Current Issues in Education
Mary Lou Fulton Teachers College • Arizona State University
PO Box 37100, Phoenix, AZ 85069, USA

Volume 13, Number 3 ISSN 1099-839X

Texas High Schools and New Teachers: A Multi-Year Statewide Study

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Citation

Garcia, C & Slate, J. (2010). Texas High Schools and New Teachers: A Multi-Year Statewide Study. *Current Issues in Education*, 13(3). Retrieved from http://cie.asu.edu/

Abstract

We examined the five most recent years of data (2003-2004 through 2007-2008) from the Texas Academic Excellence Indicator System regarding new teachers employed at high school campuses. We specifically focused on the extent to which differences were present between high school campuses with the highest new teacher percentages and high school campuses with the lowest new teacher percentages. High school campuses with the highest new teacher percentages had higher percentages of minority students and higher percentages of economically disadvantaged students but lower percentages of at-risk students than did high school campuses with the lowest percentages of new teachers. Implications of these findings and suggestions for further research are discussed.

Keywords: beginning teachers, high schools, student characteristics, teacher attrition

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Darling-Hammond (2000) and Darling-Hammond and Sykes (2003) asserted that teacher quality was important in promoting student academic success because of the essential role played by teachers in the educational process. A growing accumulation of research studies provide substantial support for their assertion. In the Alliance for Excellent Education (2004) report, the argument was made that "…the single most important factor in determining student performance is the quality of the teacher" (p. 1). Currently, the focus on the quality of teaching has been greater than ever before due to the numerous research studies in which the importance of instruction in student achievement regardless of other background factors has been extensively documented (Darling-Hammond, 2000; Darling-Hammond & Sykes, 2003; Joftus & Maddox-Dolan, 2002; Obama, 2005; Rice, 2003; Rowland & Coble, 2005; Whitehurst, 2003).

In our opinion, it is unfortunate that many of the teachers who would be considered highly qualified are not teaching in the schools where their expertise and abilities are needed the most. That is, many researchers have recognized that students at the poorest achieving schools who desperately need highly qualified teachers are often taught primarily by teachers who have the least amount of teaching experience (Allen, Palaich, & Anthes, 1999; Darling-Hammond, 1998; Ingersoll, 1999, 2002; Nieto, 2003; Orfield & Lee, 2005; Peske & Haycock, 2006; Rowland & Coble, 2005). Boyd, Lankford, Loeb, and Wyckoff (2005), in their study, described teachers as being highly qualified according to certification scores and experience. These authors indicated that highly qualified teachers were more likely to leave or quit when they were teaching low-achieving students, even after considering for teacher and student race (Boyd et al., 2005). For all students, effective teachers matter in improving student learning, but especially for schools with high percentages of poor and minority students (Chait, 2009) due to the influential effects that teachers have on math, reading, and science achievement (Rice, 2003;

Rivkin, Hanushek, & Kain, 2005). The quality of instruction clearly depicts the critical role for teachers and schools in promoting both economic and social equality (Rivkin et al., 2005). Acknowledging the effects of socioeconomic inequalities on student achievement is a critical step to closing the student achievement gap (Rothstein, 2008).

Claycomb and Hawley (2000) noted that researchers and scholars generally concur that new teachers usually need from three to seven years of teaching experience to hone their skills and to make a positive impact on their student's achievement. Boyd et al. (2005) noted that high teacher turnover rates in lower-performing schools disadvantages its students because the effectiveness of teachers improves during the first few years in the profession. Novice teachers with three or less years of experience are not as effective as their more experienced colleagues, with new teachers in mathematics performing "significantly worse than more experienced teachers" (Rivkin et al., 2005, p. 447). However, beginning teachers, and not their more experienced colleagues, are often the ones assigned to teach the poorest performing students at risk of failing or dropping out (Alliance for Excellence Education, 2004, 2008).

