And The Equity Gaps Continue in ACT Scores: A Multiyear Statewide Analysis

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Abstract
In this investigation, we analyzed the past 10 years of Texas statewide data on student ACT test performance to determine the extent to which the achievement gap in college readiness skills had changed among Black, Hispanic, White, and Asian students. Statistically significant differences were revealed in the average ACT scores between all ethnic groups, with the exception of one school year in which the ACT scores of Black and Hispanic students did not differ. Effect sizes for the ACT score differences were extremely large (partial eta squares > .45) and remained unchanged across this 10-year time period. Despite education reform efforts in Texas, no reductions in the achievement gap in college readiness skills were evident.

Lezotte (2009) stated that the birth rates of students who have historically been the easiest to teach is declining and the birth rates of those students who have historically been more difficult to teach is on the increase. Each year approximately one-third of all graduating students from secondary public schools are academically underprepared for the rigors of college level courses (Bettinger & Long, 2005). Only 22% of the 1.2 million students who completed the American College Test (ACT) scored high enough to be college ready in English, math, reading, and science, according to an ACT 2004 report in which student test scores did not indicate improvement over a 10-year period. Similarly, of the 1.4 million students who completed the ACT in 2009, only 23% scored high enough to be college ready in all areas bringing the unchanged test results to 15 years of less than one-quarter of graduating seniors being college ready (ACT, 2009). McCabe (2000), in a national study, determined that 29% of all first-time entering college students were not prepared to perform at the college level in one or more areas of math, reading, or writing. For the past 20 years, however, students who were not properly prepared for college-level courses applied to colleges and universities in increasing numbers, making college readiness a continuing problem (Conley, 2007).

Researchers (e.g., Adelman, 1999, 2006; Noble & McNabb, 1989; Noble & Schnelker, 2007; Trusty & Niles, 2003; Wyatt, Saunders, & Zelmer, 2005) have suggested a variety of causes for the discrepancy between the number of students enrolling in college and the number of students who are prepared for college. Other researchers (e.g., Rescorla & Rosenthal, 2004; Roberts & Gott, 2006; Spelke, 2005) have documented relationships between student factors such as ethnicity, income level, and prior accomplishments with achievement in college. Additionally, the U.S. Department of Education (2000) statistics revealed that college readiness was one of seven educational priorities.

The federal government’s role in public secondary education policy has been extensive and established far-reaching procedural, administrative, and implementation provisions that state governments and local school districts must meet. Researchers at the U.S. Department of
Education (2003) recognized that even though billions of federal, state, and local dollars are spent on improving public education, the achievement gap is still conspicuously present and is apparent in advanced placement course enrollment, dropout rates, grades, and standardized test scores (Metz, 2010). Noted in a report from the National Conference of State Legislatures (2010) was that the federal government is strong on mandating procedural and administrative compliance but weak on successful involvement and incentives for improved student performance. Therefore, racial inequality issues still exist throughout public education (Paige & Witty, 2010). The disparity that exists in academic achievement among ethnic groups of public school students is referred to as the achievement gap (Holcomb-McCoy, 2007).

Statement of the Problem

Each year approximately one-third of all graduating students from secondary public schools are academically underprepared for the rigors of college level courses (Barnes, 2010; Bettinger & Long, 2005). Researchers have documented that math and reading standardized test scores remain relatively flat, and the achievement gap continues to be large between White students and ethnically diverse students (e.g., Black students and Hispanic students) during the period between 1984 and 2004 (Kirsch, Braun, Yamamoto & Sum, 2007). Nationally, fewer Black high school graduates go to college than White high school graduates among 18 to 24 year olds (Education Week, 2011; Haycock, Jerald, & Huang, 2001; Marklein, 2006). Regardless of the ACT score that Black students attain prior to entering college, certain factors are frequently mentioned in the research literature as contributors to the achievement gap between Black and White college students. Contributors to the achievement gap include but are not limited to: (a) education level of parents, (b) the quality of public school education, (c) study habits, and (d) peer influences (Bennett, 2002; McWhorter, 2000).

