ORGANIZATIONAL, FINANCIAL AND DEMOGRAPHIC CHARACTERISTICS

OF CHARTER SCHOOLS IN TEXAS AND THEIR RELATIONSHIP TO SCHOOL

PERFORMANCE

A Dissertation

by

RAUL D'LORM

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

December 2006

Major Subject: Educational Administration

ORGANIZATIONAL, FINANCIAL AND DEMOGRAPHIC CHARACTERISTICS

OF CHARTER SCHOOLS IN TEXAS AND THEIR RELATIONSHIP TO SCHOOL

PERFORMANCE

A Dissertation

by

RAUL D'LORM

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Approved by:

Chair of Committee,   Robert Slater
Committee Members,   Deborah Kerr
                     John Hoyle
                     Julian Trevino
Head of Department,   Jim Scheurich

December 2006

Major Subject: Educational Administration

ABSTRACT

Organizational, Financial and Demographic Characteristics of Charter School in Texas

and Their Relationship to School Performance. (December 2006)

Raul D'Lorm, B.S., Universidad de Las Americas, Puebla;

M.B.A., University of Texas-Pan American

Chair of Advisory Committee: Dr. Robert Slater

The deepening dissatisfaction with traditional public schools has inspired changes in the educational system. In less than a decade charter schools have gone from nonexistent to widespread. Charter schools are different from other reforms because charter schools tend to vary in terms of their performance and population served. Some charter schools are obviously more effective than others in terms of their performance on reading, writing and mathematics state-mandated tests. Therefore, the purpose of this study of the correlates of charter school effectiveness is to measure the strength and direction of their relationships between charter schools performance and their organizational, financial and organizational characteristics. My research concludes that among the demographic, financial and organizational variables selected the attendance rate; the central administration expenses and the total number of teachers respectively have the strongest correlation and are the best predictors when it comes to school performance.

DEDICATION

To my parents

ACKNOWLEDGMENTS

I would like to thank my committee chair, Dr. Robert Slater, and my committee members, Dr. John Hoyle and Dr. Julian Trevino for their support throughout the course of this research. My immense gratitude to Dr. Deborah Kerr from the Bush School of Government and Public Policy, for her support and encouragement at all times.

Thanks also to the department faculty and staff, particularly Joyce Nelson, for making my time at Texas A&M University a great experience. Finally, thanks to my family for their patience and love.

TABLE OF CONTENTS

Page

LIST OF FIGURES

LIST OF TABLES

CHAPTER I

INTRODUCTION

The purpose of this study is to identify the organizational, financial and demographic characteristics of charter schools in Texas and their relationship to school performance. Put simply, what are the correlates of charter school effectiveness?

Despite much activity, American school reform has not improved the nation's K-12 education since the publication of A Nation at Risk: The Imperative of Educational Reform (1983) (Hirsh, 1999). The deepening dissatisfaction with public schools has inspired changes to private schools, home schooling, and new alternatives such as charter schools (Fuller, 2000). In less that a decade charter schools went from nonexistent to widespread. In 1991, Minnesota became the first state to enact charter school regulations. By July 1996, twenty-five states had enacted varying forms of charter schools legislations (Hening J and Lacireno-Paquet N, 1999).

Not much research has been done on charter schools in Texas to date. There are many reasons why we should have more that superficial knowledge about charter schools, but the most important one is that the charter movement is being implemented.

Many strategies have been implemented in order to try to improve and reform the system from within. Class-size reduction, raised graduation requirements , comprehensive school reform, teacher professional development, abolition of social promotion, site-based management and an infinite number of different math and reading

---

This dissertation follows the style of The Journal of Educational Research.

curriculum and ways of implementing them. However, reform after reform there has not been notable success (Cuban, 1993).

Charter schools are different from other reforms because there are not programmatic, they do not establish a new program, and charters aim to induce reform by changing fundamental organization of the school system.

As traditional public schools, charter schools tend to vary considerably in terms of their quality and population served. There are not two charter schools in Texas that operate, get the same funds and have the same organizational structure exactly the same. There is not "one-size-fits-all" scenario found on traditional settings in public schools (Ravitch and Viteritti, 1999).They share a belief in decentralization and accountability to parents.

The full-blown charter concept grew out numerous different movements for education reform. Five among these proved important: (1) the push for more choice for students and families; (2) the related idea of competition, braking school district's monopoly over educational provision; (3) the general concept of school-based management, delegating key decisions to the front lines; (4) the related push for deregulation, lessening the burden of law and regulation on schools; (5) calls for greater accountability for results, for schools to set concrete goals and then face consequences for meeting them (Gresham, Hess, Maranto, Milliman, 2001).

How do charter school separate themselves from traditional public schools? One way in which they differ is their autonomy. Charter schools were initially established to free up the educational process from excessive state regulation and bureaucracy.

However, although charter schools have considerably autonomy, they are held accountable to provide financial and student achievement.

In sum, the public frustration and academic theory have together developed a situation in which different options to the conventional system of public education are under serious consideration (Gill, Timpane, Ross and Brewer, 2001).

In Texas, a very strong statewide accountability system continues to increase the pressures on charter schools to perform by measuring, ethnic group, grade level, economically disadvantaged group, district, campus and individual performance in the areas of dropout prevention, attendance and scores on a criterion referenced state assessment test.

The state of Texas used until the year 2002 the TAAS (Texas Assessment of Academic Skills) to measure student performance. Senate Bill 350 passed in the 66th Legislature mandates that the State Board of Education has the responsibility to: "review periodically the educational needs of the state, adopt or promote plans for meeting these needs and evaluate the achievement of the educational programs" (Vornberg, 1998, p.223). It was stipulated that beginning in 1979-1980 school year and each year thereafter that the Texas Education Agency shall adopt and administer appropriate criterion referenced assessment instruments designed to assess minimum basic skills competencies in reading, writing and mathematics.

The Texas Assessment of Basic Skills (TABS) was mandated with the purpose of providing principals and teachers with information to be used in raising student achievement. In 1985-1986 school year the name of the test was changed to the Texas

Educational Assessment of Minimum Skills (TEAMS). Also at this time the objectives and skills measured by the test were to be consistent with the essential elements of the curriculum as identified in the State Board of Education (Vornberg, 1998).

In October of 1990 the Texas Education Agency implemented a new way to assess the academic skills. The TAAS test was designed to extend and expand on the TEAMS test.

On June 18, 2001 TAAS was renamed the Texas Assessment of Knowledge and Skills TAKS and became the new statewide assessment program for the 2002-2003 school year. The TAKS test represented a more rigorous and challenging step in increasing the rigor of the Texas assessment program. The 2002-2003 school year provided a transition from the previous TAAS to the new rating system using TAKS. The results reported in the 2002-2003 AEIS report is based on:

- Only those test takers who were enrolled in the district on the last Friday of October are included in the sample.

- Most of all special education and limited English proficient (LEP) students are also included in the sample.

Few studies on the effectiveness of charter schools in Texas have been conducted and the results of those that have been conducted are difficult to generalize beyond their specific populations (Tobin and Sprague, 1999). Charter schools need to understand what they are trying to accomplish, what components are successful in achieving their goals, and evaluate which programs have been successful in meeting the state standards of schools according to TEA (Texas Education Agency), the regulatory agency in Texas

or are under serious consideration (Gill, Timpane, Ross and Brewer, 2001).

Research Question

The purpose of this study is, again to identify the characteristics of organizational, financial and demographic characteristics of charter schools in Texas and their relationship to school performance. Accordingly, the following research questions will be addressed:

1. How are the organizational, financial and demographic characteristics of charter school correlated with their performance as measured by TAKS scores?

Operational Definitions

Charter School: Charters granted by the State Board of Education. In addition to the first 20 open enrollment charters, 100 more charters were granted to nonprofit organizations or government entities that admit students with public education grants (PEG). An unlimited number of open-enrollment schools can be granted if the prospective student bodies include 75% dropouts and/or at-risk students.

Demographic Characteristics: Total student population, student age population, ethnic distribution, at risk students, bilingual students and students with special needs.

Economic Characteristics: The fact that disproportionately large number of ethnic minorities is below the U.S. poverty level reinforces the idea that income is an important independent variable. Students will be classified as economically advantage and economically disadvantaged. Students that receive free or reduced lunch are classified as

economically disadvantaged and those who pay for lunch will be classified as economically advantaged.

Financial Resources: Federal, State and local funding. State funds are awarded to school districts trough a formula structure, the majority of which are distributed through a system known as the Foundation School Program (FSP). A small percentage of state funds are distributed to districts outside the FSP. In 1999-2000 state funds accounted for 39.4 percent of all receipts for public education in Texas. Local sources (taxes on district property value) account for a larger proportion of receipts 42.8 in 1999-2000; and Federal funds are appropriated by the State Congress usually for specific purposes such as special education or bilingual education.

Exemplary Charter School: Charters that meet or exceed state TAAS exemplary standards. At least 90.0% passing each subject area: math, reading and writing for all students and each group student.

Exemplary Standards: The Commissioner definition of exemplary standards for the school year 2000-2001. The standards are TAAS: at least 90% of the students passing each subject area for all students group, Dropout Rate: 1.0% or less of all students and each student group and at least 94% in Attendance Rate.