Hispanic and African-American students have not achieved and are not achieving at the same level as White students (Lee, 2004); in fact, minorities have the worst graduation rates (Orfield, Losen, Wald, & Swanson, 2004). And yet, Year after year, Hispanic, African-American and low-income students are *less* likely to be assigned to teachers who know their subject matter, *less* likely to be in classrooms with experienced teachers and *less* likely to attend schools with a stable teaching force. Not surprisingly, their teachers are paid less, too. (Education, Trust, 2008, p. 2)

Teacher attrition is high among teachers during their beginning years of teaching (Ingersoll & Smith, 2003) and by the fifth year about half of ~~the~~ teachers leave the teaching

profession (Ingersoll, 2003). Ingersoll (2003) documented that schools with higher percentage of poor students lose more teachers annually than schools with lower percentages of poor students. Focusing on one state in particular, Texas, teacher turnover was one and a half times greater in Texas school districts with higher percentages (i.e., 50% or higher) of economically disadvantaged students than in Texas school districts with lower percentages (i.e., less than 50%) of economically disadvantaged students. Teacher turnover was almost two times as high in Texas school districts with higher percentages (i.e., 75% or higher) of minority students than in Texas school districts with lower percentages (i.e., less than 25%) of minority students in a recent study (Martinez-Garcia, Slate, & Tejeda-Delgado, 2009). Congruent to Ingersoll (2001a, 2001b) and Borman and Dowling (2008) who concluded that salary predicted teacher attrition, Martinez-Garcia, Slate, and Tejeda-Delgado (2009) in their study asserted that teacher turnover was clearly linked with teacher salary. In fact, many of our nation's schools are considered to be "revolving doors" because they lose as many teachers as they hire annually (National Commission on Teaching and America's Future, 2002, p. 6). The consequences of teacher turnover are especially dismal for schools with high poverty in their attempt to close the student achievement gap because, for these students, a teacher quality gap also exists (National Commission on Teaching and America's Future, 2008).

Teachers are not the only ones leaving schools. In fact, too many of our nation's high school students are not graduating on time with a regular diploma and are dropping out. Low-income and minority students have the highest dropout rates (Alliance for Excellent Education, 2009). In the United States, graduation rates are low for all students with only an estimated 68% of the students who enter ninth grade graduating from high school with a regular diploma. According to the calculations used in the Orfield et al., (2004) report, graduation rates were

considerably lower for minority groups. Only 50% of all African-American students and 51% of all Hispanic students graduated from high school in 2001. Misleading information or inaccurate graduation rates have been published by districts and schools for decades. The incorrect data were inflated and resulted with the American public knowing little about the scope and severity of the problems confronted by numerous high schools in the nation (Alliance for Excellent Education, 2009).

Purpose of the Study

Our purposes in conducting this study were twofold: (a) to analyze high school campus characteristics that might be related with beginning teacher employment; and (b) to ascertain the extent to which our findings were consistent across five years of statewide data. Understanding the characteristics of high schools where new teachers are employed may assist in understanding better what changes need to be made in teacher education preparation programs as well as in support programs for new teachers. Such understandings might facilitate new teachers remaining in the teaching profession longer than they currently do.

Research Questions

The following research questions were addressed in this study: (a) what is the difference between the high school campuses with the highest percent of new teachers and high school campuses with the lowest percent of new teachers in their percent of minority students, percent of economically disadvantaged students, and percent of at-risk students?; and (b) To what extent are findings consistent across a five years of statewide data?

Method

Participants

Data from all Texas high public school campuses for the school years 2003-2004 (N = 7,813), 2004-2005 (N = 7,908), 2005-2006 (N = 7,956), 2006-2007 (N = 8,061), and 2007-2008 (N = 8,195) were analyzed, with the exception of charter schools. The number of high schools for which data are available in Texas change annually due to state requirements for reporting data. Schools in which 100% of students obtain scores at the passing rate standard are not permitted to release scores publically because, in doing so, students' performance could be identified. Similar guidelines are present for reporting information on ethnic groups with small samples sizes at schools. The research questions previously delineated were individually addressed for each of the five years obtained from the Texas educational database. The Texas Education Agency annually provides via their online website aggregated data for each of its school campuses and school districts through the Academic Excellence Indicator System (AEIS). Each school campus and school district are required to report to the Texas Education Agency specific information concerning student attendance, student achievement, graduation rates, free and reduced lunch enrollment, ethnic status, special education enrollment, and many others, as well information about classroom teachers, administrators, and school finance. Data are reported by schools and school districts on an ongoing basis throughout the school year, as well as the summer. The state-mandated assessment measures are given in the spring of each year. The aggregated data, analyzed in this study, are released to the public usually in late October or early November of each year.

