

Running Head: EDUCATIONAL ADMINISTRATION PROGRAM QUALITY

Educational Administration Program Quality and the Impact on Student Achievement

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Abstract

The purpose of this study was to determine if there was a connection between quality of education obtained by superintendents in educational administration programs and school effectiveness as measured by student achievement. The best fitting model based on the model deviance test and accounting for the greatest variation in the outcome variable, included district enrollment and program quality (as measured by the Carnegie rating) as a level-2 predictor and the percentage of low SES students, attendance rate, and school type as level-1 predictors. Adding district size at level two accounted for approximately 25% of the variation in the outcome variable while the quality of the superintendent preparation program explained approximately 10% of the variation in the student achievement measured as the percentage of public school students passing all state-mandated exams. The results indicate that indeed, the quality of the educational administration preparation program impacts student academic performance.

Keywords

Superintendent Preparation
Quality Educational Administration Preparation Programs
Utility of Doctorate Degree
Carnegie Rating
Improving Student Achievement

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Educational systems in the United States are under ever increasing demands to improve education efforts and raise student achievement. This new rally for increased student performance requires capable leadership to guide schools in improvement efforts. The ability of the nation's school leaders to respect and embrace diversity and address the idiosyncratic needs of their student clientele is seen as pivotal to the success of current reform efforts. Required high-stakes testing by both federal and state governments to meet accountability benchmarks is holding schools more accountable for the performance of all students. There is little wonder that testing and assessment in combination with accountability and credibility have been identified as critical concerns limiting school superintendents' effectiveness (Glass, Bjork, & Brunner, 2000).

Fullan (1998) proposed that educational leaders will need a substantial reserve of skills and characteristics extensively different from those of successful school leaders in years past. District leaders are now being asked to understand effective instructional strategies, routinely observe and assist teachers with classroom teaching, as well as analyze mountains of data to guide instructional decision making (Anthes, 2002). Quality educational administration preparation programs are essential in producing competent school leaders, both principals and superintendents, to meet current and future educational challenges. An increase in the level of education one receives has often been equated to high caliber personnel. However, in educational administration, there is little empirical research to support this notion. Yet, the doctoral degree is often a requirement for educational professionals desiring to climb the ladder of leadership.

Recently, Levine (2005) has called into question the usefulness of the Doctorate of Education (Ed.D.) for school leaders, even going so far as to call for the elimination of the

degree all together. Levine opined that the practicality of the Ed.D. does not exist. Instead, Levine proposed a degree similar to the Masters of Business Administration (MBA). According to Barnett (2006), the primary question is whether programs offering advanced degrees in educational administration adequately prepare school leaders for the practicalities of the real school world. More specifically, do the educational administration preparation programs prepare leaders to impact student achievement?

Formal responses to Levine's "glass half-empty" description of educational administration preparation have been many. The University Council of Educational Administration (UCEA) (Young, Crow, Orr, Ogawa, & Creighton, 2005) response took more of a "glass half-full" approach in providing thorough, detailed responses to Levine as well as providing a roadmap to successful reform for the preparation of educational leaders. However, the topic of quality educational preparation is nothing new. As Achilles (2005) pointed out, a call for reform of educational administration preparation programs has been bantered about for more than 30 years. The shame, according to Achilles, is that the topic of *quality* in educational administration has been around for so long with little to no activity to make much needed changes.

Young, Mountford, and Crow (2006) found that the professoriate has been expending energy to improve educational leadership preparation programs. Examples of faculty efforts have included addressing national standards, as well as identifying and reorganizing inadequate programs. The difficulty with these reform efforts, however, lies in the ambiguity of the job of educational leader (Orr, Annunziato, Burry, Lamkin, Rogers, & Wyks, 2003).

According to the Institute for Educational Leadership (IEL) (2005), a national think tank, the end goal of educational preparation is to produce leaders with the capacity to increase student

achievement. However, there is little empirical evidence to support that leadership preparation programs impact workplace performance (Barnett, 2006; Hall and Brent, 1997) or quality of leadership (Young & Creighton, 2002). Hence, the purpose of this study was to determine if there was a connection between quality of education obtained by school leaders (superintendents) in educational administration programs and school effectiveness as measured by student achievement.

Review of Literature

According to Young and Creighton (2002), business, government, foundations, and to a small extent, professional associations are framing the direction and national understanding of educational administration. Although professors are making efforts to improve preparation programs, rarely are the professors engaged at the national level (Young & Creighton), leaving the impression that efforts to improve the preparation of school leaders does not come from within its own ranks.

