBLIC SCHOOLS

Student performance on the TAAS has improved over the past several years. Furthermore, the gaps between the performances of different racial/ethnic/socioeconomic groups of students have diminished over time. The TAAS is a criterion-referenced test intended to measure student attainment of the state academic standards (the Texas Essential Knowledge and Skills). The test has been administered to Texas students since 1991. Initially, it was administered in the fall at Grades 3, 5, 7, 9, and 11. Since 1994, the reading and mathematics portions of TAAS have been administered to Texas students in the spring at Grades 3, 4, 5, 6, 7, 8, and 10. Similarly, a writing assessment has been administered to students at Grades 4, 8, and 10. For students in Grades 3 through 6, schools may choose to administer a Spanish version of the TAAS. Statewide results from both English and Spanish administrations show improvements in student performance.

ENGLISH VERSION RESULTS

In 1994, 74% of all students tested (including those in special education) passed the TAAS reading assessment (see Table 1). Even more (85%) White students tested passed the assessment, yet only 58% of African American students and 63% of Hispanic students passed the reading assessment. Among students categorized by the state as economically disadvantaged, 61% passed the reading assessment. Among students with limited English proficiency, only 39% passed.

TABLE 1
Percentages of Students Passing the Texas
Assessment of Academic Skills (TAAS)–English Version

	1994	1995	1996	1997	1998	1999	2000	Gain (in points)
All students								
Reading	74	76	77	80	83	86	87	13
Writing	76	79	79	82	84	88	88	12
Math	57	63	70	76	80	85	87	30
African American								
Reading	58	61	64	70	74	78	80	22
Writing	63	68	69	72	76	81	82	19
Math	36	42	52	60	66	72	76	40
Hispanic								
Reading	63	65	67	71	75	80	81	18
Writing	67	71	71	74	77	83	82	15
Math	45	50	60	68	73	80	83	38
White								
Reading	85	86	86	89	91	93	94	9
Writing	85	87	87	89	90	93	94	9
Math	70	76	81	85	88	92	93	23
Economically disadvantaged								
Reading	61	64	65	70	74	78	80	19
Writing	65	69	69	72	75	81	81	16
Math	43	49	58	66	71	78	81	38
Limited English								
Reading	39	42	43	49	54	59	60	21
Writing	44	48	47	51	54	60	60	16
Math	30	35	44	53	59	68	69	39

SOURCE: Texas Education Agency (2000a)

By 2000, TAAS reading assessment results had improved considerably. In that year, 87% of all students tested passed the reading test. Furthermore, 80% of all African American students and 81% of Hispanic students passed the assessment, compared with 94% of White students, 80% of students from low-income homes, and 60% of students with limited English proficiency. Performance on the writing assessment showed similar gains.

There was even more dramatic improvement in mathematics on TAAS over the same time period. In 1994, only 57% of all students tested passed the mathematics assessment, whereas 87% passed in 2000. The percentage of African American students passing the mathematics assessment increased from 36% in 1994 to 76% in 2000. The percentage of Hispanic students

passing increased from 45% in 1994 to 83% in 2000. The percentage of students meeting low-income criteria who passed increased from 43% in 1994 to 81% in 2000. Additionally, the percentage of students with limited English proficiency who passed the mathematics section of TAAS increased from 30% in 1994 to 69% in 2000.

SPANISH VERSION RESULTS

In Grades 3 through 6, schools may administer a Spanish version of the TAAS assessments. Approximately 19,000 third-grade students take the Spanish version of TAAS, yet only 11,000 fourth graders, 5,000 fifth graders, and 1,200 sixth graders take the Spanish version. When students gain proficiency in English, they take the English version of TAAS, thereby reducing the number of students who take the Spanish version. Since 1997, the percentage passing the Spanish version has increased substantially in reading at Grades 3 and 4 and in writing at Grade 4 (see Table 2). There also have been substantial increases in the percentages of students passing the Spanish version of the mathematics assessment.

TAAS summary results indicate that Texas students currently are demonstrating skills in writing, reading, and mathematics on the TAAS that they were not demonstrating in 1994. In particular, the results suggest that African American students, Hispanic students, students from low-income homes, and students with limited English proficiency were much more likely to demonstrate expected academic skills in reading and writing on the TAAS in 2000 than in 1994. Moreover, the results indicate that African American students and students with limited English proficiency were more than twice as likely to meet state expectations in mathematics in 2000 than in 1994.

In addition, passing rates suggest that the performance gap between White students and students of color has diminished. In 1994, there was a 24-percentage-point gap between the pass rates of White students and African American students on the TAAS mathematics assessment. In 2000, the performance gap had decreased to 17 points. In 1994, there was an 11-percentage-point gap between the pass rates of White students and Hispanic students on the TAAS reading assessment. In 2000, the gap had diminished to only 6 points.

One might wonder if the decrease in the gap is at least partially influenced by ceiling effects. Given that the percentage of White students passing the assessment is approaching 100%, one might argue that the TAAS may not be measuring the full level of academic attainment of White students, making

TABLE 2
Percentage of Students Passing the Texas
Assessment of Academic Skills (TAAS)–Spanish Version

	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>
Grade 3 reading	43	64	74	75
Grade 3 math	51	65	74	75
Grade 4 reading	36	38	46	58
Grade 4 math	46	57	72	76
Grade 4 writing		62	67	73
Grade 5 reading		49	33	52
Grade 5 math		55	64	75
Grade 6 reading		27	29	27
Grade 6 math		21	25	25

SOURCE: Texas Education Agency (2000a).

the performance gap look smaller than it actually is. Therefore, Treisman and Fuller (2000) examined the performance gap by considering student performance on the Texas Learning Index (a scale score of TAAS performance). When they compared the Texas Learning Index scores of the different demographic groups of Texas students, they found that the gap between average scale scores has decreased substantially in recent years. This suggests that a ceiling effect most likely has had only a small influence on the closing of the achievement gap. Not only is there a much higher likelihood in 2000 than in 1994 that children of color and children from low-income homes will pass TAAS, there is also a much higher likelihood that children of color and children from low-income homes will demonstrate a level of proficiency on TAAS comparable to their White, higher income peers. In 2000, it is much more difficult to predict student performance on TAAS based on race or socioeconomic variables than it was in 1994.