Texas Education Agency (TEA): The State Legislature, through statutory law has created the Texas Education Agency a hierarchical administrative governmental structure to implement, administer, and regulate the state-mandated educational function in the local school districts of the State. The Texas Education Agency consists of a State Board of Education, a Commissioner of Education and an agency staff. This agency has

the authority to make rules and regulations governing education in the state. This agency shall administer and monitor compliance with education programs required by federal or state law, including federal funding and state funding for those programs (Vornberg, 1998).

TAAS: Texas Assessment of Academic Skills. Standardized test taken each spring as reported by the Texas Education Agency.

TAKS: Texas Assessment of Knowledge and Skills. The last standardized test developed by the Texas Education Agency.

Snapshot 2002-2003: Provides a detailed look at public education in the State of Texas for the 2002-2003 school year. Reflecting the diversity and vastness of the state, school districts in Texas vary widely on almost all measured characteristics: size, wealth, ethnic composition, an academic achievement. It provides the necessary information to analyze these differences and to evaluate the relative strengths and weaknesses of public and charter schools in Texas.

CHAPTER II

LITERATURE REVIEW

David Tyack and Larry Cuban (1995) show that talk about school reform has been more or less constant since the 1890s (Maranto, Milliman, Hess and Gresham, 2001).

If we could define in a single word the main characteristic of public administration at the end of the twentieth century and the beginning of the twenty-first century would be change. The study and research of public management is commonly described now as being creative, risk-taking, innovative or being entrepreneurial. (Frederickson and Johnston, 1999).

It was the desire to improve, to make things better, more effective and efficient that brought a commitment to institutionalize innovation as the main factor of development in public policies. The initial theories of public administration like rational-decision theories, measurement of performance, goal-oriented, and democratic organization were linked with the concepts of efficiency and economy or their combined value: effectiveness. It is important to say that social equity theories were also influential but the new neo-liberal theories moved away from these theories to the direction of market theories which are the basis of new reforms (Frederickson and Johnston, 1999**).**

Neoliberals advocate privatization of public institutions and services based on market forces and individuals demands to achieve social ends. The roots of this movement lie in economic liberalism, which sees society as a universe of individuals whose rational self-interest choices lead to optimal efficiency. The rise of charter school

policies is due in part to the desire of dismantle the welfare state, stop the public education monopoly and technically free schools from government bureaucracies and compete for students and funds. (McClafferty, Torres and Mitchell, 2000).

In identifying what people have to say about schooling, it can be said that not everyone agrees. Most of the conversation is about means but rarely about ends (Postman, 1995). The end of a century and a millennium was a perfect time for striving to improve, to make things better. If there is a word that could characterize public management at the end of this century was change, sometimes called reform, reinvention, reengineering, innovation, creativity, taking risks and being entrepreneurial (Frederickson and Johnston, 1999).

The USA is characterized by a "business-oriented", free enterprise culture. Its system of government is also very open and fragmented. These factors have meant that it has been very easy for private sector management concepts to enter the public sector. At various times the government has expressed enthusiasm towards creative management techniques and approaches. A historical perspective indicates that there is nothing particularly new in this attitude to business techniques. This "free enterprise culture" is basically a result of the absence of a social democratic or socialist party of any size and the two-party system (Republican and Democrat) that possesses a unique political system where both parties believe that the federal bureaucracy wastes huge sums of money but in different degree (Pollit and Bouckaert, 2000).

Over the past eight years, Texas Charter schools have increased significantly. Texas is one of the five states with the most number of charter schools in operation

(Texas Education Agency, 2003). In 1997, optimistic legislators increased the number of open-enrollment charters from 20 to 120 and allowed an unlimited number of charter schools serving 75% or more of at-risk students. As a consequence of this, the number of charter schools awarded by the SBOE increased.

The number of Texas Charter Schools and the number of students attending this has increased through the years. In the school year 1996-1997, 17 open-enrollments were operated in the state. By the year 2001-2002 the number reached 180 (Table 1).

Table 1. Number of Texas Open-Enrollment Charter Schools.				
School Year	Total Charter Schools in operation	Number of 75% Rule	Number of Students Enrolled	Average Campus Enrollment
1996-1997	17	-	2498	147
1997-1998	19	-	4135	217
1998-1999	89	45	17616	198
1999-2000	146	46	25687	156
2000-2001	160	51	37696	188
2001-2002	180	-	46304	192

Source: TEA 2002 Snapshot. Open-enrollment evaluation reports, years one to five.

The Charter schools in Texas had an average of 192 students enrolled in the 2001-2002 school year, versus 544 students enrolled in regular public schools. Forty one percent of the campuses served 70% or more of at-risk students (economically disadvantaged), and fifty nine percent served 70% at-risk

Figure 1. Charter Student Demographic Data: 2001-2002.
(Source: TEA: Executive Summary, 2003).
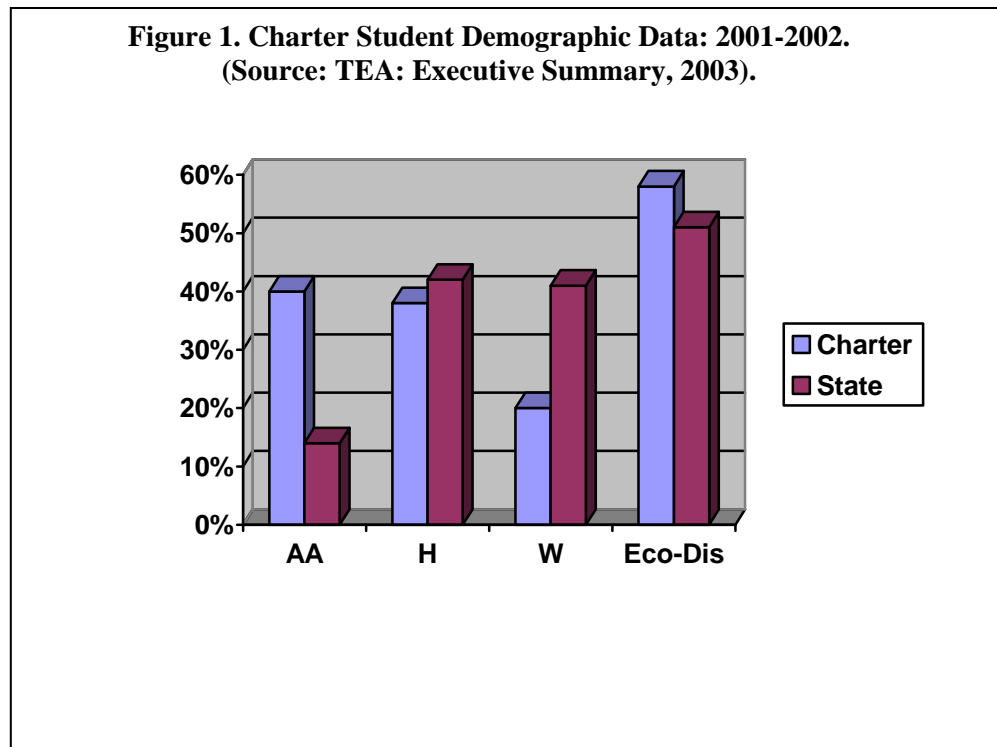
Charter schools have proportionally more students at pre-K and K and at high school level (9th-11th grades). Compared to the regular public school in Texas, the charter schools have a significant higher percentage of African-American students 40% vs. 14%, a significantly lower percentage of Anglo-American students 20% vs. 41% and a slightly lower percentage of Hispanic students 38% vs. 42%. We can observe these differences in Figure 1. It is also important to mention that TEA reports that new charters show a higher number of White students compared to charters already established. The school size also increases with years of operation.

Charter schools in Texas employ more minority teachers as we can appreciate in Figure 2.

Figure 2. Percentage of Minority Teachers Employed by Charter Schools vs. State. (Source: TEA. Executive Summary, 2003).
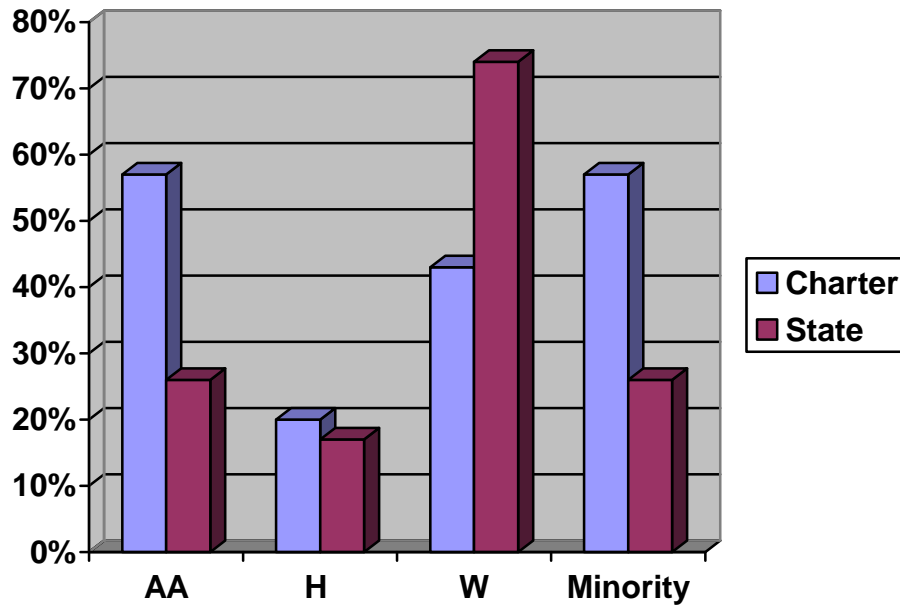
Among the main teacher characteristics through the last six school years are teacher experience, average salaries, student teacher ratio, teacher demographic trends and teacher qualifications as shown in Table 2.