Standards for Educational Leadership Preparation

Reform efforts for educational leadership programs have focused on increased standards. As the role of educational leader has increased in complexity, standards for licensure have also been updated. During the 1980s and 1990s, efforts were made to create guidelines for preparation programs. Various organizations, such as the National Policy Board for Educational Administration (NPBEA), the Council of Chief State School Officers (CCSSO), the National Council for the Accreditation of Teacher Education (NCATE), and the National Commission for the Advancement of Educational Leadership Preparation (NCAELP), developed different initiatives to improve preparation programs and qualifications of school leaders (Bjork & Rinehart, 2005). The most widely accepted standards are the standards developed by the

Interstate School Leaders Licensure Consortium (ISLLC), published by the American Association of School Administrators (AASA) in 1996 (Bjork & Rinehart; Sperry, 2002). The ISLLC standards have been adopted by a majority of states and guide efforts to improve the instructional quality of university-based programs for educational administration (Young & Creighton, 2002). Moreover, an increasing number of states have strengthened licensure programs by requiring more state examinations based on the ISLLC standards (Hoyle, Bjork, Collier, & Glass, 2005). Nonetheless, the current demand is from organizations outside of education, such as the Wallace Foundation and the Broad Foundation, as well as state and federal policy-makers for increased scholastic standards and accountability tied to accomplishment (Young & Creighton).

A criticism from the Southern Regional Education Board (SREB) was that although most states have defined standards for curriculum and instruction for leaders, “these have not resulted in universities changing what leaders learn, how they learn it or how they work with K-12 schools” (Jacobson, O’Neill, Fry, Hill, & Bottoms, 2002, p. 2). Fossey and Shoho (2006) believe that a misplaced reliance is placed on academic theory rather than the professional model of instruction. Glass, Bjork, and Brunner (2000) also commented that the increased number of changes in school systems necessitated parallel changes in educational administration and supervisory leadership preparation programs. Thus, university led preparation programs must focus on the increased challenges facing the superintendency today such as finance issues, student assessment and analysis of data, increased state and federal accountability, and instructional innovations for increasing student achievement in an effort to reconnect with the field (Hoyle et al., 2005). In addition, Fossey and Shoho describe the new face of educational leadership departments as being a younger generation of true scholars with publishing agendas

and a vast knowledge of theory, with little or no public school administration experience. In contrast, Hoyle (2005) believes that preparation programs have been improving the alignment of university preparation programs with the changes in public schools each year. Additionally, Glass et al., (2000) reported that preparation programs are improving by strengthening the “direction and legitimacy of change in the field” (p. 139).

Definition of Effective School Leadership

While a good leader may be a challenge to recognize, poor leadership is too often blatantly obvious (Leithwood & Riehl, 2003). According to Leithwood and Riehl, second only to the effects of a quality curriculum and teacher instruction, leadership impacts student learning. Although mostly indirect, school leadership is responsible for approximately “three to five percent of the variation in student learning across schools” (Leithwood & Riehl, p. 4). The three primary categories of successful school leadership the researchers reported to be found across cultures, organizations, and models were; 1) setting directions, 2) developing people, and 3) developing the organization. Leithwood and Riehl concluded that these three primary categories should be the focus of educational leadership programs to create successful school administrators. Twenty-first century superintendents must have skills to improve instructional methods, to analyze and interpret assessment data, and to explain the district’s achievement level as compared to others in the state and the nation (Hoyle, Bjork, Collier, & Glass, 2005).

Preparation and Views from Superintendents in the Field

An assumption can be made that superintendents who are neither fully prepared nor well trained are more likely to experience difficulties in the leadership role of the school district. In a recent survey, a majority of superintendents reported that the average supervisory leadership programs in university schools of education were not aligned with the actualities of what is

needed to effectively direct today's public school systems (Survey of Earned Doctorates, 2005; Farkas, Johnson, & Duffett, 2003; Farkas, Johnson, Duffett, & Foleno, 2001). Moreover, only two percent of superintendents surveyed reported preparation programs as most valuable in preparing for the current position held. Although, oddly enough, in the same survey, nearly three-quarters of the superintendents rated superintendent preparation programs as somewhat useful in preparing for the current position held. In the AASA 2000 Superintendent Survey (Glass et al., 2000), based upon percentage of superintendents responding, the following were the top reported weaknesses of educational preparation programs: 1) lack of hands-on application (19.8%), 2) inadequate access to technology (18.9%), and 3) failure to link content to practice (16.5%).