CHANGES IN NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS (NAEP) PERFORMANCE IN TEXAS PUBLIC SCHOOLS

Often referred to as the “nation’s report card,” NAEP is the only nationally representative assessment of student knowledge and skills in mathematics, science, and language arts. The state-level tests are administered at the fourth- and eighth-grade levels at various points in time. The NAEP is

authorized by Congress and directed by the National Center for Education Statistics of the U.S. Department of Education.

The goal of the NAEP is to collect, analyze, and present reliable and valuable information about what U.S. students know and can do. Both public and private school students in Grades 4 and 8 are sampled and assessed on a regular basis in core subject areas. All NAEP assessments are based on content frameworks and are developed through a national consensus process that involves teachers, curriculum experts, parents, and members of the general public.

NAEP MATHEMATICS

In mathematics, the NAEP was administered to fourth-grade students in 1992 and 1996 and to eighth-grade students in 1990, 1992, and 1996. Each student demographic group in each state achieves a scale score that ranges from 0 to 500. Thus, one can use NAEP scale scores to compare the performance of various demographic groups both within and between states.

Based on the rankings of states' average scale scores (see Table 3), Texas students have made tremendous progress in their mathematics knowledge and skills as measured by NAEP. This is especially true for Texas fourth-grade students. Indeed, Texas African American and White fourth graders rank 1st in the nation, and Texas Hispanic fourth graders rank 6th in the nation, behind five states with very small percentages of Hispanic students. In addition, Texas fourth-grade students had the greatest increase in overall mathematics scale scores, whereas African American, Hispanic, and White fourth graders had the 2nd, 7th, and 1st greatest increases in scale scores, respectively. Texas eighth-grade students had the 2nd greatest increase in overall mathematics scale scores, whereas African American, Hispanic, and White eighth graders had the 6th, 10th, and 3rd greatest increases in scale scores, respectively.

Comparing Texas with other large states is illuminating. The test-taking populations of the four most populous states are quite similar. However, the test results are strikingly different (see Table 4). Texas fourth- and eighth-grade students perform far better than their peers in other large, diverse states.

Grissmer and Flanagan (in press) analyzed NAEP mathematics scores for both fourth- and eighth-grade students. In their analysis, they controlled for student background characteristics, test participation rates, and special education and limited English proficiency exemption rates. They found that

TABLE 3
Texas Grade 4 and 8 National Assessment of
Educational Progress (NAEP) Mathematics Rankings

<i>Grade</i>	<i>Year</i>	<i>All Students</i>	<i>African American</i>	<i>Hispanic</i>	<i>White</i>
4	Number of participating states (1992 and 1996)	42/44	36/37	42/44	42/44
4	1992	18th	9th	12th	12th
4	1996	6th	1st	6th	1st
8	Number of participating states (1990, 1992, and 1996)	36/42/44	28/36/37	35/42/44	36/42/44
8	1990	22nd	16th	10th	12th
8	1992	21st	15th	11th	14th
8	1996	21st	6th	9th	9th

SOURCE: Reese, Miller, Mazzeo, and Dossey (1997); analysis by Edward J. Fuller.

NOTE: Rankings based on comparison of state average scale scores.

Texas had one of the largest gains in mathematics performance. Moreover, Reese, Miller, Mazzeo, and Dossey (1997) found that Texas was the only state to have statistically significant increases in fourth- and eighth-grade NAEP mathematics scale scores from 1992 to 1996 for African American, Hispanic, White, rural, urban, and suburban students. These data indicate substantial improvements in elementary and middle school mathematics performance on the NAEP for Texas children and particularly children of color and children from low-income homes.

NAEP READING

As with TAAS achievement, Texas reading achievement on the NAEP is less impressive than the mathematics achievement on NAEP. Texas fourth-grade students had an average scale score slightly above the national average and the 13th greatest scale score among all participating states (Donahue, Voelkl, Campbell, & Mazzeo, 1999). When the data are disaggregated, however, Texas African American, Hispanic, and White students had average scale scores that ranked 7th, 6th, and 2nd, respectively (see Table 5). In addition, each of these scores was above the national average for their respective demographic groups, especially for African American and Hispanic students. The NAEP reading performance of Texas eighth-grade Hispanic students ranked 2nd in the nation.

TABLE 4
Rankings of Four Largest States on 1996 National
Assessment of Educational Progress (NAEP) Grade 4 Mathematics

	<i>Texas</i>		<i>California</i>		<i>Florida</i>		<i>New York</i>		<i>Number of Participant States</i>
	<i>Grade 4</i>	<i>Grade 8</i>	<i>Grade 4</i>	<i>Grade 8</i>	<i>Grade 4</i>	<i>Grade 8</i>	<i>Grade 4</i>	<i>Grade 8</i>	
African American	1st	4th	36th	24th	32nd	25th	12th	10th	37
Hispanic	6th	8th	39th	23rd	22nd	17th	30th	26th	44
White	1st	9th	41st	21st	26th	23rd	8th	14th	44
Title I participants	1st	10th	42nd	22nd	22nd	26th	26th	29th	44

SOURCE: Reese, Miller, Mazzeo, and Dossey (1997); analysis by Edward J. Fuller.