Table 2. Charter School Teacher Characteristics 1996-2002.

Characteristics	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002
Total Number (FTE)	123	284	734	1518	2024	2692
Average experience	4.3	4.8	5.0	4.7	5.1	5.4
Average Salary	$25,408	$24,222	$26,944	$27,460	$27,755	$29,343
Student-teacher ratio	28.8	21.5	17.8	16.1	18.4	17.8
% with baccalaureate degree	72.9%	70.6%	68.7%	68.7%	69.4%	70.4%
% with no degree	2.6%	3.8%	9.9%	14.1%	15.8%	15.7%
% African American	20.2%	24.2%	26.4%	34.2%	35.4%	34.4%
% White	47.5%	41.9%	47.2%	42.4%	41.2%	42.5%
% Hispanic	29.1%	25.3%	24.5%	21.8%	21.8%	20.0%
Teacher turnover rate	-	35.0%	15.2%	51.7%	45.8%	53.0%

Source: Texas Education Agency: Executive Summary 2003.

Charter School receive77% of their funding from the state, around 15% from the federal government and the rest 8% from local funding (Figure 3). They do not have resources from taxable property like most of the school districts.

Figure 3. Charter School Funding. TEA
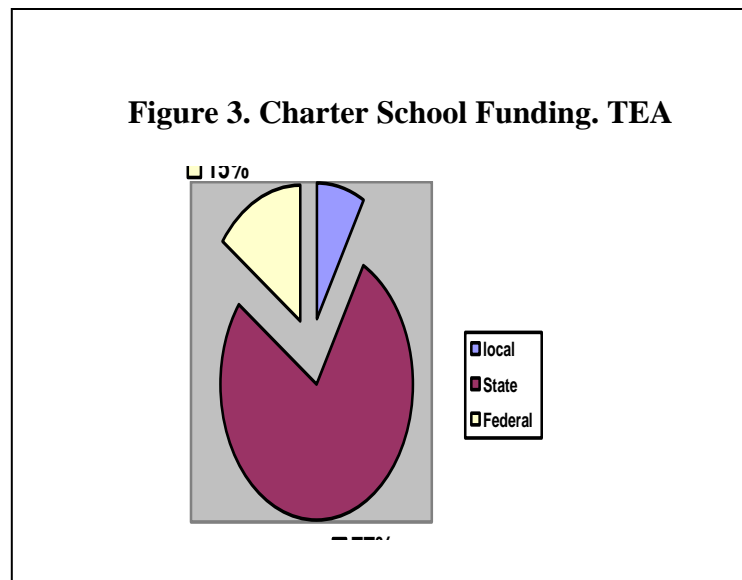
Charter schools are one of the most debated and least understood movements in education. The main point of disagreement is accountability. Some people think that those in charge of charter schools like Board members, Superintendents and administrators are responsible only to follow educational standards and maintain a clientele of satisfied parents. While other think that charter schools should be responsible to show the public in general that students are learning what they need to and also make them productive citizens. (Paul T Hill and Robin J. Lake, 2002).

Some people support charter schools on the premise that they will not have to answer to local, state or federal educational agencies, and some other oppose charter schools on the same expectations. There are not many books and articles that explore charter school accountability. The term accountability refers to answering to those to whom one is responsible. In the public educational setting, this implies to answering to the citizens of the state for educational outcomes.

It is therefore my intention to describe the different variables that have a significant impact on the charter schools scores. No Child-Left-Behind (NCLB), with its standards tests, and systems of accountability, was conceived as a way around some of the obstacles to change that ensure continuing mediocrity. With its emphasis in student results as measured by test scores and its consequences for inadequate progress, it is a step in the right direction according to Thernstrom and Thernstrom (2003). After No Child Left Behind act based on a standards-based reform, the states had to develop state standards for student performance in key subjects, test all students on whether they attain these standards or not and hold accountable schools for rates of student progress on the tests.

The standards-based reform starts at the top of the system by trying to align state goals, performance measures, and actions toward schools. Charters schools are the bottom of the system due to the freedom of action upon they are built at the school level. Every time when in the educational field somebody refers or talks about state accountability systems, Texas is always mentioned. Texas is either held as an example of accountability done well or held as a state where testing has replaced real learning (Brooks, 2000).Texas has followed a serious approach to hold schools accountable for helping students to meet standards of academic performance. It also important to mention that Texas approach has produced positive performance outcomes. By 1997-98 scores on TAAS rose for the fourth time in a row (Johnston, 1999).The state has also been able to close the achievement gap between white and minority students. However, this success has not come free of controversy and criticism.

Texas has one of the most simple and straightforward indicator systems to measure district and campus performance. It is called the AEIS (Academic Excellence Indicator System). It is based on the student performance on TAKS, previously TAAS exam, given each spring in grades 3, 8 and 10 covering mathematics, reading and writing. These scores combined with dropout rates and attendance rates to assess a ranking to each public school and district in Texas. The rankings are Exemplary, Recognized, Academically Acceptable (district)/Acceptable (campus), and Academically Unacceptable (district)/ Low Performing (campus). It is the absolute performance levels of all students that determine the rating for the school. Texas has balanced an approach on closing the achievement gap for all students trying to meet the state standards. Accountability is the primary focus of the controversy about charter schools. Some authors think that needing to satisfy all members of the interest groups as well as government agencies is good enough to make them effective and responsive schools. On the other hand some argue that responding to so many different interest groups makes them unaccountable. (Paul T. Hill and Robin J. Lake, 2002).

Therefore, as in any other state a charter school in Texas is accountable to any entity or interest group whose support it must maintain to exist. Therefore, state agencies (Texas Education Agency), parents, teachers and community members are the interest groups, however charter schools relationships are not equally well developed and understood. If their students do not perform the charter schools can be denied any public funds. State charter school laws are different, but most are exempt from regulations about the use of time and the way how educators and administrators are selected.

Most important, charter schools do not have access to free space, they have to pay the space from their own budget imposing an enormous financial burden on their finances. To compensate this charter schools have to become creative and look for private donations to overcome this huge disadvantage without affecting the funds directed to teaching and learning. Therefore accountability is the word that is most heard and used through K-12 education. States are setting standards and creating assessment to measure performance and growth achieved in a school year. Now a days, schools are held responsible for the academic performance either rewarding those who meet standards or sanctioning those who does not. Of the 48 states that use assessments to measure student achievement only a few have developed a system among them Texas.

According to the U.S. Department of Education: "Charter Schools are public schools that come into existence through a contract with either a state agency or a local school board. The charter establishes the framework within which the school operates and provides public support for the school for a specified period of time. The school's charter gives the school autonomy over its operation and frees the school from regulations that other public school must follow. In exchange for the flexibility afforded by the charter, the schools are held accountable for achieving the goals set out in the charter improving student performance." The ongoing struggle for educational equity has played an important role in the desire of a school reform in the U.S. which can be summarized in one: accountability (Olson, 1999). If it is true that an accountability system will not transform public education by itself, it is a necessary first step in

building an educational system organized around high expectations for all students (Brooks, 2000). Most states base in three principles an effective accountability system:

1. Focus on results. Ability to meet state standards of achievement.

2. Clear goals and roles. The accountability system should be one that implemented thoughtfully can create the conditions to focus on student performance and provide a supportive system for building a learning community.

3. Reciprocal relationship. The state cannot demand performance from school districts and campuses without providing the necessary resources and freedom of actions in the student's best interest (Elmore, 1999).

Brooks identifies seven key elements, based on the above premises, of an effective accountability system:

- Fair, reliable, relevant and understandable indicators of school performance;

- Predictable/consistent incentives or consequences for performance;

- Opportunities and resources for schools that need to improve;

- Flexibility to adapt and meet standards of performance;

- Functional learning opportunities for students when school improvement is not possible;

- Comprehensive public information campaign that helps the community understand the process; and

- An independent body evaluating the system and keeping a balance on the political oversight of the system.

According to him, no state has yet been able to coordinate all seven elements into a unified and consistent accountability system. Therefore, accountability itself remains a work in process in all the states. Every time when in the educational setting accountability is mentioned, one state is always mentioned: Texas. This is the state that has tried to implement an accountability system to the fullest. Texas is either the herald as an example of accountability done well or held as a warning of a state that has put testing and the basics ahead of real learning (Brooks, 2000). Regardless of the different opinions, Texas has taken a serious approach to hold schools accountable in order to reach state standards of academic performance.