Theoretical Framework

Bourdieu’s cultural capital refers to non-financial social assets that could be educational or intellectual, which might promote upward social mobility beyond economic means (Barker, 2004). Cultural capital is a sociological concept that has gained widespread popularity since it was first articulated by Pierre Bourdieu and Jean-Claude Passeron. Bourdieu fashioned the theory of cultural capital by stating that capital acts as a social relation within the populace and the term encompasses all goods, material and symbolic (Harker, 1990). The concept of cultural capital has received widespread attention from theorists and researchers alike and is mostly employed in relation to the education system (Webb, Schirato, & Danaher, 2002). One of the main strengths of the theory is that it focuses on how structures and institutions play an instrumental role in producing inequality (Webb et al., 2002). Although persons who are deemed disadvantaged, oppressed, or a descendent from the lower socioeconomic status may find it difficult to obtain cultural capital, opportunities do exist to make positive personal changes that will develop the possibility for the acquisition of cultural capital (Flessa, 2007; Jennings & Lynn, 2005; Raines, 2006; Webb et al., 2002).

Purpose of the Study
The purpose of this study was to examine the college-readiness rates of Black, Hispanic, White, and Asian students of public secondary schools in Texas using archival data from the Texas Education Agency (TEA) Academic Excellence Indicator System. Data examined were the average ACT scores for the past 10 school years (i.e., 2001-2002 through 2010-2011) for Texas high school students. An examination of the ACT scores across a multi-year period assisted in analyzing the extent to which college-ready rates have increased or decreased, and to what extent parity has been established in the achievement gap between Black, Hispanic, White, and Asian high school students.

**Significance of the Study**

Barnes (2010), in an extensive and detailed study of college readiness skills for Texas high school students, stated:

> Additional research related to the college-readiness of high school graduates in Texas should be conducted using aggregated and student-level data. Future research is needed in the following areas: (a) replication of this study; (b) ongoing assessment to analyze trends; (c) cross-sectional studies conducted across grade levels; (d) P-12 or P-16 longitudinal studies; (e) investigation of other college readiness indicator data; and (f) prediction of college success based on high school GPA and standardized test scores. (p. 240)

In the present study, college, university, and public secondary school administrators are provided with information regarding the extent to which the ACT test scores, predictors of college readiness, have changed over the past 10 school years. With numerous education reform efforts having been implemented in Texas, findings delineated in this study may serve to elucidate the extent to which these reform efforts have been successful.

**Research Questions**

The following questions were addressed in this study: (a) What is the difference in ACT averages as a function of ethnic membership (i.e. Black, Hispanic, White, and Asian)? and (b) What is the trend, if any, in the gap in ACT averages as a function of ethnic membership (i.e., Black, Hispanic, White, and Asian)? The first research question was repeated for 10 years of statewide data. Research question two included the results from all 10 years of data analyzed herein.

**Participants**

Participants for this study were selected from the TEA Academic Excellence Indicator System (AEIS) database where information relevant to college-ready graduation rates is stored. Archival data collected from Texas high schools and school districts pertaining to college-ready graduation rates for 10 school years (i.e., 2001-2002 through 2010-2011) were utilized. Participant consideration was determined by precluding ethnic groups that typically represent small sample sizes and those students who might otherwise be included in the college-ready graduate rate participants. Students entered in AEIS ethnic categories of Native Americans or as
multi-racial, and students categorized in AEIS as Limited English Proficient and Economically Disadvantaged were excluded from this study. Students who attend charter high schools and alternative high schools were not included in this study. Participants were male and female students in the four predominant AEIS ethnic categories (i.e., Black, Hispanic, White, and Asian) in Texas. Based on the parameters for college-readiness as determined by the TEA, all participants for this study were enrolled in either the 11th or the 12th grade. With the exclusions above, the four predominant ethnic groups in Texas schools with the same assessment and accountability measures for college-ready graduation rates were compared.

Results

2001-2002 School Year

To ascertain the extent to which differences were present in the ACT averages of students by ethnicity for the 2001-2002 school year, a univariate analysis of variance (ANOVA) procedure was calculated, after checking to determine the extent to which its underlying assumptions were met. The majority of the measures of normality (i.e., skewness and kurtosis) were reflective of normally distributed data, however, the Levene’s test of equality of error variances was violated. Nevertheless, Field (2009), among other statisticians, contends that a parametric ANOVA can be used because of its robustness. A statistically significant difference was yielded, $F(3, 1952) = 589.75, p < .001, \eta^2 = .48$, in ACT scores as a function of student ethnicity. The effect size for this statistically significant difference was extremely large (Cohen, 1998). Scheffé post hoc procedures revealed that statistically significant differences were present between each pair of ethnic groups. As revealed in Table 1, Asian students had the highest ACT averages, being 0.97, 3.54, and 4.79 points higher than the ACT averages of White, Hispanic, and Black students, respectively. Similarly, White students had ACT averages that were 2.57 and 3.83 points higher than the ACT averages of Hispanic and Black students. Black students had the lowest ACT averages, being 1.25 points lower than the ACT average of Hispanic students. This stair step of ACT performance by ethnic group is illustrated in Figure 1.