NOTE: Rankings based on comparison of state average scale scores.

TABLE 5
Texas Grade 4 and Grade 8 National Assessment of
Educational Progress (NAEP) Reading Rankings

<i>All Year</i>	<i>African Students</i>	<i>American</i>	<i>Hispanic</i>	<i>White</i>
Number of states participating in Grade 4 assessment (1992/1994/1998)	37/36/40	31/30/35	35/35/40	37/36/40
Grade 4 1992	21st	9th	11th	11th
Grade 4 1994	23rd	9th	9th	5th
Grade 4 1998	13th	7th	6th	2nd
Number of states participating in Grade 8 assessment (1998)	36	30	33	36
Grade 8 1998	16th	11th	2nd	6th

SOURCE: Donahue, Voelkl, Campbell, and Mazzeo (1999); analysis by Edward J. Fuller.

NAEP SCIENCE

The only administration of the NAEP science assessment was in 1996 for Grade 8 students; thus, no comparable data are available to discern a trend. Unlike mathematics and reading, science achievement in Texas is only about average on the NAEP. Overall, Texas average scale scores in science were slightly below average, although there was no statistical difference between the Texas and the U.S. score (O'Sullivan, Reese, & Mazzeo, 1997). The state ranking for Texas was 26th out of the 40 participating states. The disaggregated data, however, provide a slightly more positive picture for Texas students. Specifically, Texas Grade 8 African American, Hispanic, and White students ranked 7th, 19th, and 10th, respectively. Texas African American scores were statistically greater than the national average, whereas the Texas scores for Hispanic and White students were not statistically different from the national average.

NAEP WRITING

As with science, there has only been one state-level NAEP administration at Grade 8 in writing. Thus, again, it is impossible to discern a trend. Overall, Texas average scale scores in writing were 3rd in the nation and statistically greater than the national average (Greenwald, Persky, Campbell, & Mazzeo, 1999). Again, the disaggregated data provide an even more positive picture for Texas students. Specifically, Texas Grade 8 African American, Hispanic, and White students ranked 1st, 2nd, and 2nd, respectively. All of the scores

were statistically greater than the national average. Clearly, Texas students excelled in writing compared with their peers from across the country.

NAEP SUMMARY

If the Texas accountability system is doing harm to the educational attainment of children of color, then how does one explain the performance of Texas students relative to students in other states, especially other large and diverse states? If the TAAS has resulted in a lower quality of instruction for African American and Hispanic students, then how does one explain the performance of these students on a broader and arguably more rigorous assessment, such as the NAEP? Even though the NAEP performance of children of color and children from low-income homes in Texas is still unjustifiably less than the performance of their White and more affluent peers, these NAEP data deserve our careful consideration.

OTHER INDICATORS OF CHANGE IN TEXAS STUDENT PERFORMANCE

If TAAS and NAEP are appropriate indicators of change in student performance in Texas, one would expect to see changes in other measures of academic performance. For instance, are there changes in the number of Texas students taking advanced-placement examinations? In particular, are there changes in the number of African American and Hispanic children taking advanced-placement examinations? Similarly, one might expect to see changes in the performance of Texas students on college entrance examinations such as the SAT.

ADVANCED-PLACEMENT TEST TAKING

One of the criticisms levied at the accountability system in Texas is that the system results in African American and Hispanic students being tracked into TAAS remediation classes rather than college preparation classes. The available data on advanced-placement test taking refutes this contention (College Board and Educational Testing Service, 1993a, 1994a, 1995a, 1996a, 1997a, 1998a, 1999a, 2000a). The percentage of African American and Hispanic juniors and seniors taking at least one advanced-placement examination has increased dramatically from the year before the adoption of

the accountability system (1992-1993) to the year 2000. The percentage of African American students in Texas taking at least one advanced-placement examination has increased 423.3% since the 1992-1993 year. This is more than four times the rate of increase for all other states. The percentage of Hispanic students taking at least one advanced-placement examination has increased 306.1% since the 1992-1993 year. This is almost twice the rate of increase for all other states. On the other hand, it is important to note that the number of Texas students taking advanced-placement examinations is still low. There is still much room for improvement. Nonetheless, these data do not support the contention that TAAS has reduced the number of children of color who are accessing more rigorous courses.

COLLEGE ENTRANCE EXAMINATIONS

SAT and ACT scores are a common measure of the quality of high schools. However, not every high school graduate takes these college entrance examinations; thus, participation rates vary dramatically between schools and states. Consequently, as the College Board and Educational Testing Service note, these varying participation rates render meaningless most comparison of schools or states based on SAT/ACT scores.

We can, however, examine the trends in the number of students taking the SAT in Texas as well as the average SAT score in Texas. (Most graduating seniors in Texas take the SAT rather than the ACT.) According to College Board data (College Board and Educational Testing Service, 1993b, 1993c, 1994b, 1994c, 1995b, 1995c, 1996b, 1996c, 1997b, 1997c, 1998b, 1998c, 1999b, 1999c, 2000b, 2000c), the number of Texas public high school seniors taking the SAT increased by 30% from 1993 to 2000 (see Table 6). Over the same time period, Texas Education Agency (TEA) data show that the number of 12th-grade students increased by just 3%. Thus, a far greater percentage of Texas public school students took the SAT in 2000 than in 1993, the year before the accountability system was implemented. Furthermore, the increases in percentages of students taking the SAT from 1993 to 2000 exceed the increase in test takers nationally for all demographic groups of students.