Texas started its accountability system with an impressive reform of the state education code (Mendel, 1999). Texas has adopted an indicator system to assess school and district performance. The Academic Excellence Indicator System (AEIS) is a combination of TAKS (previous TAAS) performance scores, dropout rates and attendance rates to designate a categorical ranking to each public school and district in the state. It is the intention of this accountability system to focus on closing the achievement gap with assurances that all students, including among numerically significant student subgroups like African American, White, Hispanic, and Economically Disadvantaged are meeting the standards. These subgroups are counted when at least 30 students from a group are tested and the group represents at least a 10% of the school's population.

Table 3. State's Testing and Accountability Systems.

STATE	ACCOUNTABILITY PLAN APPROVED BY US DEPT. EDU	ACCOUNTABILITY PLAN APPROVED STATE BOARD	STATE TEST GRADES 3-8 READING AND MATH 2003-2004
Alabama	Submit Additional Info	yes	yes
Alaska	Submit final Regulations	yes	yes
Arizona	Submit Additional Info	yes	yes
Arkansas	Submit Additional Info	yes	no
California	Submit Final Regulations	yes	yes
Colorado	Submit Additional Info	yes	no
Connecticut	yes	yes	no
Delaware	Submit Additional Info	yes	yes
Dist. Columbia	Submit additional Info	exp. Dec 2003	yes
Florida	yes*	yes	yes
Georgia	Submit Additional Info	yes	yes
Hawaii	yes	yes	no
Idaho	Submit Final Regulations	yes	yes
Illinois	yes	yes	no
Indiana	Submit Additional Info	yes	yes
Iowa	Submit Additional Info	yes	no
Kansas	yes	yes	no
Kentucky	Submit Additional Info	exp. Dec 2003	no
Louisiana	Submit Additional Info	yes	yes
Maine	Submit Final Regulations	in progress	no
Maryland	yes	yes	yes
Michigan	Submit Additional Info	yes	no
Minnesota	Submit Additional Info	yes	no
Mississippi	yes	yes	yes
Missouri	yes	yes	no
Nevada	Submit Additional Info	yes	no
New Hampshire	Submit Additional Info	yes	no
New Jersey	yes	yes	no
New Mexico	Submit Additional info	yes	yes
New York	Submit Final Regulations	yes	no
North Carolina	Submit Additional Info	yes	yes
Ohio	Submit Final Regulations	yes	no
Oklahoma	Submit Additional Info	yes	no
Oregon	yes	yes	no
Pennsylvania	Submit Additional Info	?	no
Rhode Island	Submit Additional Info	yes	no
South Carolina	Submit Additional Info	yes	yes
South Dakota	Submit Additional Info	yes	yes
Tennessee	Submit Additional Info	yes	yes
Texas	**yes**	**yes**	**yes**
Vermont	Submit Additional Info	yes	no
Virginia	yes*	yes	no
Washington	yes	yes	no
Wisconsin	Submit Additional Info	yes	no
Wyoming	yes	yes	no
U.S. TOTAL	**13**	**47**	**21**

Source: U. S. Department of Education and Education Week's annual state policy survey, 2003.

In table 3, there is a comparison of states that are still in the process of putting in place the testing and accountability systems required by NCLB (No Child Left Behind Act).

As said before, charter schools are independent public schools free from many of the rules and regulations in traditional public schools. The first Texas charter schools opened their doors in 1996. Today, the state allows up to 215 open-enrollment charter schools in addition to an unlimited number of university-sponsored and locally approved charters. In 1999-2000 school year 214 charters were granted. According to TEA a Texas charter school student is more likely to be economically disadvantaged, African-American, and less likely to be white than a traditional public school student. The performance of these students appears to be behind of the traditional public school students:

- 43.1 % charter school students passed all tests compared to the state average of 79.9%

- There was a 23.2% point difference in reading (charters: 64.2 versus, state: 87.4), 29.8 in writing (charters: 58.4% versus state: 88.2%) and 34.9 in math (charters: 52.5 versus state: 87.4) (Moore, 2002).

In charters behalf is not that simple to make such comparisons since the charter school's populations have a greater concentration of at-risk and disadvantaged students. Besides, many of the charter students left the traditional school setting due to poor academic performance in the one-size-fits-all students.

Charter schools are different by design; therefore it is not easy to make meaningful comparisons or generalizations. However, data available permits some research, analysis, evaluation and policy implications.

This study attempts to identify the organizational, financial and demographic characteristics of those charter schools in Texas and their relationship to school performance.

It is the intention of my analysis to find the degree of relationship between the different variables; therefore it will be necessary to find measures of correlation, in order to deal with the relationships, if they exist, in a quantitative manner.

CHAPTER III

METHODOLOGY

Some charter schools are obviously more effective than others in terms of their performance on the reading, writing and mathematics state-mandated tests. Why? Why do some charter schools perform better on these tests than others? In this study, we are hypothesizing that the variation in charter school performance is related to selected demographic, organizational and financial variables.

Therefore, the purpose of this study of the correlates of charter school effectiveness is to measure the strength and direction of the relationships between charter schools' performance and their demographic, financial, and organizational characteristics.

Data Source

The data used for this study were obtained from the Snapshot Data 2002-2003 available from the Texas Education Agency. These data provide an overview of public education in Texas for a particular school year. In addition to state-level information, these data contain a profile about the characteristics of each public school district. From this website nearly 90 items of data for each district can be accessed. The item can be browse or downloaded. Ten years of information are currently available from the TEA website http://tea.state.tx.us//perfreport/snapshot. This information gathered and the analysis performed will assist researchers, teachers and administrators as they seek to find strategies in order to develop a systematic method of improvement in the charter schools in Texas.

The Snapshot was downloaded from the Texas Education Agency. The information includes all charter schools and 86 data items presented in a six-page layout for approximately 185 charters. Of the 86 items, some of the demographic, financial and organizational characteristics will be chosen to perform a correlation analysis using SPSS for Windows-Standard Version 11.0 database for statistical analysis.

Sample

The following variables have been chosen as the ones with the most likelihood to have an impact on the state standardized tests of reading, writing and mathematics in Texas. There are the variables and the rationale behind for been selected.

Demographic Variables' Impact on Charter School Performance

What demographic variables are most likely to impact charter school performance?

Total Number of Students

One would expect the size of the charter school to have an impact on its performance. There are basically three reasons for this:

1. Charter school financing is directly based on the number of students served. The larger the number of students served the larger the cash flow for the school. It is likely that there is a minimum size at which a charter school can function and still be financially sound.

2. Charter schools are typically small, but average campus enrollments are increasing. In 2002-2003, the average student enrollment for charter school campus was 198 students.

3. While small school size is a positive feature, small schools may have difficulty meeting the different subject and course requirements for the growing number of students particularly in middle and high schools.

Percent Economically Disadvantaged Students

It is likely that charter school performance will be affected by the percent of its students who are economically disadvantaged. There are three reasons for this:

1. Charter schools spent the same amount of dollars per student as the rest of the public schools in Texas, theoretically the performance should be the same, however it is not.

2. Charter school not only in Texas but nationwide enroll more students who are economically disadvantaged compared to the traditional public schools.

3. Charter schools in comparison to the traditional public schools serve a larger population of students at-risk, since they have a greater share of African-American, Hispanic and less white students.

Attendance Rate

It is more likely that campuses with high attendance rates will perform better on the state mandated tests.

1. Charter school serving greater proportions of at-risk students reflect a lower attendance rate than their counterpart of the traditional public schools.

2. Some charter schools report using extended-day and extended-week schedules, block schedules, and credit through flexible courses making the

attendance rate fluctuate.

3. Students in the charter schools where there is a high population of students at-risk have a higher drop-out rate, a higher migrant student population and as a consequence the attendance rate tends to be lower.

Financial Variables' Impact on Charter School Performance

What financial variables are most likely to impact charter school performance?

Expenditures Per Pupil

Charter schools primarily spend their money on functions such as instruction, general administration, plant operation and maintenance and school leadership.

1. The amount of money spent by charter school sin Texas is very similar to the one spent by the traditional public schools. Charter schools spent around $6,322.34 per student compared to $6,322.00 spent the in the regular public schools. Theoretically the student performance should be very similar and it is not.

2. Charter schools are facing diseconomies of scale due to the small sizes of the schools.

3. Charter directors have expressed the need for more funding citing inadequate finances for operation as a great barrier to accomplish their mission.

Central Administration Expenses

The total expenditures budgeted for the central administration in the district spent by the charter schools in Texas are almost 17% of their revenues compared to only 6% in the non-charter schools.

1. As a whole, charter schools directors are highly educated expecting higher salaries for them.

2. We should expect a correlation between better educated superintendents, principals and better test scores in the campuses.

3. The higher the population at risk the higher the salaries being offered. Therefore it is important to know if these higher salaries does or does not necessarily improve the level of instruction delivered in the classroom.

Organizational Variables' Impact on Charter School Performance

What organizational variables are most likely to impact charter school performance?

Teacher FTE Count

The full-time equivalents count of personnel classified as teachers, including special duty and permanent substitute teachers. The charter schools employed an average of almost 18 teachers and permanent substitutes at their campuses compared to 38 teachers and permanent substitutes per campus at the non charter schools or so called traditional public schools (See Appendix I).

1. However, most of the charter schools employ only 8 teachers and permanent substitutes per campus. This represents ten teachers less than what the average show for the charter schools.

2. It is important to determine how much the student/teacher ratio is explaining the student performance in the state standardized tests.