Previous School Leadership Experience of Professors

A primary question regarding educational administrator preparation is whether faculty experience impacts superintendents' impact on student success after completing the university program. Because there is competition for students pursuing leadership education, universities often struggle to fill faculty positions with full-time professors (Shakeshaft, 2002). In order to staff the various offerings and locations, many university programs use adjuncts. Adjuncts are often found in retired administrators or those near retirement. However, because an individual was a good administrator does not always equate to an equally good professor (Shakeshaft). Similarly, a quality researcher does not always make a quality teacher. Further, Shakeshaft argued that although professors need to be more accountable for results, part-time adjunct faculty have no responsibility for graduate student outcomes.

Tirozzi (2001) reported that more often than not, university preparation programs in educational administration have few faculty, if any, who possess experience in public school

leadership. The resulting challenge in the recruitment of faculty for educational administration preparation programs is finding an individual who possesses an appropriate balance of practitioner experience as well as the capability to meet the challenging demands of conducting research and the pursuit of publication (Jackson, 2001).

A newly released study, supported by the Wallace Foundation (Teitel, 2006), provides information in regard to support for sitting school superintendents. While continuing professional development for superintendents is crucial to sustained efforts to improve school success, the study does not explore initial preparation programs. Additionally, although there are many efforts underway to assess or evaluate the performance of educational preparation programs, at the present, details are sketchy (IEL, 2005). In short, the extent of what researchers and professionals know about the performance of preparation programs is somewhat of a mystery.

While many studies have begun to examine the characteristics of successful school leadership, few studies show characteristics of successful educational administration preparation programs that create leaders of successful schools. According to Moore, Dexter, Berube, and Beck (2004), graduates of the same educational leadership program go on to lead schools with drastically different results. Cooper, Fusarelli, Jackson, and Poster (2002) found that although superintendents are responsible for leading the Nation's schools, little intellectual consideration is devoted to superintendent preparation. Hoyle (2005) provided several perceptual reports of positive results from preparation programs. Although Hoyle (2005) submits that the purposes of the degrees obtained by superintendents (i.e., Ph.D. and Ed.D.) were equal in efforts to "produce scholarly practitioners, professors, and researchers to improve school and schooling for all" (p. 6), the results of this study suggest that leaders receiving the Ed.D. are more likely to acquire the skills necessary to improve student academic performance. However, there is no empirical

research proving the value of leadership preparation programs. Therefore, the purpose of this empirical study was to determine if the quality of superintendent preparation programs at which the superintendent obtained his/her highest degree is related to student achievement.

Method

Participants

Participants included 141 Texas public school superintendents during the 2004-2005 academic year. Texas was chosen to participate due to the high quality of data that is available at the state, district and campus level. Districts led by these superintendents ranged in size from rural districts with under 200 total students enrolled to urban school districts with multiple campuses enrolling over 30,000 students. Of the superintendents surveyed, 130 were White (92.2%), 6 were African American (4.3%), and 5 Hispanic (3.5%); 124 (87.9%) participants were male while 17 (12.1%) were female. Of total participants, 15 (10.6%) held a Master's degree only, 71 (50.4%) held a Master's degree plus additional coursework, 42 (29.8%) held an Ed.D., 12 (8.5%) held a Ph.D., and 1 (.7%) held a J.D. The age range of participants ranged from 32 to 69 years of age, with the average age of all participants being 53 (SD= 6.05) years of age. Average tenure for all participants was 5.0 years (SD=3.75). Males experienced an average tenure of 4.8 years (SD=3.67), while average tenure for females was 6.2 years (SD= 4.2).

Variables Examined

Dependent Variable

The dependent variable included the percentage of regular education students passing all Texas Assessment of Knowledge and Skills (TAKS) simultaneously. The TAKS is a comprehensive testing program for Texas public school students in grades 3-11 and is designed

to measure to what extent a student has learned, understood, and is able to apply the important concepts and skills expected at each grade level tested (Texas Education Agency, 2005).

Independent Variables

Campus-Level Variables (Level-1)

Percentage of Economically Disadvantaged Students - The percent of economically disadvantaged students is calculated as the sum of the students coded as eligible for free or reduced-price lunch or eligible for other public assistance, divided by the total number of students (Texas Education Agency, 2005).