Unfortunately, the average SAT scores for public school students reported by the TEA have not been renormed. Thus, the scores from 1993 through 1995 are not directly comparable to those from 1996 through 1998. However, from 1993 through 1998, the average SAT score increased between 5 and 10 points for all students, African American students, Hispanic students, and White students. From 1996 through 1998, the average SAT score decreased by 1 point for all students and decreased by 4 points for African American

TABLE 6
Increase in Students Taking the SAT

	<i>Percentage Increase in the Number of College-Bound Seniors Taking the SAT (1993-2000)</i>		<i>Percentage Increase in Number of Texas Public School Seniors</i>
	<i>United States, Without Texas</i>	<i>Texas</i>	<i>Texas</i>
All students	19	30	3
African American	15	34	2
Hispanic	23	35	4
White	7	14	2
Other	59	92	16

SOURCE: College Board and Educational Testing Service (1993b, 1993c, 1994b, 1994c, 1995b, 1995c, 1996b, 1996c, 1997b, 1997c, 1998b, 1998c, 1999b, 1999c, 2000b, 2000c).

NOTE: Rankings based on comparison of state average scale scores.

and Hispanic students. The average SAT score for White students increased by 2 points over the same time period.

It is difficult to know if this decrease is due to a lower quality of education between 1996 and 1998 or to the possibility that students with a broader range of skills and abilities were being tested in 1998 than in 1996. As the College Board notes, as the percentage of test takers increase, average scores typically decrease since the larger pool of test takers might typically include students who would have previously have been excluded from taking the test.

ISSUES WITH THE EVIDENCE OF CHANGE IN TEXAS STUDENT PERFORMANCE

Although the improvements in student performance as measured by TAAS, NAEP, and other measures have been generally impressive, researchers and other critics have pointed to a variety of issues that call into question the depth and breadth of the improvements. These issues include concern about the number of students exempted from assessments, the extent to which teachers are teaching the test, and concern about dropouts.

Exemptions From Assessment

In Texas, more than 450,000 students (about 12% of all students) receive special education because of disabilities that influence their learning (TEA,

1998a). Furthermore, approximately 13% of all students come from homes in which the primary language is other than English (TEA, 1998b). Texas, like many states, has struggled to determine how to assess the learning of these students. In particular, there has been concern about the number and percentage of students who are not included in the assessment process.

In 1999, 89.3% of Texas students in Grades 3 through 8 and in Grade 10 took the TAAS (see Table 7). Of the students who did not take the examination, 0.7% were absent for the administration, 6.9% were exempted because of special education issues, 2.2% were exempted because of limited English proficiency, and 0.9% did not take the test for other reasons. There is some variation in the percentage of demographic groups of students who took TAAS in 1999, ranging from 84.1% of students from low-income homes, 85.4% of Hispanic students, 86.6% of African American students, and 93.4% of White students (TEA, 2000b).

Although the percentage of students excluded from the testing was small, it should be noted that there has been a decrease in the percentage of students taking the test. This is due to a change in policy that occurred in 1998. Previously, if a student who received special education services took the TAAS, the results of that student's test were not included in the determination of the school's accountability rating. In an effort to make schools more accountable for the improvement of achievement of students with disabilities, this policy was changed beginning with the 1998-1999 school year. In that year, the scores of students with disabilities were included in determining school and school district accountability ratings, just as other students. Schools had previously been able to either exempt students with disabilities from taking the assessment or allow them to take the test without risk of negative consequences to the school's accountability rating. In the spring of 1999, schools had to either exempt students with disabilities or give them the TAAS. If students with disabilities took the TAAS, it counted toward the school's accountability rating. Therefore, schools chose to exempt slightly more students. However, it should be noted that the percentage of students tested in 1999 under the more stringent policy was almost equal to the percentage tested in 1996 with the more lenient policy. More important, the percentage of students included in the state's accountability determinations has increased from 74% in 1996 to 84.2% in 1999.

Some Texas students continue to be exempted from TAAS. There are difficult issues surrounding the assessment of special populations of students with which Texas continues to grapple, like many other states. Nonetheless, the exemption rates neither explain nor discredit the substantial change in student performance.

TABLE 7
Percentage of Students Taking the
Texas Assessment of Academic Skills (TAAS)

	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>
All students	89.6	90.6	91.1	89.3
African American	88.4	88.4	88.5	86.6
Hispanic	83.6	86.2	87.2	85.4
White	94.6	94.8	95.0	93.4
Economically disadvantaged	83.6	85.6	86.4	84.1

SOURCE: Texas Education Agency (2000b).

DROPOUTS

The drop-out rate in Texas is unacceptably high, especially for African American and Hispanic youth. One of the most often heard criticisms of the Texas accountability system is that the "high stakes" graduation test causes students to drop out of school. The creators of the Texas accountability system attempted to prevent this problem by including a provision in the school rating system that focused on drop-out rates. Secondary schools in Texas can be rated as low-performing schools if they have high annual drop-out rates, even if they achieve outstanding performance on TAAS. Furthermore, a school's accountability rating can be lowered solely because of the annual drop-out rate for one racial/ethnic group of students. Among the Texas high schools listed as low-performing campuses in 2000, many acquired that designation because of their drop-out rate, not because of TAAS performance (TEA, 2000a).