3. Charter schools serving primarily at-risk students have higher percentages of teachers FTE with no degree (11.8%), more beginning teachers (19.8%), and fewer teachers with advanced degrees (13.5%). (U.S. Department of Education, Evaluation of the Public Charter Schools Program: Final Report, 2004).

Teacher Turnover Rate

The teacher turnover rate was determined by the FTE count of teachers not employed in the district during the fall of the school year 2002-2003, who were employed in the district in the fall of 2001-2002, divided by the teacher FTE count for the fall 2001-2002.

1. The turnover rate of 46.04% in the charter school is very high compared to the 15.3% turnover rate for the rest of the public schools in Texas for the same school years (See Appendix 1).

2. Teachers in schools serving predominantly at-risk students are less satisfied with their charter school in key areas, such as standards, community support, and parental involvement. (Charter Schools Sixth Year Evaluation: TEA)

3. Teachers also express less satisfaction with "teachers' autonomy" and the school curriculum. (Charter Schools Sixth Year Evaluation: TEA)

Analysis Method

This study will first present the descriptive statistics pertaining to these variables. Following this, we will examine the relationships between and among the variables, using bi-variate correlations and then models of regression analysis. Our

purpose in doing this is to ascertain the strengths and directions of the relationships between and among the dependent and independent variables.

In addition of this, we make sure there was no collinearity sometimes referred as multicollineraity. It was important to determine that there was no correlations among the independent variables in our regression calculations. The reason for this was our fear to find complete collinearity in which there was no way of knowing which of the independent variables is the important one and therefore no solutions or predictions could be made. Variance inflation factors (VIFs) and Tolerance tests were run in order to deal with this possible scenario. The results are presented in Chapter IV.

CHAPTER IV

DATA ANALYSIS

Introduction

The main purpose of this dissertation is to discover the correlates of charter school effectiveness. Why are some charter schools more effective than others?

We are measuring a charter school's effectiveness by its scores on the state-mandated tests for reading, writing, and mathematics. As we are defining effectiveness, the higher the scores on these state exams, the more effective the charter school. This may not be the only way to measure effectiveness but it is surely an important way, especially in the context of the No Child Left Behind legislation. With this new law, schools that do not pass the state-mandated tests risk state intervention.

Descriptive Statistics

Size and Number of Charter Schools

There were 185 charter schools in operation in Texas during the 2002-2003 school year. Of these 185 schools, the smallest operated with only six students and the largest with 1924. The median size was 198 students. That is, half the charter schools in the state this year enrolled fewer than 198 students while the other half served more. Table 4 presents the basic descriptive statistics for charter school size.

Table 4. Measures of Central Tendency and Dispersion for Texas Charter Schools, 2002-2003 School Year.

N	Valid	185
	Missing	0
Mean		287.32
Median		198.00
Mode		129
Std. Deviation		261.741
Variance		68508.53
Skewness		2.514
Std. Error of Skewness		.179
Kurtosis		9.355
Std. Error of Kurtosis		.365
Minimum		6
Maximum		1924
Percentiles	25	127.00
	50	198.00
	75	349.00

a Multiple modes exist. The smallest value is shown

Charter School Effectiveness: Test Scores in Reading, Writing and Mathematics

The Texas accountability system included two systems: a standard system and an alternative system. As mentioned before this analysis is based on the standard system. By the school year 2001-2002, 40% of the charter schools did not meet the Texas performance standard, and compared to the traditional public schools only 2% were rated low performing. By the school year 2002-2003 the Texas Education Agency did not published the accountability standards for the charter school since it was the first year that the TAKS was implemented.

Table 5. Campus Performance Ratings for Charter and Traditional Public Schools, 1999-2002.

Rating	Charter Schools				Traditional Public Schools			
	1999	2000	2001	2002	1999	2000	2001	2002
Standard[a]								
Exemplary	13%	8%	5%	16%	18%	20%	24%	30%
Recognized	20%	11%	9%	10%	30%	32%	36%	37%
Acceptable	47%	49%	42%	34%	51%	46%	38%	32%
Low-Performing	20%	32%	44%	40%	2%	2%	2%	2%
N rated	15	63	96	94	6,206	6,363	6,616	6,444
N not rated[b]	45	81	31	34	160	140	149	659
Alternative Education								
Commended	n/a	0%	2%	3%	n/a	2%	5%	17%
Acceptable	83%	27%	38%	58%	--	88%	84%	77%
Needs Review	17%	73%	61%	39%		11%	11%	7%
N rated	6	33	62	106	--	--	--	230

Source: TEA Division of Student Performance Reporting.

Note. The Commended rating was instituted in 2000. "--" indicates unavailable data. Results for AE traditional exclude charter campuses; standard results include charter campuses.

[a] Percentages based on four ratings.

[b] Includes campuses not rated for data quality, grades PK-K, new charter, and insufficient data.

Figure 4. Percent of Charter Campuses Rated Low-Performing or Needs Peer Review. *Source:* TEA Division of Student Performance Reporting.
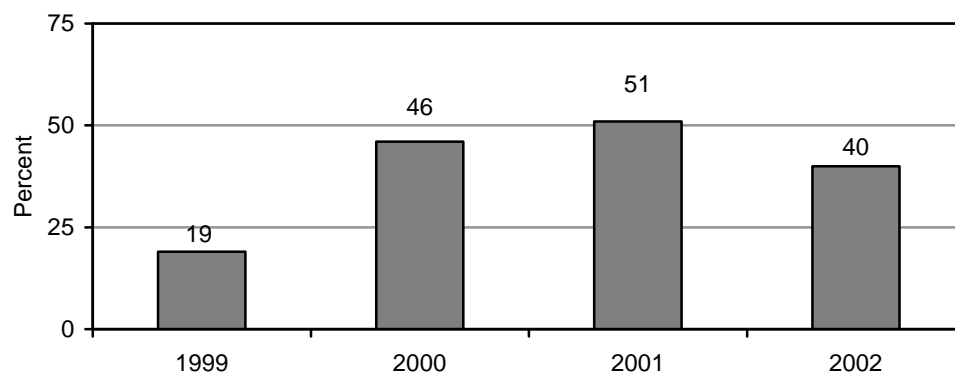
We see from these data that there considerable variation in charter school performance. Some charter schools through the years have proven to be more effective than others in terms of their performance on the reading, writing, mathematics, science and social studies state-mandated tests, see figure 4.

As we can observe on Table 5, the number of exemplary charter school increased up to 16 percent by the end of the 2001-2002 school year, before the implementation of the TAKS. The Texas Assessment of Knowledge and Skills (TAKS) was implemented beginning in the spring of 2003. TAKS reflects a better alignment with the TEKS (Texas Essential Knowledge and Skills) than the previous test TAAS.

Reading Test Scores

As one might expect, charter schools vary in terms of how well they do on the state tests, i.e., they vary in terms of their effectiveness. Consider, for example, the state-mandated reading tests.

On average, Texas charter schools got sixty-four percent of their students to pass the state-mandated reading test in the 2002-2003 academic year. This average passing rate was well below the 83.2 percent average passing rate for Texas public schools in general. This percentage represents the total number of students who passed the TAKS reading or English Language Arts TAKS test, expressed as a percentage of the total number of students tested. It is important to mention that the special education students and the students taking the test in Spanish in grades 3-6 are also included. This calculation also includes the first and second administration of the TAKS in third grade.

Table 6. Passing Rate on Reading TAKS for Texas Charter Schools, 2002-2003.

N	Valid	176
	Missing	9
Mean		64.80
Median		66.40
Mode		50
Std. Deviation		19.703
Variance		388.237
Skewness		-.289
Minimum		0
Maximum		100
Percentiles	25	50.00
	50	66.40
	75	80.15

Table 6, however also shows that while the average passing rate on the reading tests was 64.8 percent, the range of scores was quite large, going from 0 to 100 percent. In other words, in some charter schools, either not students passed the test or the numbers were so small as to not even add to more than 0 percent. There were other school on the other hand, that had 100 percent of their students passing, some examples are the Dallas Community Charter and NW Mathematics, Science and Language Academy. At the same time the mode of 50 percent reflects that the most number of charter schools got this percentage passing score as shown on figure 5.

Figure 5. Percentage of Reading Passing Scores Histogram.