Instrumentation

Archival data were acquired on all Texas public high school campuses for the five most recent school years. Through accessing and downloading files from the AEIS, data that were reported by each high school campus were gathered. Specifically, data on the number and

percent of beginning teachers, percent of minority student enrollment, percent of economically disadvantaged students, and the percent of at-risk students at each high school campus were obtained. Because the data for each of these variables are self-reported by the individual school campuses, traditional reliability and validity estimates are not appropriate. Rather, any errors in these self-reported figures are assumed to be minimal. The Texas Education Agency monitors compliance of schools and of school districts with the reporting of data to the state. Schools and school districts are held accountable for the accuracy of the data they report to the state.

Variables

In this study, the researchers defined minority students as Hispanic students and African American students. The Texas Education Agency defines at-risk students as students that are more likely to drop out of high school because they have been retained one or more years; failed a state assessment; are in prekindergarten, kindergarten, or grades 1, 2, or 3 and did not perform satisfactorily on a readiness test; are pregnant or a parent; are expelled; are on parole or other conditional release; have previously dropped out of school; are limited English proficient; are in the custody or care of the Department of Protective and Regulatory Services or been referred to the department; are homeless; or resided the previous year or reside in a residential placement facility in the district (i.e., detention facility, substance abuse treatment facility, emergency shelter, psychiatric hospital, halfway home, or foster group home) (Texas Education Agency, AEIS Glossary, 2008). A beginning teacher is defined by the Texas Education Agency as "a teacher reported with zero years of experience" (Texas Education Agency, AEIS Glossary, 2008).

Procedures

After accessing TEA's AEIS website, each specific year of interest was accessed. Connection to each AEIS data file of interest (i.e., campus, teacher, and student) was made. Data from each data file were downloaded as .dat files and then merged using the *Statistical Package for the Social Sciences-Version 15*. As such, data are aggregated across schools. Prior to conducting statistical procedures, the underlying assumptions (e.g., normality of data) of parametric procedures were checked and verified. Accordingly, the use of parametric statistical procedures was justified.

Results

2007-2008 School Year

Research Question: "What is the difference between the high school campuses with the highest percent of new teachers and high school campuses with the lowest percent of new teachers in their percent of minority students, percent of economically disadvantaged students, and percent of at-risk students?" To address this question, a multivariate analysis of variance (MANOVA) was performed and yielded a statistically significant result, $\Lambda = .94$, $p < .001$, $n^2 = .06$. Univariate follow-up *F*s revealed statistically significant differences for the percent of minority students, $F(1, 952) = 17.72$, $p < .001$, $n^2 = .02$; for the percent of economically disadvantaged students on campus, $F(1, 952) = 16.88$, $p < .001$, $n^2 = .02$; and for the percent of at-risk students on campus, $F(1, 952) = 9.89$, $p = .002$, $n^2 = .01$. Effect sizes for each of these statistically significant results were small (Cohen, 1988).

The high school campuses in the highest one-third of beginning teacher percentages had higher average percentages of minority and economically disadvantage students enrolled than did high school campuses in the lowest one-third of beginning teachers. Interestingly, the average percent of at-risk students was statistically significantly lower in the high school

campuses with the highest percentage of beginning teachers than in the high school campuses with the lowest percentage of beginning teachers. Table 1 contains the descriptive statistics for these three dependent variables.

Table 1

Descriptive Statistics for Minority Student Percentage, Economically Disadvantaged Student Percentage, and At-Risk Student Percentage by Beginning Teacher Groups for the 2007-2008, 2006-2007, 2005-2006, 2004-2005, and 2003-2004 School Years

Variable	*n*	*M*	*SD*
2007-2008 School Year			
Percent of Minority Students on Campus			
Lowest 1/3 of Beginning Teacher Percentages	477	51.75	29.89
Highest 1/3 of Beginning Teacher Percentages	477	59.97	30.46
Percent of Economically Disadvantaged Students			
Lowest 1/3 of Beginning Teacher Percentages	477	45.35	26.19
Highest 1/3 of Beginning Teacher Percentages	477	51.80	22.10
Percent of At-Risk Students			
Lowest 1/3 of Beginning Teacher Percentages	477	62.46	29.08
Highest 1/3 of Beginning Teacher Percentages	477	57.35	25.20
2006-2007 School Year			
Percent of Minority Students on Campus			
Lowest 1/3 of Beginning Teacher Percentages	473	46.19	29.78
Highest 1/3 of Beginning Teacher Percentages	472	58.79	30.49
Percent of Economically Disadvantaged Students			