Unfortunately, the dropout problem remains. Perhaps, part of the reason for the problem has been the method of counting dropouts in Texas. For example, in their definition of dropout, the TEA excludes students who were expelled for criminal behavior or who obtain a GED. Many people would suggest that both of these types of students should be categorized as dropouts. Another large issue is the extent to which schools are given latitude to count or not to count students as dropouts. For instance, if a district can document that a student returned to their home country or moved to another state, then the districts can designate such students as movers rather than dropouts. Although in theory such exclusions make sense, more than a few districts may have used the "out of country" designation quite liberally as a way to reduce their dropout numbers. Thus, the annual drop-out rates reported by TEA (as collected from Texas schools) are typically lower than the drop-out rates reported by other entities. Whereas the Texas accountability system

may have been intended to promote increased graduation rates, they may have instead promoted more creative dropout accounting in some schools.

Still, the question remains, "Has TAAS led to a higher drop-out rate?" It is a difficult question to answer because of the inconsistencies in strategies used to calculate dropout data. For instance, the TEA-reported drop-out rate is for students in Grades 7 through 12. Because most students drop out in high school, the TEA calculation of the annual drop-out rate seriously underestimated the high school drop-out rate. In fact, in 1996-1997, the TEA Grade 7 through 12 annual drop-out rate was reported as 1.6%, whereas the TEA sent the NCES an annual Grade 9 through 12 drop-out rate of 3.6%.

Other analyses have flaws that may be prone to an overestimate of the extent of the dropout problem. For instance, the Intercultural Development and Research Association calculates an attrition rate (Johnson, 1999) rather than a drop-out rate. The attrition rate formula assumes that all classes grow at the same rate. The attrition rate measure does not account for possible legitimate reasons for changes in enrollment such as the migration in and out of the state and districts, grade retention, movement in and out of non-public school settings, and student incarcerations, hospitalizations, and deaths. Finally, stating that students were "lost" due to attrition is inaccurate. As the TEA data show, approximately 7% of the student cohorts ending in 1996-1997 and 1997-1998 were continuing in school (TEA, 1998d). Although they did not graduate in 4 years, they were still working on graduating when an attrition rate formula would have assumed that they dropped out of school.

In the case of NCES data, most of the analyses use Census Bureau data that count the number of people between the ages of 18 and 24 with and without a high school diploma. The major problem with such data is obvious. A 20-year-old person residing in Texas in 1999 and reporting that he or she did not complete high school could have dropped out of school in any state or country in the world besides Texas. A large number of Mexican citizens enter the United States to find work. Many of these job hunters are younger than the age of 24 but never finished high school in Mexico and never attended school in the United States. This artificially increases the apparent drop-out rate as reported by NCES. In fact, quick review of the NCES data shows that all of the states along the Texas-Mexico border have "drop-out rates" that far exceed the national average.

As with the other analyses of dropouts in Texas, the analysis by Walter Haney (*Preliminary report on Texas Assessment of Academic Skills Exit Test*, 2000) of Boston College is also flawed. To review his arguments, Haney claims that the percentage of public school students in Texas completing high school dropped precipitously with the adoption of the TAAS examination as

a graduation requirement. To begin, Haney uses enrollment and graduation data gathered by the TEA to estimate the 4-year progression or drop-out rate in Texas. To do so, Haney takes the number of high school graduates in a particular year and divides that number by the number of ninth-grade students from 3 years earlier. He does not control for either the in-migration of students to the Texas education system or the out-migration of students from the Texas education system. Specifically, he is unable to track students moving from one school to another between states or countries, and he is unable to track students moving to and from private schools and home-schooling situations. Clearly, this prevents his data from being entirely accurate. To see the problem with such an analysis, one only has to employ the same methodology with Grade 9 students and Grade 6 students from 3 years earlier. Such an analysis results in a negative drop-out rate.

Even if one accepts that the number of students moving in and out of the system is small and, therefore, the analysis is fairly accurate, there are still several problems with his analysis. First, Haney attributes a large drop in the progression rate in the 1990-1991 academic year to the adoption of the Exit TAAS as a graduation requirement. What Haney fails to mention is that the graduating class of 1991 was not subject to the Exit TAAS graduation requirement but was only required to pass the "easier" TEAMS test. In fact, the first graduating class required to pass the Exit TAAS was the class of 1993. From 1978 to 1999, the greatest increase in the progression rate was between the 1991-1992 and 1992-1993 academic years. If one wants to draw causal connections from a simple line graph, then the conclusion would clearly be that the adoption of the Exit TAAS test as a graduation requirement actually *increased* the percentage of students who graduated.

Second, prior to the 1989-1990 academic year, enrollment and graduation data were collected through a paper submission from school districts to the TEA. The only method TEA could use to verify the counts was to actually send a team of auditors to each school and district to ensure accuracy. With more than 7,000 schools and 1,050 school districts dispersed over a large state, this was simply not possible. Starting with the 1989-1990 school year, the data submission was collected electronically. As both TEA and district personnel will attest, the data collected through the paper submission was fraught with error. In Haney's methodology, the progression rates for the 1989-1990, 1990-1991, and 1991-1992 academic years compared the number of graduates according to electronic submissions to the number of students enrolled in ninth grade according to paper submissions. An analysis of the data shows that the most volatility in the entire analysis occurs precisely during this time period. There certainly is the possibility that the volatility was due largely to differences in the accuracy of the different types of data

submission rather than another cause. Yet, Haney has ignored this possibility in his discussions of his analysis.