2002-2003 School Year

To determine the extent to which differences were present in the ACT averages of students by ethnicity for the 2002-2003 school year, an ANOVA procedure was calculated, after checking to determine the extent to which its underlying assumptions were met. The majority of the measures of normality (i.e., skewness and kurtosis) were reflective of normally distributed data, however, the Levene’s test of equality of error variances was again violated. Nevertheless, Field (2009), among other statisticians, contends that a parametric ANOVA can be used because of its robustness. A statistically significant difference was yielded, $F(3, 1943) = 611.23, p < .001, \eta^2 = .49$, in ACT scores as a function of student ethnicity. The effect size for this statistically significant difference was extremely large (Cohen, 1998). Scheffé post hoc procedures revealed that statistically significant differences were present between each pair of ethnic groups. As delineated in Table 1, Asian students had the highest ACT averages, being 0.92, 3.54, and 4.73 points higher than the ACT averages of White, Hispanic, and Black students, respectively. Similarly, White students had ACT averages that were 2.63 and 3.80 points higher than the ACT averages of Hispanic and Black students. Black students had the lowest ACT averages, being
1.18 points lower than the ACT average of Hispanic students.

2003-2004 School Year

For the 2003-2004 school year, the assumptions underlying use of a parametric ANOVA were checked. Despite the majority of the underlying assumptions not being met, Field (2009), among other statisticians, contends that a parametric ANOVA can be used because of its robustness. A statistically significant difference was yielded, $F(3, 1987) = 578.09, p < .001, \eta^2 = .47$, as a function of student ethnicity. The effect size for this statistically significant difference was extremely large (Cohen, 1998). Scheffé post hoc procedures revealed that statistically significant differences were present between each pair of ethnic groups. As revealed in Table 1, Asian students had the highest ACT averages, being 1.24, 3.72, and 5.11 points higher than the ACT averages of White, Hispanic, and Black students, respectively. Similarly, White students had ACT averages that were 2.48 and 3.87 points higher than the ACT averages of Hispanic and Black students. Black students had the lowest ACT averages, being 1.39 points lower than the ACT average of Hispanic students.

2004-2005 School Year

Regarding the 2004-2005 school year, the assumptions underlying use of a parametric ANOVA were checked. Despite the majority of the underlying assumptions not being met, Field (2009), among other statisticians, contends that a parametric ANOVA can be used because of its robustness. A statistically significant difference was yielded, $F(3, 1641) = 654.59, p < .001, \eta^2 = .54$, in ACT scores as a function of student ethnicity. The effect size for this statistically significant difference was extremely large (Cohen, 1998). Scheffé post hoc procedures revealed that statistically significant differences were present between each pair of ethnic groups, with the exception of Black and Hispanic students. A difference of only 0.33 points was present between the ACT score averages of Black and Hispanic students. As indicated in Table 1, Asian students had the highest ACT averages, being 1.17, 4.77, and 5.10 points higher than the ACT averages of White, Hispanic, and Black students, respectively. Similarly, White students had ACT averages that were 3.60 and 3.93 points higher than the ACT averages of Hispanic and Black students.

2005-2006 School Year

For the 2005-2006 school year, the assumptions underlying use of a parametric ANOVA were again checked. Despite the majority of the underlying assumptions again not being met, Field (2009), among other statisticians, contends that a parametric ANOVA can be used because of its robustness. A statistically significant difference was revealed, $F(3, 1967) = 568.07, p < .001, \eta^2 = .46$, in ACT scores as a function of student ethnicity. The effect size for this statistically significant difference was extremely large (Cohen, 1998). Scheffé post hoc procedures revealed that statistically significant differences were present between each pair of ethnic groups. As delineated in Table 2, Asian students had the highest ACT averages, being 1.04, 3.82, and 5.03 points higher than the ACT averages of White, Hispanic, and Black students, respectively. Similarly, White students had ACT averages that were 2.78 and 3.99 points higher than the ACT averages of Hispanic and Black students. Black students had the lowest ACT averages, being 1.21 points lower than the ACT average of Hispanic students.
2006-2007 School Year