Lowest 1/3 of Beginning Teacher Percentages	473	43.43	24.72
Highest 1/3 of Beginning Teacher Percentages	472	52.42	23.85
Percent of At-Risk Students			
Lowest 1/3 of Beginning Teacher Percentages	473	49.68	24.97
Highest 1/3 of Beginning Teacher Percentages	472	51.56	23.38
2005-2006 School Year			
Percent of Minority Students on Campus			
Lowest 1/3 of Beginning Teacher Percentages	473	46.64	30.44
Highest 1/3 of Beginning Teacher Percentages	473	56.01	31.69
Percent of Economically Disadvantaged Students			
Lowest 1/3 of Beginning Teacher Percentages	473	42.52	25.78
Highest 1/3 of Beginning Teacher Percentages	473	52.97	23.31
Percent of At-Risk Students			
Lowest 1/3 of Beginning Teacher Percentages	473	63.04	28.51
Highest 1/3 of Beginning Teacher Percentages	473	59.14	21.16
2004-2005 School Year			
Percent of Minority Students on Campus			
Lowest 1/3 of Beginning Teacher Percentages	468	48.52	31.18
Highest 1/3 of Beginning Teacher Percentages	469	54.60	31.56
Percent of Economically Disadvantaged Students			

To ascertain whether differences were present in the percent of beginning teachers as a function of minority student enrollment, an analysis of variance (ANOVA) was conducted. First,

following a frequency distribution for the percent of minority student enrollment, two groups were created: group one consisted of those high school campuses in the lowest one-third of minority student percentage and group two consisted of those high school campuses in the highest one-third of minority student percentage. The ANOVA was statistically significant, $F(1, 926) = 10.61$, $p = .001$, $n^2 = .01$, and revealed that the percent of beginning teachers was statistically significantly higher in the high school campuses with the highest one-third of minority students ($M = 8.56$, $SD = 9.48$) than in the high school campuses with the lowest one-third of minority students ($M = 6.68$, $SD = 8.06$).

2006-2007 School Year

Research Question: "What is the difference between the high school campuses with the highest percent of new teachers and high school campuses with the lowest percent of new teachers in their percent of minority students, percent of economically disadvantaged students, and percent of at-risk students?" To address this question, a MANOVA was conducted and yielded a statistically significant result, $\Lambda = .95$, $p < .001$, $n^2 = .05$. Univariate follow-up Fs revealed statistically significant differences for percent of minority students, $F(1, 943) = 41.28$, $p < .001$, $n^2 = .04$; for the percent of economically disadvantaged students on campus, $F(1, 943) = 32.37$, $p < .001$, $n^2 = .03$; but not for the percent of at-risk students on campus, $F(1, 943) = 1.44$, $p = .23$, $n^2 = .002$. Effect sizes for the two statistically significant results were small (Cohen, 1988).

The high school campuses in the highest one-third of beginning teacher percentages had higher average percentages of minority and economically disadvantaged students enrolled than did high school campuses in the lowest one-third of beginning teachers. No difference was observed in the average percent of at-risk students at the high school campuses with the highest

percentage of beginning teachers than at the high school campuses with the lowest percentage of beginning teachers. Table 1 contains the descriptive statistics for these three dependent variables.

To determine whether differences were present in the percent of beginning teachers as a function of minority student enrollment, an ANOVA was conducted. First, following a frequency distribution for the percent of minority student enrollment, two groups were created: group one consisted of those high school campuses in the lowest one-third of minority student percentage and group two consisted of those high school campuses in the highest one-third of minority student percentage. The ANOVA was statistically significant, $F(1, 918) = 25.14$, $p = .001$, $n^2 = .03$, and revealed that the percent of beginning teachers was statistically significantly higher in the high school campuses with the highest one-third of minority students ($M = 10.41$, $SD = 13.07$) than in the high school campuses with the lowest one-third of minority students ($M = 6.68$, $SD = 8.63$).