Std. Dev = 19.70
Mean = 64.8
N = 176.00

READTEST
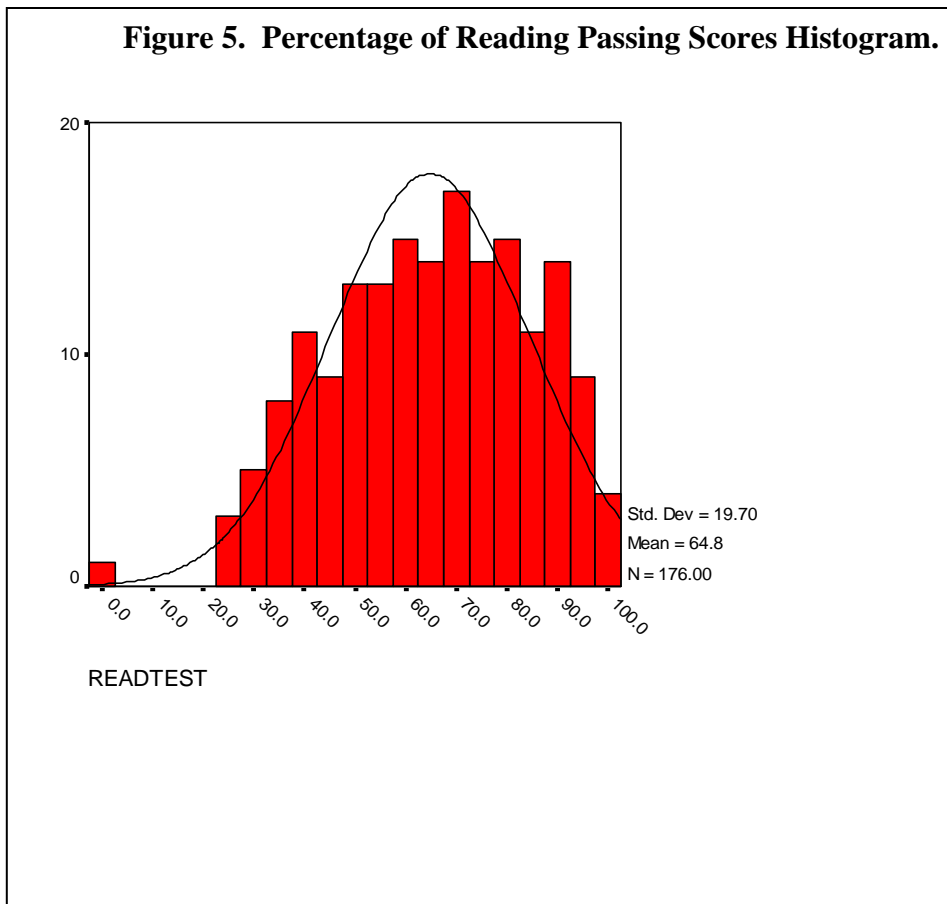
Writing Test Scores

The passing rate on the writing tests for Texas charter schools was higher than their passing rate on the reading section of the exam. In this case the median passing rate, shown in Table 7 was 71.30 percent as compared with the median score of 66.40 percent for the reading test shown in Table 6. Again, however, the passing rate for the charters was well below that of the state as a whole where all public had a median passing rate on the writing exam of 86.4 percent. This percentage includes all grades and the total number of students including special education and LEP students in fourth grade who passed the writing section of the TAKS. It is noticeable that the number of charter school

submitting writing TAKS tests is considerably below than other subjects, some of the reasons are that the writing TAKS test is only administer to fourth and seventh graders, another reason is that some charter schools were closed during the school year.

Table 7. Passing Rate on Writing TAKS for Texas Charter Schools, 2002-2003.

N	Valid	113
	Missing	72
Mean		69.67
Median		71.30
Mode		100
Std. Deviation		22.236
Variance		494.479
Skewness		-.609
Minimum		11.1
Maximum		100
Percentiles	25	56.15
	50	71.30
	75	89.35

Again, however, as in the case with the reading test, there was a large variation, with 32.7 percent of the charter schools did not get a at least a 60 percent passing score (figure 6), while 8 schools (7.1 percent) had 100 percent of their students passing. The schools are Bexar County Academy, Encino School, Jean Massieu Academy, Burnham Wood Charter, Alief Montessori Community, Vanguard Academy, Eagle Project (Tyler) and Arlington Classics Academy.

Figure 6. Percentage of Writing Passing TAKS Scores Histogram.

Std. Dev = 22.24
Mean = 69.7
N = 113.00

WRITEST
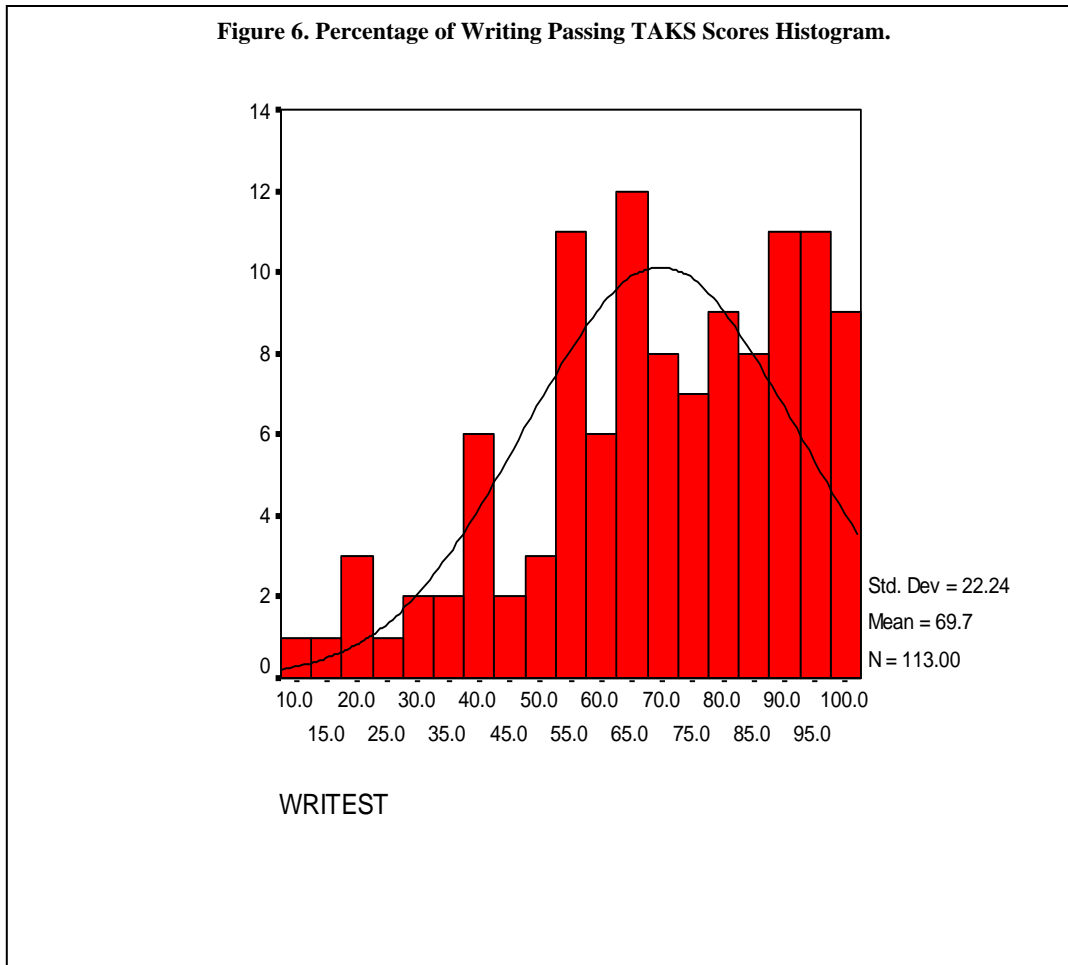
Mathematics Test Results

Texas Charter schools got 43.11 percent of their students to pass the state mandated reading test in the 2002-2003 academic school year. This average passing rate was well below the 77.9% average passing rate for Texas public schools in general. This average represents the number of students who passed the TAKS math section of the TAKS, expressed as a percentage of the total number of students. As in the reading and writing sections of the TAKS the special education and LEP populations are also included. There were only one school who was able to pass 100 percent passing rate of its students the NW Math, Science and Language Academy.

Table 8. Passing Rate on Math TAKS for Texas Charter Schools, 2002-2003.

N	Valid	176
	Missing	9
Mean		45.11
Median		41.25
Mode		20
Std. Deviation		27.38
Variance		749.96
Skewness		.288
Minimum		00.0
Maximum		100
Percentiles	25	20.35
	50	41.25
	75	68.87

As we can observe on Figure 7 the histogram shows a positive skewness of .288 showing the curve skewed to the right. The absolute value on this particular case is far from the .8 rule-of-thumb before the distribution becomes "noticeable skewed" (Bourque and Clark, 1992). However, 69.3 percent of the students in the charter schools in Texas did not obtain at least a 60% passing score. The mean for all charter schools was of 45.1 percent as shown in table 8.

Figure 7. Percentage of Mathematics Passing TAKS Scores Histogram.