With respect to the 2006-2007 school year, the assumptions underlying use of a parametric ANOVA were again checked. Despite the majority of the underlying assumptions again not being met, Field (2009), among other statisticians, contends that a parametric ANOVA can be used because of its robustness. A statistically significant difference was present, $F(3, 1981) = 642.18, p < .001, \eta^2 = .49$, in ACT scores as a function of student ethnicity. The effect size for this statistically significant difference was extremely large (Cohen, 1998). Scheffé post hoc procedures revealed that statistically significant differences were present between each pair of ethnic groups. As revealed in Table 2, Asian students had the highest ACT averages, being 1.88, 4.64, and 6.00 points higher than the ACT averages of White, Hispanic, and Black students, respectively. Similarly, White students had ACT averages that were 2.76 and 4.12 points higher than the ACT averages of Hispanic and Black students. Black students had the lowest ACT averages, being 1.36 points lower than the ACT average of Hispanic students.

2007-2008 School Year

Concerning the 2007-2008 school year, the assumptions underlying use of a parametric ANOVA were again checked. Despite the majority of the underlying assumptions again not being met, Field (2009), among other statisticians, contends that a parametric ANOVA can be used because of its robustness. A statistically significant difference was revealed, $F(3, 2015) = 601.91, p < .001, \eta^2 = .47$, in ACT scores as a function of student ethnicity. The effect size for this statistically significant difference was extremely large (Cohen, 1998). Scheffé post hoc procedures revealed that statistically significant differences were present between each pair of ethnic groups. As presented in Table 2, Asian students had the highest ACT averages, being 1.93, 4.62, and 6.10 points higher than the ACT averages of White, Hispanic, and Black students, respectively. Similarly, White students had ACT averages that were 2.69 and 4.17 points higher than the ACT averages of Hispanic and Black students. Black students had the lowest ACT averages, being 1.48 points lower than the ACT average of Hispanic students.

2008-2009 School Year

For the 2008-2009 school year, the assumptions underlying use of a parametric ANOVA were again checked. Despite the majority of the underlying assumptions again not being met, Field (2009), among other statisticians, contends that a parametric ANOVA can be used because of its robustness. A statistically significant difference was again yielded, $F(3, 2043) = 629.60, p < .001, \eta^2 = .48$, in ACT scores as a function of student ethnicity. The effect size for this statistically significant difference was again extremely large (Cohen, 1998). Scheffé post hoc procedures revealed that statistically significant differences were present between each pair of ethnic groups. As presented in Table 2, Asian students had the highest ACT averages, being 2.00, 4.74, and 5.98 points higher than the ACT averages of White, Hispanic, and Black students, respectively. Similarly, White students had ACT averages that were 2.75 and 3.98 points higher than the ACT averages of Hispanic and Black students. Black students had the lowest ACT averages, being 1.24 points lower than the ACT average of Hispanic students.
2009-2010 School Year

With respect to the 2009-2010 school year, the assumptions underlying use of a parametric ANOVA were again checked. Despite the majority of the underlying assumptions again not being met, Field (2009), among other statisticians, contends that a parametric ANOVA can be used because of its robustness. A statistically significant difference was present, $F(3, 2252) = 628.84, p < .001, \eta^2 = .46$, in ACT scores as a function of student ethnicity. The effect size for this statistically significant difference was extremely large (Cohen, 1998). Scheffé post hoc procedures revealed that statistically significant differences were present between each pair of ethnic groups. As delineated in Table 3, Asian students had the highest ACT averages, being 1.61, 4.43, and 5.75 points higher than the ACT averages of White, Hispanic, and Black students, respectively. Similarly, White students had ACT averages that were 2.82 and 4.14 points higher than the ACT averages of Hispanic and Black students. Black students had the lowest ACT averages, being 1.32 points lower than the ACT average of Hispanic students.

2010-2011 School Year

To ascertain the extent to which differences were present in the ACT averages of students by ethnicity for the 2010-2011 school year, an ANOVA procedure was calculated, after checking to determine the extent to which its underlying assumptions were met. The majority of the measures of normality were reflective of normally distributed data, however, the Levene’s test of equality of error variances was again violated. Nevertheless, Field (2009), among other statisticians, contends that a parametric ANOVA can be used because of its robustness. A statistically significant difference was yielded, $F(3, 2381) = 643.86, p < .001, \eta^2 = .45$, as a function of student ethnicity. The effect size for this statistically significant difference was extremely large (Cohen, 1998). Scheffé post hoc procedures revealed that statistically significant differences were present between each pair of ethnic groups. As revealed in Table 3, Asian students had the highest ACT averages, being 2.04, 4.90, and 6.26 points higher than the ACT averages of White, Hispanic, and Black students, respectively. Similarly, White students had ACT averages that were 2.85 and 4.22 points higher than the ACT averages of Hispanic and Black students. Black students had the lowest ACT averages, being 1.36 points lower than the ACT average of Hispanic students. This stair step of ACT performance is illustrated in Figure 2.