2005-2006 School Year

Research Question: "What is the difference between the high school campuses with the highest percent of new teachers and high school campuses with the lowest percent of new teachers in their percent of minority students, percent of economically disadvantaged students, and percent of at-risk students?" To address this question, a MANOVA was conducted and yielded a statistically significant result, $\Lambda = .92$, $p < .001$, $n^2 = .08$. Univariate follow-up *F*s revealed statistically significant differences for percent of minority students, $F(1, 944) = 21.46$, $p < .001$, $n^2 = .02$; for the percent of economically disadvantaged students on campus, $F(1, 944) = 42.76$, $p < .001$, $n^2 = .04$; and for the percent of at-risk students on campus, $F(1, 944) = 5.72$, $p = .017$, $n^2 = .006$. Effect sizes for each of these statistically significant results were small (Cohen, 1988).

For the percent of minority student enrollment and for the percent of economically disadvantaged students, the high school campuses in the highest one-third of beginning teacher percentages had higher average percentages than did high school campuses in the lowest one-third of beginning teachers. Interestingly, the average percent of at-risk students was statistically significantly lower in the high school campuses with the highest percentage of beginning teachers than in the high school campuses with the lowest percentage of beginning teachers. Table 1 contains the descriptive statistics for these three dependent variables.

To ascertain whether differences were present in the percent of beginning teachers as a function of minority student enrollment, an ANOVA was conducted. Similar to the previous two years, two groups were created for the percent of minority students on campus: group one consisted of those high school campuses in the lowest one-third of minority student percentage and group two consisted of those high school campuses in the highest one-third of minority student percentage. The ANOVA was statistically significant, $F(1, 923) = 8.60$, $p = .003$, $n^2 = .009$, and revealed that the percent of beginning teachers was statistically significantly higher in the high school campuses with the highest one-third of minority students ($M = 7.95$, $SD = 7.69$) than in the high school campuses with the lowest one-third of minority students ($M = 6.48$, $SD = 7.51$).

2004-2005 School Year

Research Question: "What is the difference between the high school campuses with the highest percent of new teachers and high school campuses with the lowest percent of new teachers in their percent of minority students, percent of economically disadvantaged students, and percent of at-risk students?" To address this question, a MANOVA was conducted and yielded a statistically significant result, $\Lambda = .94$, $p < .001$, $n^2 = .06$. Univariate follow-up *F*s

revealed statistically significant differences for the percent of minority students, $F(1, 935) = 8.79$, $p = .003$, $n^2 = .009$; for the percent of economically disadvantaged students on campus, $F(1, 935) = 12.39$, $p < .001$, $n^2 = .013$; and for the percent of at-risk students on campus, $F(1, 935) = 15.64$, $p < .001$, $n^2 = .016$. Effect sizes for these statistically significant results were small (Cohen, 1988).

The high school campuses in the highest one-third of beginning teacher percentages had higher average percentages of minority and economically disadvantaged students enrolled than did high school campuses in the lowest one-third of beginning teachers. Interesting, the average percent of at-risk students was higher at the high school campuses with the lowest percentage of beginning teachers than at the high school campuses with the highest percentage of beginning teachers. Table 1 contains the descriptive statistics for these three dependent variables.

To ascertain whether differences were present in the percent of beginning teachers as a function of minority student enrollment, an ANOVA was conducted. Groups were formed in the same manner as the previous three years. Then an ANOVA was conducted to determine whether the percent of beginning teachers differed as a function of minority student enrollment. The ANOVA was statistically significant, $F(1, 926) = 11.39$, $p = .001$, $n^2 = .012$, and revealed that the percent of beginning teachers was statistically significantly higher in the high school campuses with the highest one-third of minority students ($M = 8.33$, $SD = 10.47$) than in the high school campuses with the lowest one-third of minority students ($M = 6.34$, $SD = 7.28$).

2003-2004 School Year

Research Question: "What is the difference between the high school campuses with the highest percent of new teachers and high school campuses with the lowest percent of new teachers in their percent of minority students and percent of economically disadvantaged