Finally, it is important to note three points. First, Martin Carnoy, of Stanford, and his colleagues (Carnoy, Loeb, & Smith, 2000) also have used the same data set to analyze dropouts in Texas and concluded that the accountability system appeared to have no effect on the drop-out rate in Texas for students from any demographic group. Second, neither Haney nor any other scholar has published a *statistical* analysis of the change in graduation, progression, or drop-out rates from one year to the next in Texas. Until statistical analyses and a large body of qualitative work identify a causal connection between the Exit TAAS and dropping out of school, any talk of a causal connection is purely conjecture. Finally, there has been no analysis of the progression rates for other states or the nation. Perhaps the economic recession or some other factor common to the entire nation or a certain set of states influenced the drop-out rate. Without such analyses, one cannot conclude that the trend in the drop-out rate in Texas looks different than the trend in any other state over the same time period.

Perhaps the most accurate data on the number of dropouts in Texas are the current completion rate analysis conducted by the TEA. Even this calculation, however, is not entirely accurate. In that analysis, the TEA tracks students electronically from one year to the next using each student's unique identification number. At the end of each academic year, the TEA analyzes how many students from each Grade 9 to Grade 12 cohort have graduated with a diploma, have obtained a GED, are still enrolled in school, or have dropped out of school. With the exception of students who died, transferred to another school, or returned home to another country, all students are included in the analysis. As Table 8 shows, the percentage of students who completed or who are completing high school (obtained a diploma, obtained a GED, or remained in school) has increased each year from the 1993-1994 academic year. Without a doubt, African American and Hispanic students have lower completion rates, but the rates have increased over time. Unfortunately, this analysis does not extend far enough back in time to analyze if the rates fluctuated after the adoption of the TAAS graduation requirement.

As explained above, there is not compelling evidence that the dropout problem has become larger since the development of the TAAS; however, the question remains, "Why are so many Texas youth dropping out of school?" Are students dropping out because of the TAAS? Despite much of the rhetoric surrounding the exit-level TAAS and dropouts in Texas, the Exit test is not the only graduation requirement. All Texas public school students must meet three requirements to graduate with a diploma: state and district requirements for attendance, state and district requirements for course completion, and

TABLE 8
Texas Public High School Student
Completion Rates From 1993-1994 to 1997-1998

	<i>1993- 1994</i>	<i>1994- 1995</i>	<i>1995- 1996</i>	<i>1996- 1997</i>	<i>1997- 1998</i>	<i>Change 1994-1998</i>
All students	85.3	87.7	89.3	90.7	91.4	6.1
White	91.2	92.8	93.8	94.5	94.9	3.7
African American	79.0	82.4	85.5	87.2	88.5	9.5
Hispanic	78.3	81.4	83.4	85.6	86.9	8.6

SOURCE: Texas Education Agency (1997a, 1998a)

minimum expectations on all three subtests of the Exit TAAS. Each of these requirements influences the extent to which students drop out of school.

Unfortunately, there is no statewide accurate count of the number of students who successfully complete all required classes and meet attendance requirements but still cannot graduate because of failure to pass the Exit TAAS. There are, however, several sources of data that shed some light on this problem.

One important source of data is an annual survey of school district personnel. In this survey, district personnel are asked for the reasons that students drop out of school. For each of the years that data were collected, the most common reason listed for students dropping out was poor grades (TEA, 1997a, 1998a). Failure to pass the Exit TAAS ranked ninth, eighth, and eighth for the 1994-1995, 1995-1996, and 1996-1997 academic years, respectively. The respective percentages are 2.7, 3.2, and 1.8. In comparison, "poor attendance" ranked first in all 3 years, and the respective percentages were 46.3, 45.0, and 45.0. This data suggests that far more students are dropping out because of poor attendance than not passing the Exit TAAS.

Another source of data is the number of students identified as not having passed the Exit TAAS from the TEA's "leaver record" on students leaving a district. Each Texas district is required to provide a reason for leaving for every student who leaves the district. Although one could argue that districts may have an incentive to "game" the system when reporting their numbers, the fact that the TEA rated several districts "low performing" for inaccurate or incomplete leaver record data provides a serious incentive for districts to accurately report on the dispositions of their students. One leaver record code is "completed, no TAAS." In other words, districts can report that a student completed all requirements except passing the Exit TAAS. In 1996-1997, only 1,856 students received this code, and in 1997-1998, 2,604 students received this code (TEA, 1997a, 1998a). Although this is seemingly a large

number of students, it represents about eight tenths of 1% of the number of ninth-grade students enrolled 3 years earlier.

There is no doubt that the drop-out rate in Texas is unacceptably high, especially for African American and Hispanic students. There is no reliable evidence, however, that the high drop-out rates are related to the testing and accountability system. In theory, one would expect some percentage of students to drop out whenever standards are raised, but there is no research that has isolated the effect of adopting a graduation test and accountability system on students dropping out of school.

ROLE OF THE ACCOUNTABILITY SYSTEM IN CHANGES IN STUDENT ACHIEVEMENT

There have been positive changes in the achievement of Texas students as measured by the TAAS, NAEP, and some other indicators of academic success. The positive change has been particularly pronounced for students of color and students from low-income homes. The improvements in performance cannot be attributed simply to exemption rates, easy state tests, or drop-out rates. In examining if accountability systems can drive improvements in achievement, then, the next question is, "Have the changes in student performance been driven by the state accountability system or by other factors?"