Std. Dev = 27.39
Mean = 45.1
N = 176.00

MATHTEST
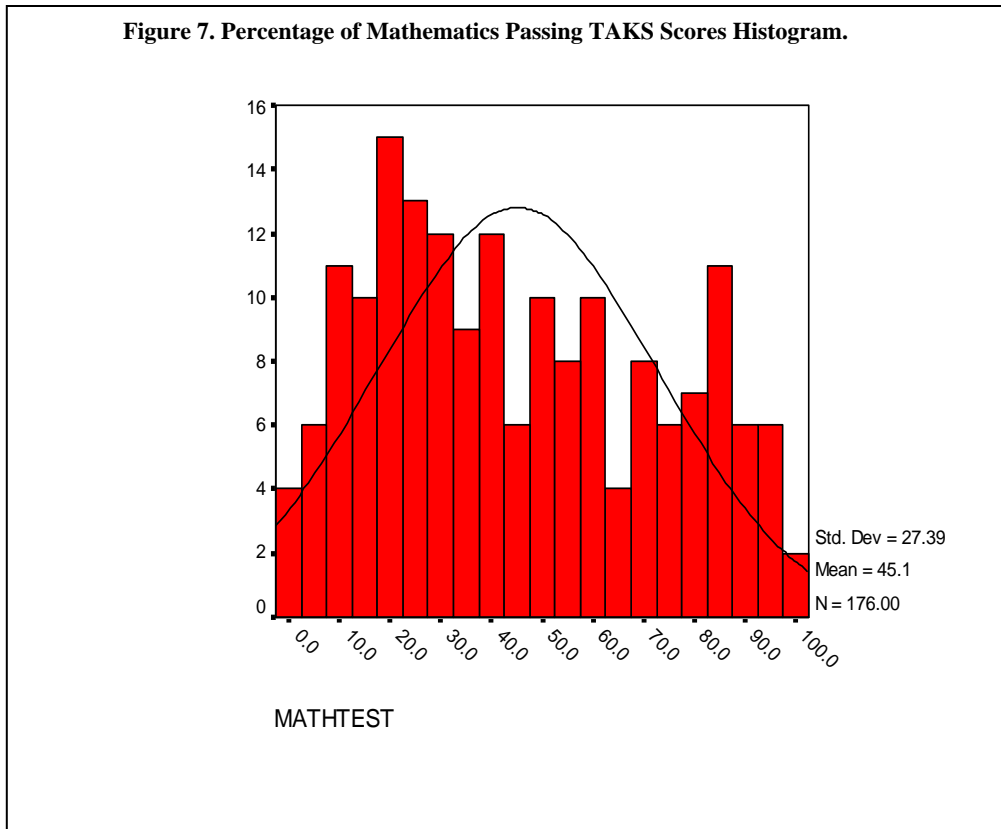
Science Test Results

The science test passing rate has always been the lowest among all tests taken. The average passing rate for the charter schools in Texas in the 2002-2003 school year was 43.09 percent compared to the 70.9 percent for the state average. This percentage reflects all grades and the total number of students tested in science. The special education and LEP populations in fifth grade are included. Only those students enrolled as of October 25, 2002 were considered.

Table 9. Passing Rate on Science TAKS for Texas Charter Schools, 2002-2003.

N	Valid	155
	Missing	30
Mean		43.09
Median		41.70
Mode		0
Std. Deviation		25.53
Variance		652.191
Skewness		.355
Minimum		00
Maximum		100
Percentiles	25	24.60
	50	41.70
	75	61.90

Again, there is a large variation of the range of scores going from no student passing at all, and two schools, Encino School and the Alief Montessori Community School being able to have 100 percent of their students passing the science TAKS test. The mean is 43.1 the lowest one among all subjects as shown in table 9, and the mode equals to 0 indicates that this was the score with the greatest frequency, see figure 8.

Figure 8. Percentage of Social Studies Passing Scores Histogram.

Std. Dev = 25.54
Mean = 43.1
N = 155.00

SCTEST
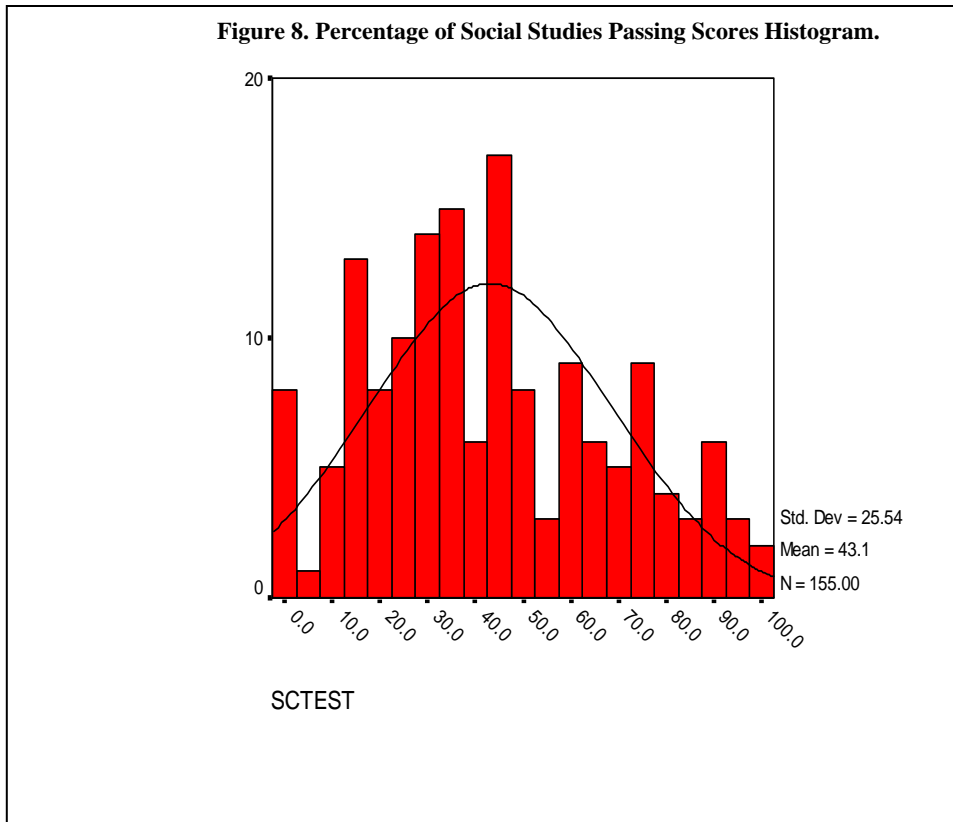
Social Studies Test Results

The social studies test passing rate is 72.42% for the charter schools in Texas compared to the 90.3% for the rest of the state as we can observe on figure 9. There is a significant difference of almost 18 points between the charter schools and the state average. This percentage is calculated as the number of students who passed the TAKS social studies section expressed as a percentage of the total number of students tested in social studies. The special education students were included in this calculation shown in table 10.

Table 10. Passing Rate Social Studies TAKS for Texas Charter Schools, 2002-2003 school year.

N	Valid	133
	Missing	52
Mean		72.42
Median		76.90
Mode		100
Std. Deviation		21.51
Variance		462.680
Skewness		-.704
Minimum		7.1
Maximum		100
Percentiles	25	60.00
	50	76.70
	75	90.75

Seventeen schools, Pineywoods Community Academy, St. Mary's Academy Charter, Guardian Angel Perf Academy, San Antonio School for Inquiry and Creativity, Encino School, A+ Academy, Focus Learning Academy, Mainland Preparatory Academy, Accelerated Intermed Academy, B Mayes Institute Center, Kipp Inc. Charter, The Idea Academy, Tekoa Academy of Accelerated Studies, Metro Charter Academy, Eden Park Academy, Harmony Science Academy-Austin and Bright Ideas Charter were able to have a 100 percent passing rate in the social studies TAKS test.

Figure 9. Percentage of Social Studies passing Scores Histogram.

Std. Dev = 21.51
Mean = 72.4
N = 133.00

SSTEST
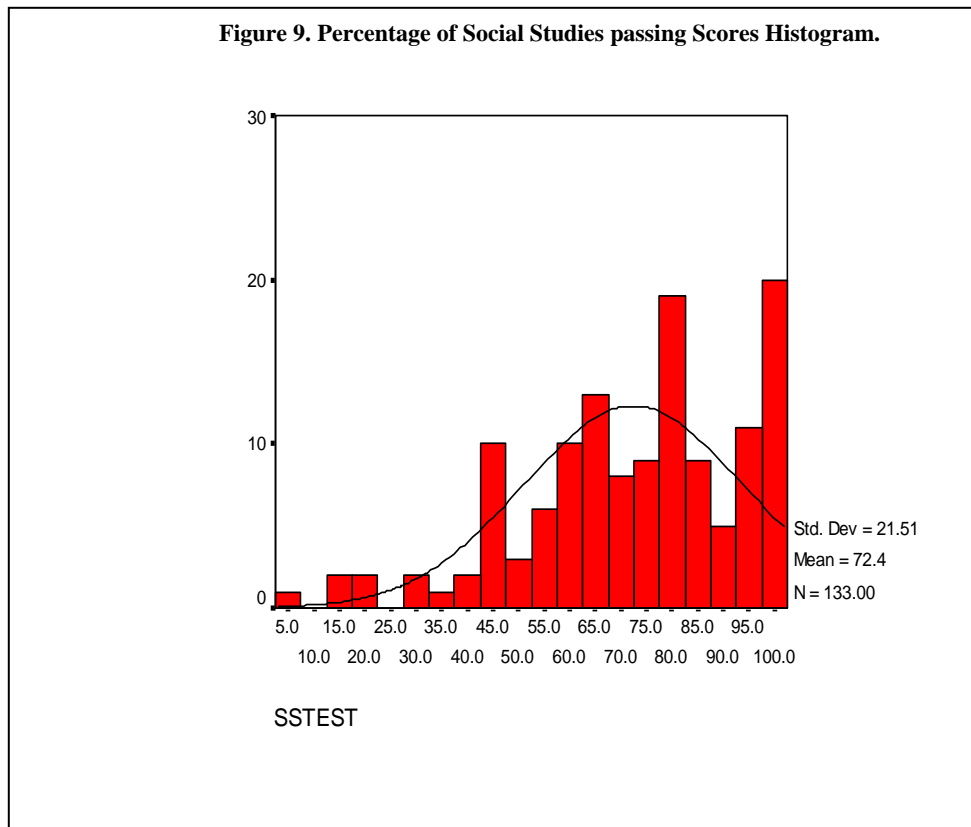
Why? Why do some charter schools perform better on these tests than others? What are the relevant factors that contribute or affect the student performance in the state mandated tests.