students?" [The at-risk variable was not present on the state database for this school year.] This analysis yielded a statistically significant result, $\Lambda = .99$, $p = .002$, $n^2 = .013$ Univariate follow-up *F*s revealed statistically significant differences for the percent of minority students, $F(1, 939) = 4.37$, $p = .037$, $n^2 = .005$ and for the percent of economically disadvantaged students on campus, $F(1, 939) = 12.57$, $p < .001$, $n^2 = .013$. Effect sizes for these statistically significant results were small (Cohen, 1988). The high school campuses in the highest one-third of beginning teacher percentages had higher average percentages of minority and economically disadvantaged students enrolled than did high school campuses in the lowest one-third of beginning teachers. Table 1 contains the descriptive statistics for these three dependent variables. To determine whether differences were present in the percent of beginning teachers as a function of minority student enrollment, an ANOVA was conducted. Groups were formed in the same manner as the previous four years. The ANOVA was statistically significant, $F(1, 916) = 3.76$, $p = .05$, $n^2 = .004$, and revealed that the percent of beginning teachers was statistically significantly higher in the high school campuses with the highest one-third of minority students ($M = 6.78$, $SD = 10.31$) than in the high school campuses with the lowest one-third of minority students ($M = 5.67$, $SD = 6.92$).

Discussion

In this study, we examined characteristics of Texas public high schools concerning the employment of new teachers over a five-year time period. Of the five multivariate analyses performed, all five procedures resulted in statistically significant differences. Effect sizes, or practical importance of these analyses, ranged from small to moderate (Cohen, 1988). A small effect size may be interpreted as meaning that the practical importance of the finding is of a small magnitude. Though the finding may be statistically significant, its relevance is small in

nature. A large effect size, on the other hand, may be interpreted as meaning that the statistically significant finding has a large degree of meaning. That is, if the effect size is the result of an intervention, then depending upon a cost/benefits analysis, the intervention should be considered for implementation. What these overall analyses revealed was that differences were present in Texas public high school characteristics where new teachers were employed for each of the last five school years. We will now discuss these differences in connection with the existing research literature.

Following the overall analyses, 19 univariate analyses were conducted, of which 18 yielded statistically significant differences. Of the 18 effect sizes reflecting the statistically significant differences previously delineated, all results were reflective of small effect sizes (Cohen, 1988). Similar to the Martinez-Garcia and Slate (2009) study regarding new teachers employed at elementary schools, beginning teachers in this study were more likely to be employed at campuses with higher percentages of minority students and with higher percentages of economically disadvantaged students. That is, Texas high schools with higher percentages of beginning teachers also had higher percentages of high-need students, the same as documented by Martinez-Garcia and Slate (2009) in their study of elementary schools and beginning teachers. Thus, our findings that beginning teachers were employed in schools with higher percentages of minority students and with higher percentages of economically disadvantaged students are congruent with the existing literature (Education Trust, 2008; Jepsen & Rivkin, 2002; Peske & Haycock, 2006; U.S. Department of Education, National Center for Educational Statistics, 2000). Of interest in this study was that the differences in the percentages of minority students and in the percentages of economically disadvantaged students were not as great at the high school level as was documented by Martinez-Garcia and Slate (2009) for elementary schools. In this study,

the average percentage of minority students at high schools in the upper-third of beginning teachers' percentages was 56% whereas the average percentage of minority students at the high schools in the lower-third of beginning teachers' percentages was 48%. These figures compare to 56% and 70% respectively at the elementary school level. One explanation for the lower percentages of minority students at the high school campuses may be the high drop out rates for minority students**.** That is, during the 2000-2001 school year, the graduation rates for Texas students by ethnicity were 55.3% for African-American students, 55.9% for Hispanic students, and 73.5% for White students. These graduation rates indicated that around 44.7% of African-American students and about 44.1% of Hispanic students dropped out of Texas high schools during the 2000-2001 school year (Orfield et al., 2004). These students, primarily minorities, who do not graduate from high school tend to drop out of school when able to do so legally, though certainly a percentage drop out of school prior to the legal drop out age. Texas drop out rates compare, unfortunately, with the national drop out rates of 50% for African-American students and 47% for Hispanic students for the 2000-2001 school year (Orfield et al., 2004)**.** This rationale explains why high schools would have lower percentages of minority students than would middle and elementary schools.

Similar findings in this study were present for economically disadvantaged students. Though a high drop out rate is present for economically disadvantaged students, another factor may also be involved. At the secondary level, students are reluctant to complete the forms necessary to be enrolled in the free and/or reduced lunch program**.** For example, Pogash, (2008) noted that qualifying for a federal subsidized lunch is not regarded as cool in middle school and high school, thus some students avoid eating lunch. Also reported in the New York Times was a comment by the student president at Balboa High School in San Francisco who did not qualify

for the federal subsidized lunch but reported that many of his Hispanic and African-American friends who qualified for the program avoided it (Pogash, 2008). Jean Saunders (2009), Healthy Schools Campaign Wellness Director, questioned how well the United States Drug Administration and everyone who works with school food issues are working to ensure that no child goes hungry at school to avoid the stigma attached with qualifying for free or reduced lunch. Therefore, economic disadvantage, though present, may not be reported to the same degree in high school as it is reported in elementary school.