Discussion

In this investigation, college-readiness rates of all students in Texas high schools and the disparity in academic achievement among Black, Hispanic, White, and Asian students were examined over a 10-year period. In each of the 10 school years (i.e., 2001-2002 through 2010-2011) of data analyzed, a clear stair step of achievement by student ethnicity was present. The average ACT scores were always highest for Asian students, followed by White students, then Hispanic students, and then Black students. The effect sizes for these statistically significant differences were extremely large, as revealed in Table 4.

Unfortunately, in our opinion, strong trends in academic achievement gaps for the ACT for the 10 years (i.e., 2001-2002 through 2010-2011) were determined. For all of the school years of data analyzed, academic achievement gaps remained relatively constant between each ethnic
pairwise comparison. The trend for Black students’ ACT academic achievement gap revealed the smallest difference in the average scores between Black and Hispanic students of 1.31 points and the greatest difference of 5.48 points between Black and Asian students. Trends in the academic achievement gap on the ACT for Hispanic students disclosed the smallest difference in the average between Black and Hispanic students of 1.31 points and the greatest difference of 4.27 points between Hispanic and Asian students. For White students, the trends in academic achievement gaps on the ACT revealed the smallest difference in the average between Asian students and White students of 1.48 points with the greatest difference being 4.11 points between the ACT average scores of Black and White students.

Provided through this study was a 10 school year statistical analysis representing the performance of four ethnic groups of students on college readiness benchmarks for the ACT. College readiness benchmarks are the minimum standardized test scores necessary for students to be successful in first-year credit-bearing courses, at postsecondary institutions. In 2011, 1.62 million high school students, the largest and most ethnically diverse group in ACT’s 52-year history, completed the exam; however, only one in four graduates met the four college-readiness benchmarks (ACT, 2011). The consequences for students who do not meet the college readiness benchmarks are multiple. First and foremost, students who do not meet the college readiness benchmarks are not eligible to participate in first-year credit-bearing courses, at postsecondary institutions, and additional placement tests (i.e., mathematics, reading, and writing) are required to avoid taking remedial courses. If students do not obtain the necessary score on the aforementioned placement tests, developmental coursework is required. Students who are placed in remedial courses incur additional costs and have more years to degree attainment (Barnes & Slate, 2011).

Student success can be based on the predictive validity of a given indicator, allowing for a good match between the student and the educational mission of the institution. The ACT was designed to serve two purposes: to help high school students develop postsecondary educational plans and to assist postsecondary educational institutions to meet the needs of their students (ACT, 2007b). In a national survey, Kirsch et al. (2007) reported that a high percentage of high school graduates did not demonstrate the necessary skill level for reading and mathematical ability to be successful in postsecondary education. To meet college admission standards in Texas, students are required to attain a composite score of 23 on the ACT. Revealed in this investigation was that the average ACT score of Black students in Texas was 5.5 to 6 points below the college admission standard, ranging from ACT scores of 17.0 in 2007 to 17.5 in 2011. Similarly, the average ACT scores of Hispanic students increased slightly from 18.1 in 2007 to 18.5 in 2011; however, these scores were still 4.5 points below the Texas college admission standard of 23 points. Furthermore, the average ACT scores for White and Asian students increased only slightly from 2007 to 2011. White students’ ACT average scores ranged from 22.2 in 2007 to 23.2 in 2011. Similarly, Asian students’ ACT average scores improved moderately from 23.2 in 2007 to 24.8 in 2011.

In this study, statistical power was present because data were collected for all Texas public high schools. Researchers (e.g., Moore, Slate, Edmonson, Combs, Bustamante, & Onwuegbuzie, 2009; Roderick, Nagaoka, & Coca, 2009) validated the findings of this study, reporting that lower socioeconomic, ethnically-diverse students who exhibit persistently low college-readiness
rates would need extensive involvement by mentors if students were to be successful at the postsecondary level. Based on the data from the most recent NAEP student performance report, the low academic performance rates of students enrolled in kindergarten through twelfth grade indicated that improvement is needed at all grade levels but more so in the later grades (National Center for Education Statistics, 2010). The findings of this study were congruent with the results of other researchers (e.g., Amrein-Beardsley, 2009; Nichols & Berliner, 2008; Ravitch, 2010). Also, revealed in this investigation was that only small incremental improvements in academic achievement had occurred among Black, Hispanic, White, and Asian students even though three decades have passed since the reform suggested by the authors of A Nation at Risk and 10 years of rigorous academic accountability mandated by the NCLB Act (2002).