Determining causal relationships is always challenging in a field as complex as education and especially when one is examining an entity as broad and diverse as Texas. Certainly, there are many factors that have combined to influence improved achievement in Texas public schools. Some of these factors include the efforts to equalize funding for Texas schools, the provision of preschool education to many children from low-income homes, the reduction in classroom size to a 22 to 1 ratio in kindergarten through Grade 4, the provision of technical assistance and support through a network of education service centers and centers for educator development, and increased flexibility from state regulation. In fact, it is difficult to imagine how Texas schools could have attained their current level of performance without any one of these critical factors. These factors have been particularly important to efforts to improve the achievement of children of color and children from low-income homes.

While acknowledging a multitude of important factors, it is important, however, to note that the state accountability played a central, catalytic role in driving the improvements that have led to the student achievement results

described throughout this article. The best evidence of this central, catalytic role comes from a study of four Texas school districts (Skrla, Scheurich, & Johnson, 2000) that have made substantial improvements in the achievement of children of color and children from low-income homes.

Skrla et al. (2000) found that superintendents, school board members, and other district leaders pointed to the Texas accountability system as a catalyst for their improvement efforts. In particular, these leaders reported that the accountability system caused them to rethink what could be done to help children of color learn. As one central office administrator reported,

I think state accountability has been a good thing. . . . I think it's unfortunate that it took that [the state accountability system] to have to accomplish what should be accomplished anyway. There is no doubt in my mind that this district would not be where it is without it because we suddenly decided we were not where we needed to be and that we were going to get there.

The reason the accountability system has served as such a catalyst probably has less to do with testing and more to do with the manner in which the test results are used. In Texas, schools are rated as "low-performing," "acceptable," "recognized," or "exemplary." Whole districts are given similar ratings. To date, the ratings have been based on three factors: student attendance, drop-out rates, and the percentage of students passing the reading, mathematics, and writing sections of TAAS. However, the dropout and TAAS passing rates are not simply examined in the aggregate. Instead, the rates for African American, Hispanic, and White students are disaggregated and examined separately, along with the rates for students who meet the state's "economically disadvantaged" criteria. A school's rating is based on the performance of the lowest achieving group. Similarly, a district's rating is based on the performance of the lowest achieving group.

For example, to earn an acceptable rating in 2000, schools had to have 50% of their students passing each section of TAAS. As well, 50% of the African American students, 50% of the Hispanic students, 50% of the White students, and 50% of the students receiving free- or reduced-price lunch had to pass each section. Thus, a school that perhaps was getting 80% of their total student body to pass the mathematics section of TAAS but only got 40% of their Hispanic students to pass that section would have earned a low-performing rating.

The rating system communicates clearly to educators that all groups of students must be educated to meet the state's standards. Furthermore, the rating system communicates to the entire community a clear message about which children are and are not being educated. In each of the four districts

Skrla et al. (2000) studied, there were local catalysts (parent groups, advocacy groups, business leaders, judges presiding over desegregation orders) who used the results of the accountability system to focus district attention on the need to improve instruction for students who had not been served well.

Furthermore, the accountability system has given districts a substantial amount of data with which they can gauge their efforts to improve teaching and learning. Each of the four districts studied supplemented the data provided by the state with additional data used to ensure that all groups of students were making measurable progress toward the state's academic expectations. Often, these districts shaped the flow of fiscal, human, and material resources in ways that responded to the needs identified through state and local achievement data. As another central office administrator explained,

Accountability has made people more responsible. . . . And you know, it's made us turn our attention toward meeting the needs of all those kids. It's really just raised our level of awareness. . . . And when we first started looking very carefully at the accountability system, suddenly everybody realized the need for staff development. So we have used that as the impetus to make changes.

Of course, not all school districts have used the Texas accountability system as constructively or proficiently as the four in the study. However, an earlier study of 10 Texas districts (Ragland, Asera, & Johnson, 1999) found that district leaders were making similar uses of the state accountability system to help drive improvements throughout their districts. These studies show how district leaders believed that the state accountability system changed their expectations, changed their behavior, and ultimately changed their school systems.

CONCLUSION

Using the example of Texas, we have explored the question, "Can state accountability systems drive improvements in the school performance of children of color and children from low-income homes?" Data from TAAS, NAEP, advanced-placement course-taking patterns, and college entrance examinations indicate that Texas students have indeed made gains and, in some areas, impressive gains. Even though there are important concerns about exemption rates, test rigor, and drop-out rates, the bottom line remains that there have been important academic gains, especially for children of color and children from low-income homes in Texas. Qualitative studies are

showing that leaders in districts that have made the greatest gains are pointing to the state accountability system as a major force in driving their efforts to improve the learning of all students, especially children of color and children from low-income homes. The nature of the testing system is probably not the salient factor of the state accountability system. Instead, the power of the system is more likely tied to the structure of the rating system, the use of disaggregated data, and the mandate that districts get substantial percentages of each demographic group of students to achieve state expectations.

So, put simply, "Yes, state accountability systems can drive improvements in school performance for children of color and children from low-income homes." However, this does not imply that the Texas system is perfect. It is not. Nor does it imply that all accountability systems will drive improvement in student achievement. They will not. It does imply that state accountability systems deserve more rigorous study by all those who are concerned about the education of children of color and children from low-income homes. It implies that we should not allow our suspicion of testing programs and our distrust of state government to keep us from exploring how state accountability schools can be a powerful tool for generating greater equity and excellence in student achievement. Most important, it compels us to not look on the Texas system or any other state accountability system as either good or bad. Rather, it should encourage us to diligently study the nuances of such systems so that we might learn how to build on the positive results in Texas, minimize the negatives, and improve teaching and learning for all students throughout this nation.