Surprisingly, the average percentage of at-risk students was lower at the high school campuses with the higher percentage of beginning teachers. That is, the research literature for elementary schools (e.g., Martinez-Garcia, 2009) may be interpreted as high percentages of at-risk students are present in Texas elementary schools. The at-risk identification factors described in the introduction help explain why high schools would have lower percentages of at-risk students at high need schools. These students, present in elementary schools, undoubtedly comprise many of the students who have dropped out of school. Though we contend that this explanation is the most plausible one, it is certainly possible that readers could arrive at other hypotheses that might explain this reduction in the number of at-risk students at the high school level.

In our study, we did not attempt to determine the causes of the alarming high percentages of high school dropouts. Clearly, this topic is important, albeit one not examined herein. Additional research questions can be generated from our findings: (a) To what degree are schools and/or school districts exacerbating student achievement gaps of minorities by assigning beginning teachers to the most challenging classrooms and schools? (b) To what degree are

schools and/or school districts exacerbating teacher turnover by assigning beginning teachers to the most challenging classrooms and schools? Research into these topics is clearly needed.

Conclusions and Implications

In this study, we analyzed the five most recent years of data (2003-2004 through 2007-2008) from the Texas Academic Excellence Indicator System regarding new teachers employed at high school campuses. We specifically focused on the extent to which differences were present between high school campuses with the highest new teacher percentages and high school campuses with the lowest new teacher percentages. High school campuses with the highest new teacher percentages had higher percentages of minority students and higher percentages of economically disadvantaged students but lower percentages of at-risk students than did high school campuses with the lowest percentages of new teachers. What our findings may be interpreted as meaning is that beginning teachers employed at Texas high schools are likely to be working in settings for which they may be poorly prepared. Moreover, students at these settings, high-needs students, are more likely to be taught by beginning teachers than are students at Texas high schools with lower percentages of minority students.

As we discussed in the beginning of this research study, many researchers have documented that students at the poorest achieving schools who desperately need highly qualified teachers are often taught primarily by teachers who have the least amount of teaching experience (Allen et al., 1999; Darling-Hammond, 1998; Ingersoll, 1999, 2002; Nieto, 2003; Orfield & Lee, 2005; Peske & Haycock, 2006; Rowland & Coble, 2005). Also noted was that beginning teachers were often the ones assigned to teach the poorest performing students at risk of failing or dropping out (Alliance for Excellence Education, 2004, 2008). Though these studies are not specific to high schools, our results are high school specific and are congruent with these

researchers' findings. If the idea of equity is brought to bear, then it is clear that a lack of equity exists in terms of where beginning teachers are employed and the education with which high-needs students are provided.

We believe that having higher percentages of beginning teachers employed at high schools with higher percentages of high-needs students has consequences, primarily negative ones. One specific consequence is that of teacher turnover. Ingersoll and Smith (2003), among many other researchers, have provided extensive documentation that by the fifth year about half of beginning teachers have left the teaching profession. This situation is costly, for schools, for the beginning teachers who leave the teaching profession, and particularly, we contend, for schools with high poverty in their attempt to close the student achievement gap because, for these students, a teacher quality gap also exists (National Commission on Teaching and America's Future, 2008).

We contend that educational policy needs to change such that beginning teachers are employed into settings where opportunity for success exists and that teacher education preparation programs should prepare future teachers to work with student characteristics that reflect the area schools. Placing new teachers into settings where they are not likely to be successful does not make sound policy. Moreover, as noted by Claycomb and Hawley (2000), new teachers usually need from three to seven years of teaching experience to hone their skills and to make a positive impact on their student's achievement. As such, high-needs students need experienced teachers, not new ones. Thus, we encourage policy makers to consider changes in policy and practice such that experienced teachers are the teachers who are teaching high-needs students, rather than beginning teachers, as documented herein.

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Volume 14, Number 1 ISSN 1099-839X

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