Attendance Rate - Attendance rates reported are based on student attendance for the entire school year. Attendance is calculated as follows: total number of days students were present in 2003-04 *divided by* total number of days students were in membership in 2003-04. Only students in grades 1-12 are included in the calculations. Note attendance rate calculations are based on prior year's data.

School Type – School type is the type of campus in each school district (i.e., K-12 (single campus), Elementary School, Middle School, and High School). The following coding scheme was utilized: K-12 =1, Elementary = 2, Middle School = 3 and High School = 4. Table 1 displays the frequency and percentage of school types examined.

TABLE 1 ABOUT HERE

District –Level Variables (Level-2)

Program Quality – Program Quality was determined by the Carnegie classification of the university where the superintendent obtained her/his highest degree. The Carnegie classification was based on the 2005 classification guidelines as outlined below:

Doctorate-granting Universities

Institutions were included in these categories if they awarded at least 20 doctorates in 2003-04. This category is further defined by a research index. The research index is based on the following seven correlates of research activity: research & development (R&D) expenditures in science and engineering (S&E); R&D expenditures in non-S&E fields; postdoctoral appointees; non-faculty research staff; doctoral conferrals in humanities fields; doctoral conferrals in social science fields; and doctoral conferrals in fields other than science, engineering, technology, and mathematics. Data were statistically combined to create two indices, one based on aggregate levels of these factors, and one in which each factor was normalized according to the number of full-time faculty whose primary responsibilities were identified as research, instruction, or a combination of instruction, research, and public service. The values on each index were then used to locate each institution on a two-dimensional graph (scatter plot). Each institution's distance from a common reference point was calculated, and results were used to assign institutions to three groups based on their distance from the reference point. Thus, the aggregate and per-capita indices were considered equally, such that institutions that were very high on *either* index were assigned to the “very high” group, while institutions that were high on one but very high on neither were assigned to the “high” group. For the purposes of this study, universities in the “very high” group were coded as 4 while universities in the “high” group were coded as 3.

Master's Colleges and Universities

Institutions were included in this category if the institution awarded at least 50 master's degrees in 2003-04, but fewer than 20 doctorates. In addition, this category was limited to institutions that were not identified as Tribal Colleges or as Special Focus Institutions. Master's program size was based on the number of master's degrees awarded in 2003-04. Institutions awarding at least 200 degrees were included among the larger programs; institutions awarding 100–199 were included among the medium programs; and institutions awarding 50–99 were included among the smaller programs. Universities in this group were coded as a '2'.

Baccalaureate Colleges

Institutions were included in this category if bachelor's degrees accounted for at least 10 percent of all undergraduate degrees and the institution awarded fewer than 50 master's degrees (2003-04 degree conferrals). Universities in this group were coded as a '1'.

Table 2 displays the frequency and percentage of the Carnegie classifications examined in the current study. Although only four universities were coded as a '1', the remaining classifications were similar in number for each.

TABLE 2 ABOUT HERE

District Enrollment - each participant was categorized by size of enrollment into one of five distinct categories as defined by the University Interscholastic League (UIL, n.d.). For this study, enrollment was based upon the 2004-2005 high school figures. The five categories included:

- District 5A: 1,910 students and above
- District 4A: 900-1,909 students range
- District 3A: 345-899 students range
- District 2A: 180-344 students range
- District 1A: 179 students and below

Education level of Superintendent - the highest level of education obtained by the superintendent.

Coded as Master's degree only = 1, Master's degree plus = 2, and Doctorate degree = 3 (Ph.D. and Ed. D.)

Procedure

To identify superintendents for this study, researchers accessed a state database listing superintendents with each district in which they had been employed for the past five years. Subsequently, the researchers determined if the listed superintendent was currently serving in that same district or elsewhere within the state. A total of 235 superintendents were identified to participate in the study. A survey requesting information about the superintendent and the superintendent's district was sent to each of the identified participants soliciting demographic information regarding the superintendent and academic information relating to the district in which the superintendent was currently employed. Of the 235 surveys mailed, 141 viable surveys were returned for an overall response rate of 60%. District and campus academic information was obtained from the Texas Education Agency and linked to the survey responses for each participant.