Barnes, Slate, and Rojas-LeBouef (2010) stated that “within the last several decades, academically rigorous curriculum and stringent accountability measures have been mandated by state and federal legislation in hopes of increasing the likelihood of students graduating from high school college-ready” (p. 1). However, the aforementioned strategies have had minimal effect on college readiness. In public 2-year colleges, remediation courses were necessary for 51% of entering students (NCES, 2010), at a cost of $1.4 billion a year. In consideration of the cost per year spent on remediation, McKinsey and Company (2009) determined the academic achievement gap has imposed “the economic equivalent of a permanent national recession” (p. 6).

**Connection to Theoretical Framework**

The theoretical framework by which the research questions were examined was derived from Bourdieu’s (1986) theory of cultural capital. Bourdieu’s (1986) cultural capital refers to non-financial social assets that could be educational or intellectual, which might promote upward social mobility beyond economic means (Barker, 2004). Education is seen as a viable deterrent against poverty and social inequality and the most viable solution to escape poverty and dependence on social services (Allen & Hood, 2000; Lareau, 2001). An achievement gap among public high school students that exists is primarily associated with socioeconomic status. Poverty (De Civita, Pagani, Vitaro, & Tremblay, 2004), ethnic diversity, primarily Black and Hispanic populations (Bali & Alvarez, 2004), and low levels of parental educational attainment (Hakkinen, Kirjavainen, & Uusitalo, 2003) are determinants of lower academic achievement. Students who come from low socioeconomic households may find it difficult to obtain cultural capital; however, opportunities exist for positive personal changes that will enable the acquisition of cultural capital (Flessa, 2007; Jennings & Lynn, 2005; Raines, 2006; Webb et al., 2002).

Approximately 18–20% of U.S. public school students are living in poverty, and in some areas, the poverty rate is as high as 34% (Louis, 2003). If poverty level students who scored below average on the NAEP could have improved their scores to the national average over the past 15 years, the gross domestic product would be several hundred billion dollars higher (McKinsey & Company, 2009) thereby enriching their cultural, economic and social capital. The theory of cultural capital, as applied by Bourdieu (1986), was used to provide a theoretical structure to explain the positive attributes to improving the ACT averages for Black, Hispanic, White, and Asian students. The statistical procedures of this study revealed that the college-readiness rates
of White and Asian students were significantly higher than the college-readiness rates of Hispanic students, and Hispanic students’ college readiness scores were statistically higher than Black students’ college-readiness scores based on one Texas college readiness indicator (i.e., ACT).

**Implications for Policy**

The level of preparation required for students to enroll in and succeed at post-secondary institutions should be an expectation for all high school graduates (ACT, 2007b; Conley, 2007). Many studies, reports, and legislative acts have been conducted, presented, and enacted based on multiple data sets regarding student academic achievement and the academic achievement gap pertaining to public school students. A comparison of ACT tests that measure college readiness with those tests that measure workforce readiness yielded similar content and expectations on both types of tests (ACT, 2006). With respect to the knowledge and skills in English and mathematics expected by employers and postsecondary faculty, being ready for college or being ready for a career requires similar knowledge and skills in math and English (Byrd & McDonald, 2005; TEA, 2009a).

With the judicial and legislative policy decisions over the last 30 years, America’s educational systems should have made definitive strides to be inclusive and equitable in access and quality for all students. Although progress has been made, that progress is minute when considering the achievement gap that still exists between the middle- and upper-class students attending predominantly suburban schools, and the poor and poverty-stricken students attending urban and rural schools (Gray, 2005; Lutz, 2005; Orfield & Lee, 2007; Reber, 2005; Williams, 2005). Although policy makers on the national, state, and local levels have been working tenaciously to improve schools and create equality, excellence, and equity for all students, their efforts may be misguided (Anyon, 1995, 1997, 2005; Gray, 2005; Rothstein, 2004b). According to Anyon (1995), “the structural basis for failure in inner-city schools is political, economic, and cultural, and must be changed before meaningful school improvement can be successfully implemented. Educational reforms cannot compensate for the ravages of society” (p. 88). Also, Berliner (2006) stated:

> schooling alone may be too weak an intervention for improving the lives of most children living in poverty now….more politicians need to turn their attention to the outside-of-school problems that affect the inside-of-school academic performance. (pp. 955, 977)

Findings of this study and other relevant research appear to refute the assertions of excellence and equity based on high-stakes testing and stringent accountability measures purported by the NCLB Act (Amrein & Berliner, 2002; Barnes & Slate, 2011; Berliner, 1993, 2006; Braun, Wang, Jenkins, & Weinbaum, 2006; Gray, 2005; Greene & Winters, 2005; Lutz, 2005; Orfield, 2000; Orfield & Lee, 2007; Orfield, Losen, Wald, & Swanson, 2004; Reber, 2005; Williams, 2005). However, the NCLB Act (2002) does not stand alone in its inaccurate assertions. In every decade since the late 1940s, national and state executive, judicial, and legislative mandates and guidelines have been enacted and implemented to improve student academic achievement and narrow the academic achievement gap with little success in creating solutions for the two ever-present issues (Civil Rights Act, 1964; ESEA, 1965; GOALS 2000; IASA, 1994; National
Low graduation rates, low college- and career-readiness rates, high dropout rates, and the wide student academic achievement gap still persist regardless of assessment forms, accountability measures, funding appropriations, academic resources, and teacher qualifications mandated by policy makers, which indicates that alternative solutions to the aforementioned problems must be developed and implemented.

Rather than recreating and reenacting similar policies at the national level and creating false hope for academic improvement, state, and possibly district level, policy makers should create education task forces that are charged with thinking creatively and critically to implement new avenues for increased academic achievement for all students. Some states and school districts have begun to form education task forces in efforts to increase student learning and academic achievement. Also, state policy makers and school district leaders should be able to make more informed decisions about the needs of students.

Conclusion

Documented in this research were statistically significant differences and trends in the ACT averages for Black, Hispanic, White, and Asian students over 10 school years (i.e., 2001-2001 through 2010-2011). The results of this study expand the current body of knowledge regarding achievement gaps between and among members of the aforementioned ethnic groups. Outcomes of this statewide, multiyear investigation established that scores on the ACT have improved minimally, at best, over the 10 years of data analyzed herein. Furthermore, efforts by local, state, and federal education entities to narrow the academic achievement gaps among Black, Hispanic, White, and Asian students have not been successful. Findings of this study were commensurate with other research investigations on college-readiness and the gaps in academic achievement among Black, Hispanic, White, and Asian students (Amrein & Berliner, 2002; Berliner, 2006; Braun et al., 2006; Gregory, Skiba, & Noguera, 2010; Haney, 2000, 2001; Lee & Kim, 2010). Though school reform efforts have been underway for decades, results for students in Texas schools do not provide evidence of their effectiveness.
References

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Table 1
Descriptive Statistics for the ACT Score Averages by Ethnicity for the 2001-2002 Through the 2004-2005 School Years

<table>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Black</td>
<td>366</td>
<td>16.96</td>
<td>1.72</td>
</tr>
<tr>
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<td>566</td>
<td>18.35</td>
<td>1.96</td>
</tr>
<tr>
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<td>940</td>
<td>20.84</td>
<td>1.63</td>
</tr>
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<td>Asian</td>
<td>119</td>
<td>22.07</td>
<td>2.33</td>
</tr>
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<td><strong>2004-2005</strong></td>
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<td></td>
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<tr>
<td>Black</td>
<td>366</td>
<td>17.13</td>
<td>1.77</td>
</tr>
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<td>Hispanic</td>
<td>252</td>
<td>17.46</td>
<td>1.84</td>
</tr>
<tr>
<td>White</td>
<td>915</td>
<td>21.06</td>
<td>1.62</td>
</tr>
<tr>
<td>Asian</td>
<td>112</td>
<td>22.23</td>
<td>2.53</td>
</tr>
</tbody>
</table>
Table 2

Descriptive Statistics for the ACT Score Averages by Ethnicity for the 2005-2006 Through the 2008-2009 School Years