REFERENCES

- Carnoy, M., Loeb, S., & Smith, T. L. (2000, March). *Do higher test scores in Texas make for better high school outcomes?* Paper presented at the annual meeting of the American Educational Research association, New Orleans, LA.
- College Board and Educational Testing Service. (1993a). *1993 AP Texas and national summary reports*. New York: Author.
- College Board and Educational Testing Service. (1993b). *1993 college-bound seniors: National report*. New York: Author.
- College Board and Educational Testing Service. (1993c). *1993 college-bound seniors: Texas report*. New York: Author.
- College Board and Educational Testing Service. (1994a). *1994 AP Texas and national summary reports*. New York: Author.
- College Board and Educational Testing Service. (1994b). *1994 college-bound seniors: National report*. New York: Author.

- College Board and Educational Testing Service. (1994c). *1994 college-bound seniors: Texas report*. New York: Author.
- College Board and Educational Testing Service. (1995a). *1995 AP Texas and national summary reports*. New York: Author.
- College Board and Educational Testing Service. (1995b). *1995 college-bound seniors: National report*. New York: Author.
- College Board and Educational Testing Service. (1995c). *1995 college-bound seniors: Texas report*. New York: Author.
- College Board and Educational Testing Service. (1996a). *1996 AP Texas and national summary reports*. New York: Author.
- College Board and Educational Testing Service. (1996b). *1996 college-bound seniors: National report*. New York: Author.
- College Board and Educational Testing Service. (1996c). *1996 college-bound seniors: Texas report*. New York: Author.
- College Board and Educational Testing Service. (1997a). *1997 AP Texas and national summary reports*. New York: Author.
- College Board and Educational Testing Service. (1997b). *1997 college-bound seniors: National report*. New York: Author.
- College Board and Educational Testing Service. (1997c). *1997 college-bound seniors: Texas report*. New York: Author.
- College Board and Educational Testing Service. (1998a). *1998 AP Texas and national summary reports*. New York: Author.
- College Board and Educational Testing Service. (1998b). *1998 college-bound seniors: National report*. New York: Author.
- College Board and Educational Testing Service. (1998c). *1998 college-bound seniors: Texas report*. New York: Author.
- College Board and Educational Testing Service. (1999a). *1999 AP Texas and national summary reports*. New York: Author.
- College Board and Educational Testing Service. (1999b). *1999 college-bound seniors: National report*. New York: Author.
- College Board and Educational Testing Service. (1999c). *1999 college-bound seniors: Texas report*. New York: Author.
- College Board and Educational Testing Service. (2000a). *2000 AP Texas and national summary reports*. New York: Author.
- College Board and Educational Testing Service. (2000b). *2000 college-bound seniors: National report*. New York: Author.
- College Board and Educational Testing Service. (2000c). *2000 college-bound seniors: Texas report*. New York: Author.
- Donahue, P. L., Voelkl, K. E., Campbell, J. R., & Mazzeo, J. (1999). *NAEP 1998 reading report card for the nations and states*. Washington, DC: NCES.
- Greenwald, E. A., Persky, H. R., Campbell, J. R., & Mazzeo, J. (1999). *NAEP 1998 writing: Report card for the nation and the states*. Washington, DC: NCES.
- Grissmer, D., & Flanagan, A. (in press). Searching for indirect evidence for the effects of state-wide reforms. In D. Ravitch (Ed.), *Brookings papers on educational policy 2001*. Washington, DC: Brookings Institution.
- Johnson, R. (1999). Attrition rates in Texas public high schools still high. *Intercultural Development Research Association Newsletter*, 26(9), 2-3, 8-18.
- O'Sullivan, C. Y., Reese, C. M., & Mazzeo, J. (1997). *NAEP 1996 science report card for the nation and the states*. Washington, DC: NCES.

- Preliminary report on Texas Assessment of Academic Skills Exit Test (TAAS-X)*, *GI Forum v. Texas Education Agency*, 87 F. Supp. 2d 667 (W.D. Texas, 2000) (testimony of Walter Haney).
- Ragland, M., Asera, R., & Johnson, J. F. (1999). *Urgency, responsibility, efficacy*. Austin, TX: Charles A. Dana Center.
- Reese, C. M., Miller, K. E., Mazzeo, J., & Dossey, J. A. (1997). *NAEP 1996 mathematics report card for the nation and the states*. Washington, DC: NCES.
- Skrla, L., Scheurich, J. J., & Johnson, J. F. (2000). *Equity-driven, achievement-focused school districts*. Austin, TX: Charles A. Dana Center.
- Texas Education Agency. (1997a). *1995-96 report on public school dropouts*. Austin, TX: Author.
- Texas Education Agency. (1998a). *Policy research: Expanding the scope of the Texas public school accountability system*. Austin, TX: Author.
- Texas Education Agency. (1998b). *Policy research: Academic achievement of elementary Students with limited English proficiency in Texas public schools*. Austin, TX: Author.
- Texas Education Agency. (1998d). *1996-97 report on public school dropouts*. Austin, TX: Author.
- Texas Education Agency. (2000a). *Student performance results, 1999-2000* [Online]. Available: http://www/tea.state.tx.us/student.assessment/results/swresult/august/g310all_au.htm
- Texas Education Agency. (2000b). *Statewide TAAS participation rates* [Online]. Available: <http://www/tea.state.tx.us/student.assessment>
- Treisman, U., & Fuller, E. (In press). *Searching for evidence of the effectiveness of systemic education reform*. In D. Ravitch (Ed.), *Brookings papers on educational policy 2001*. Washington, DC: Brookings Institution.