Data Analysis

Descriptive statistics and hierarchical-linear modeling (HLM) procedures were utilized in this study. HLM 6.0 (2005) was employed to account for the clustered structure of the data

where campuses were nested within districts. The fully specified HLM that was hypothesized is reported below:

Level-1 Equation (Campus-Level)

$$\text{Student Achievement} = \beta_0 + \beta_1 (\% \text{Low SES})_{ij} + \beta_2 (\text{Attendance Rate} - \text{Attendance Rate.}j)_{ij} + \beta_3 (\text{School Type})_{ij} + r$$

Level-2 Equation (District-Level)

$$\begin{aligned} \beta_0 &= \gamma_{00} + \gamma_{01} (\text{District Enrollment})_j + \gamma_{02} (\text{Program Quality})_j + \mu_0 \\ \beta_1 &= \gamma_{10} + \mu_1 \\ \beta_2 &= \gamma_{20} + \mu_2 \\ \beta_3 &= \gamma_{30} \end{aligned}$$

Combined Equation

$$\text{Student Achievement} = \gamma_{00} + \gamma_{01} (\text{District Enrollment})_j + \gamma_{02} (\text{Program Quality})_j + \gamma_{10} (\% \text{Low SES})_{ij} + \gamma_{20} (\text{Attendance Rate})_{ij} + \gamma_{30} (\text{School Type})_{ij} + \mu_0 + \mu_1 (\% \text{Low SES})_{ij} + \mu_2 (\text{Attendance Rate})_{ij} + r$$

Results

The district-level descriptive statistics, including the means, standard deviations of each variable, are presented in Table 3. For 2003-2004, the percentage of students passing all TAKS assessments was 51.16 % (SD = `17.40) indicating that on average, only half of the students tested met minimum expectations. Further, 48.32% of the districts where the participants were employed were classified as low socio-economic status.

TABLE 3 ABOUT HERE

In comparing district enrollment relating to the Carnegie classification among universities where the superintendent was trained, the superintendents were evenly spread regardless of the

type of university where they were trained, indicating there was no interaction present between graduate program quality as measured by the Carnegie rating and district enrollment.

Model Results

Initially, a random intercept model was calculated to provide information regarding the percentage of variation in outcomes at the two levels. More specifically, the intraclass correlation coefficient indicated that 31% of variation in the outcome variable, student achievement, was attributed to the district level variables ($\tau_{00} = 84.52$; $\sigma^2 = 190.61$). Subsequent analyses examined the importance of the percentage of low socio-economic status students, attendance rate, and type of school (level-one or campus level predictors) as well as district enrollment, and Carnegie classifications of universities where district superintendents participating in the study received training as potential Level-2 predictors (district level). Interaction terms between level-1 and level-2 predictors were examined but were not statistically significant.

The best fitting model based on the model deviance test and accounting for the greatest variation in the outcome variable, included district enrollment and Carnegie classification of the universities examined as a proxy for program quality as a level-2 predictor, and the percentage of low SES students, attendance rate, and school type as level-1 predictors. Adding district size at level two accounted for approximately 25% of the variation in the outcome variable while the quality of the superintendent preparation program explained approximately 10% of the variation in the percentage of students passing all TAKS exams. The results indicate that indeed, the quality of the preparation program impacts student academic performance.

The results reported in Table 4 reveal that as the Carnegie classification increases, the percentage of students passing all TAKS exams (student achievement) decreases by almost two percent for each unit increases in the Carnegie rating. To make the point concrete, if a district has

2,500 students taking the TAKS exam, for each unit increase in the Carnegie classification rating where the superintendent received training, the total number of students passing all TAKS exams *decreases* by 150 students, net the effects of the remaining variables.

TABLE 4 ABOUT HERE

A plausible explanation for the findings in this study is that Doctoral Intensive and Master's level universities employ practitioners as adjuncts and part-time faculty to teach graduate-level courses. Many of these courses taught at doctoral intensive and Master's level universities are focused on improving student achievement in public schools. Although courses targeting increased student achievement are warranted, instructors of these courses tend to have a wealth of practical knowledge from the field but relatively little background in research and theory. Results of this follow-up analysis revealed the Pearson product-moment correlation between the total number of full-time faculty and program quality is $r = .340$, $p < .01$, indicating that as the rating increases (from Master's Degree to Doctoral Extensive), so does the total number of full-time faculty. In contrast, the faculty at the highest Carnegie ranked universities (Doctoral Extensive) tend to maintain faculty that are full time, research oriented, and possess limited public school experience. This is further underscored when examining the correlation between the number of faculty members with superintendent experience and program quality. The Pearson product-moment correlation is $r = -.274$, $p < .01$. This inverse relation suggests that as program quality increases, as measured by the Carnegie rating, the total number of faculty members with superintendent experience decreases.