<table>
<thead>
<tr>
<th>Ethnic Group by School Year</th>
<th>n of schools</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2005-2006</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>363</td>
<td>17.12</td>
<td>1.84</td>
</tr>
<tr>
<td>Hispanic</td>
<td>577</td>
<td>18.33</td>
<td>2.06</td>
</tr>
<tr>
<td>White</td>
<td>914</td>
<td>21.11</td>
<td>1.64</td>
</tr>
<tr>
<td>Asian</td>
<td>117</td>
<td>22.15</td>
<td>2.62</td>
</tr>
<tr>
<td><strong>2006-2007</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>364</td>
<td>17.10</td>
<td>1.90</td>
</tr>
<tr>
<td>Hispanic</td>
<td>599</td>
<td>18.46</td>
<td>2.10</td>
</tr>
<tr>
<td>White</td>
<td>900</td>
<td>21.22</td>
<td>1.61</td>
</tr>
<tr>
<td>Asian</td>
<td>122</td>
<td>23.10</td>
<td>2.53</td>
</tr>
<tr>
<td><strong>2007-2008</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
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<td>17.01</td>
<td>1.82</td>
</tr>
<tr>
<td>Hispanic</td>
<td>619</td>
<td>18.49</td>
<td>2.22</td>
</tr>
<tr>
<td>White</td>
<td>909</td>
<td>21.18</td>
<td>1.73</td>
</tr>
<tr>
<td>Asian</td>
<td>123</td>
<td>23.11</td>
<td>2.57</td>
</tr>
<tr>
<td><strong>2008-2009</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>402</td>
<td>17.41</td>
<td>1.84</td>
</tr>
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<td>640</td>
<td>18.65</td>
<td>2.18</td>
</tr>
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<td>White</td>
<td>858</td>
<td>21.39</td>
<td>1.69</td>
</tr>
<tr>
<td>Asian</td>
<td>147</td>
<td>23.39</td>
<td>2.55</td>
</tr>
</tbody>
</table>
Table 3

Descriptive Statistics for the ACT Score Averages by Ethnicity for the 2009-2010 Through the 2010-2011 School Years

<table>
<thead>
<tr>
<th>Ethnic Group by School Year</th>
<th>n of schools</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>430</td>
<td>17.42</td>
<td>1.97</td>
</tr>
<tr>
<td>Hispanic</td>
<td>718</td>
<td>18.74</td>
<td>2.16</td>
</tr>
<tr>
<td>White</td>
<td>941</td>
<td>21.56</td>
<td>1.89</td>
</tr>
<tr>
<td>Asian</td>
<td>167</td>
<td>23.17</td>
<td>2.63</td>
</tr>
<tr>
<td>2010-2011</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>458</td>
<td>17.45</td>
<td>2.15</td>
</tr>
<tr>
<td>Hispanic</td>
<td>787</td>
<td>18.81</td>
<td>2.32</td>
</tr>
<tr>
<td>White</td>
<td>960</td>
<td>21.67</td>
<td>1.94</td>
</tr>
<tr>
<td>Asian</td>
<td>180</td>
<td>23.71</td>
<td>2.77</td>
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</tbody>
</table>
Table 4

*Effect Sizes for the ACT Differences by Ethnicity for the 2001-2002 Through the 2010-2011 School Years*

<table>
<thead>
<tr>
<th>School Year</th>
<th>Statistically Significant Difference</th>
<th>Partial eta squared</th>
<th>Effect Size Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-2002</td>
<td>Yes</td>
<td>.48</td>
<td>Extremely Large</td>
</tr>
<tr>
<td>2002-2003</td>
<td>Yes</td>
<td>.49</td>
<td>Extremely Large</td>
</tr>
<tr>
<td>2003-2004</td>
<td>Yes</td>
<td>.47</td>
<td>Extremely Large</td>
</tr>
<tr>
<td>2004-2005</td>
<td>Yes</td>
<td>.54</td>
<td>Extremely Large</td>
</tr>
<tr>
<td>2005-2006</td>
<td>Yes</td>
<td>.46</td>
<td>Extremely Large</td>
</tr>
<tr>
<td>2006-2007</td>
<td>Yes</td>
<td>.49</td>
<td>Extremely Large</td>
</tr>
<tr>
<td>2007-2008</td>
<td>Yes</td>
<td>.47</td>
<td>Extremely Large</td>
</tr>
<tr>
<td>2008-2009</td>
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<td>.48</td>
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</tr>
<tr>
<td>2009-2010</td>
<td>Yes</td>
<td>.46</td>
<td>Extremely Large</td>
</tr>
<tr>
<td>2010-2011</td>
<td>Yes</td>
<td>.45</td>
<td>Extremely Large</td>
</tr>
</tbody>
</table>
Figure 1. ACT averages for Black, Hispanic, White, and Asian students in the 2001-2002 school year.
Figure 2. ACT averages for Black, Hispanic, White, and Asian students in the 2010-2011 school year.