Discussion

This study provides empirical evidence that university preparation programs in educational administration impact student achievement. Without a doubt, educational administration preparation programs are quite different, each having a distinctive focus and therefore divergent results upon completion and later in practice. Based on the results of this study, it is evident that both the Ph.D. and Ed.D. programs are viable options to prepare educational leaders. However, educational leadership preparation programs must have an outcome goal in mind (begin with the end in mind) to meet the needs of our current and future school leaders. If the outcome is to train researchers and academicians, then the Ph.D. with course content delivered by theory-based faculty members with little or no school experience is warranted. In contrast, based on the results of this study, if one is interested in developing a career in field-based leadership and have a positive impact on student achievement, then the Ed.D., with course content delivered by practitioners and adjuncts who focus on K-12 schools is warranted. The field of educational administration can tolerate nothing less than quality programs that prepare leaders to support the education of all children. None of our organizational or individual activities operate within a vacuum. Rather, various components with preparation programs constantly impact each other and the preparation of school leaders. However, this is not to say that the Ph.D. and the Ed.D. are similar degrees, which appears to be the case in many universities. On the contrary, individuals pursuing a goal in academia or public schools should make a choice regarding the degree type, with the Ph.D. being a more rigorous degree focusing on research and the Ed.D. focusing on leadership strategies, professional development, and improving student achievement. In short, the field of educational administration must rethink what we do to ensure that our work contributes to rather than detracts from the quality

preparation as did Levine's argument relating to the doctorate degree in education. This endeavor will require that all levels within the field come together, seek a mutual and complex understanding of our context and the stakeholders that work within. Further, common ground must be found and shared goals developed. Like many issues confronting our nation today, the challenges facing educational leadership are complex and interconnected. Challenges must be approached in light of their complexities. Otherwise the field of educational leadership will fall victim to misunderstanding, certain disillusionment, and the folly of shifting blame.

Future Research

Although research has revealed much work and efforts devoted to principal preparation programs, reconstruction of the superintendent preparation program is in its infancy (Grogan & Andrews, 2002; Murphy & Vriesenga, 2005). Future research should focus on examining the quality of preparation programs and the individuals wishing to pursue the degree by degree type (Ed.D. or Ph.D.) and career goals. Currently, the course content in the Ed.D and Ph.D., in a majority of universities, is indistinguishable. Tracking graduates over time beyond degree completion is warranted. Results gained will allow university personnel to determine the skills and course content for each degree program and for which types of students the degree benefits in order to make each degree type a viable option.

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Table 1

Frequency and Percent of School Type (Campus-Level)

Variable	<i>f</i>	%
School Type		
K-12 (One Campus)	22	3.1
Elementary	395	56
Middle School	155	22
High School	<u>133</u>	<u>18.9</u>
Total	705	100

Table 2

Frequency and Percentage of Carnegie Classifications Examined

Variable	<i>f</i>	%
Carnegie Classification		
1	4	2.9
2	49	35.5
3	48	34.8
4	<u>37</u>	<u>26.8</u>
Total	<u>100</u>	<u>138</u>

Table 3

District-Level Descriptive Statistics for % Passing TAKS, % Low SES, and Attendance Rate

Variable	N	Mean	SD	Minimum	Maximum
% Passing All TAKS Exams	705	51.16	17.40	5.00	93.00
% Low SES	705	48.32	26.69	4.50	99.30
Attendance Rate	705	96.05	1.55	67.00	98.00

Table 4

Multi-level Results Examining the Impact of Training Program Quality among Public School Superintendents in Texas on Student Achievement

Predictor*	Coefficient	Standard Error	t	df	p
Average % Passing All TAKS	γ_{00} : 80.72	4.33	18.63	135	<.001
Campus-Level Predictors					
% Low SES	γ_{10} : -.025	.04	-6.99	137	<.001
Attendance Rate (GM-Centered)	γ_{20} : 3.93	.61	6.36	137	<.001
School Type	γ_{30} : -9.40	.78	-11.94	699	<.001
District-Level Predictors					
District Enrollment	γ_{01} : 3.56	.48	7.42	135	<.001
Carnegie Classification of University where Supt obtained highest degree (Prep. Prg.)	γ_{02} : -1.60	.76	-2.007	135	.039

*Dependent Variable: Percentage of Students Passing All TAKS Exams