In this study, we are hypothesizing that the variation in charter school performance is related to the selected organizational, financial and demographic variables. I will be considering only the mathematics, reading and writing tests only since these were the only tests taking into consideration for the Texas Education Agency back in the 2002-2003 school year to rate the charter schools when it came to performance.

Demographic Variables' Impact on Charter School Performance

What is the relationship between the demographic variables selected and the passing rates in reading writing and math scores? Table 11 gives the Pearson product moment correlations for the variables in the study.

Table 11 – Pearson Product-Moment Correlations Between the Key Performance Variables and the Demographic Variables .

Variables	PR	PW	PM	Size	EcD	AR
Passing Reading	1	.629**	.865**	.064	-.189*	.493**
Passing Writing	.629**	1	.652**	-.043	-.273**	.290**
Passing Math	.865**	.652**	1	.044	-.181*	.576**
Total Number of Students	.064	-.043**	.044	1	-.020	.083
Economically Dis. Students	-.189*	-.273**	-.181*	-.020	1	.067
Attendance Rate	.493**	.290**	.576 **	.083	.067	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Attendance Rate

As hypothesized in Chapter III, there is a strong correlation between the attendance rate and passing the math (R=.576), reading (R=.493) and writing (R=.290) TAKS tests. It is more likely that campuses with high attendance rates will perform better on the state mandated tests. As an example the charter school that outperformed the rest of the other charter schools The Northwest Mathematics Science and Language had an attendance rate of 95 percent. The average attendance rate for the rest of the charter schools was 90.8. and almost the same as the rest of the public schools 95.7

percent. Directors of charter schools continue to cite student absenteeism and tardiness as the greatest discipline problems.

It is important to mention that charter schools serve a predominantly at-risk student population, as an example the dropout rate for charter schools was 16.3 percent versus a 4.7 percent for the public schools. It makes a difference to serve a population at risk or not.

Economically Disadvantaged Students

On the other hand there is a negative correlation among passing writing ($R=-.273$), passing reading ($R=-.189$), passing math ($R=-.181$) and the number of economically disadvantaged students. The implication is that the larger the number of economically disadvantaged students in a charter schools the passing rates for writing, reading and math will show a decrease.

As mentioned before, the average number of economically disadvantaged students in the charter schools is 61.3 percent versus a 51.8 percent in the public schools. Why are more economically disadvantaged students in the charter schools?

There are several and different reasons, however the answer is not the purpose of research of this dissertation. What is important is to understand that regardless of race or ethnicity, poor children are much likely than non poor children to suffer developmental delay, to drop out of high school, and to give birth during the teen years (Miranda, 1991). Poverty children are more likely to be in single parent families (Einbinder, 1993) Poor inner city children are seven times more likely to be victims of child abuse or neglect that high income children (Renchler, 1993).

The majority of African-American and Hispanic students attend schools with large concentrations of economically disadvantaged students ((Bennet, 1999), where studies suggest that there is a different treatment and lower teacher expectations for racial and language minority students.

As with many other studies, low socio-economic status is closely correlated with low achievement, basically because these children lack an appropriate support system including cognitive strategies, goal setting opportunities, appropriate instruction in content and behavior. (Payne, 1995).

In our data, we found that there is a positive bivariate correlation between economically disadvantaged students and African-American students(R=.183), but a much stronger between economically disadvantaged students and Hispanic students (R=.300), while on the other hand there is a negative correlation between economically disadvantaged students and white students (R=-.558). The other important relationship found was the strong correlation between the Hispanic students and the bilingual students(R=.469), and at the same time a positive correlation between bilingual and economically disadvantaged students (R=.167).

Size

When it comes to size there is no correlation between the passing rates of reading, math and writing and the number of students in the charter schools. Even though there is no correlation among these variables we can only mention that school that outperformed the rest of the charter schools the Northwest Mathematics Science and

Languages charter had 199 students versus an average of 287 in the rest of the charter

schools.

In addition to correlation analysis a multiple linear regression was run to measure

the simultaneous effect of three independent variables:

X1 attendance rate
X2 economically disadvantage students and
X3 size

on three dependent variables:

Y1 percentage passing reading,
Y2 percentage passing math and
Y3 percentage passing reading

The multiple regression equation is: $Yi = a + b1X1 + b2X2 + b3X3$ where Yi represents

the total percentage of students who passed TAKS on the different subjects of reading,

math and writing. Beta coefficients, b1, b2, b3 were found to measure the effect of one

independent variable while taking into consideration the other two independent variables

at the time and the letter a represents the constant.

After running the above equations these are the results, shown in table 12:

Table 12.Coefficients Demographic Variables Reading.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-51.385	16.206		-3.171	.002		
	TOTSS	6.308E-04	.005	.008	.128	.898	.988	1.012
	ED	-.161	.046	-.229	-3.484	.001	.992	1.008
	AR	1.385	.179	.511	7.747	.000	.980	1.020

a Dependent Variable: READTEST

Turning this regression analysis into a regression equation (1):

%Passing TAKS Reading = $1.385X_1 - 0.161X_2 + .0006308X_3 - 51.385$ (1)

Each additional day to attend increases the percentage of passing the reading test by 1.4%. We also notice that the standardized regression coefficient between the two variables is 0.511. This correlation of 0.511 is greater than the standardized regression coefficients between economically disadvantaged students and %passing reading -0.229 and also between the number of students and percentage passing reading 0.008. So we are to conclude that attendance rate is a better predictor of percentage passing TAKS reading than the number of students of in a charter school or the number of economically disadvantaged students in a charter school.

However, we can also say that for each economically disadvantaged student that enrolls in a charter school the percentage passing rate in reading decreases a 0.2% and for every additional student that enrolls in a charter school in Texas the percentage of students passing the reading TAKS test increases in a very small 0.0006% not really significant.

Our coefficient of determination R=.543 represents the correlation between all the independent variables, attendance rate, economically disadvantaged students and size and our dependent variable in this case the percentage of students passing the TAKS reading test a significant correlation. We can also affirm that our equation predicts almost 30% (R Square=.295) of the variance of the percentage passing reading by the three variables selected. Our Adjusted R Square = .282 predicts that 28.2% of the variance in the passing rate in the reading TAKS test was explained in ALL the charter schools by

the attendance rate, the number of students in the charters and the number of economically disadvantaged students in the 186 charter schools as shown in the table 13 below.

In order to make sure that there was no collinearity among the variables I ran a Tolerance test and a VIF test. It was important to determine if there was any correlation among the independent variables. The closer the tolerance value to one and the VIF values less than two we can predict that there is no collinearity among my independent variables. According to table 12 our tolerance values are .988, .992 and .980 for the total number of students, for economically disadvantaged students and for the attendance rate respectively. In addition, the variance inflation factors (VIFs) are all less than two 1.012 for the total number of students, 1.008 for the economically disadvantaged students and 1.02 for the attendance rate.

Table 13. Model Summary Demographic Variables Reading.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.543	.295	.282	16.80822	1.785

a Predictors: (Constant), AR, ED, TOTSS
b Dependent Variable: READTEST

Table 14. Coefficients Demographic Variables Writing.

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1 (Constant)	-46.210	37.255		-1.240	.218		
TOTSS	-5.527E-03	.007	-.070	-.793	.429	.998	1.002
ED	-.231	.069	-.296	-3.348	.001	.993	1.007
AR	1.408	.397	.314	3.547	.001	.994	1.006
a Dependent Variable: WRITEST							

Turning this regression analysis into a regression equation, based on table 14:

%Passing TAKS Writing = 1.408X1 – 0.231X2 - .005527X3 – 46.210   (2)

Each additional day to attend increases the percentage of passing the writing test by 1.4%. We also notice that the standardized regression coefficient between the two variables is 0.314. The correlation of the attendance rate and the percentage passing writing equals to 0.314 is greater than the standardized regression coefficients between economically disadvantaged students and the percentage passing reading -0.296 and also between the number of students and percentage passing reading -0.007. So we are to conclude that attendance rate is a better predictor of percentage passing TAKS reading than the number of students of in a charter school or the number of economically disadvantaged students in a charter school. However, we can also say that for each economically disadvantaged student that enrolls in a charter school the percentage passing rate in reading decreases a 0.2% and for every additional student that enrolls in a charter school in Texas the percentage of students passing the reading TAKS test decreases in a very small 0.006% . Our coefficient of determination R=.418 represents the correlation between all the independent variables, attendance rate, economically

disadvantaged students and size and our dependent variable in this case the percentage of students passing the TAKS writing test, a significant correlation. We can also affirm that our equation predicts almost 18% (R Square=.175) of the variance of the percentage passing reading by the three variables selected. Our Adjusted R Square = .152 predicts that 15.2% of the variance in the passing rate in the writing TAKS test was explained in ALL the charter schools by the attendance rate, the number of students in the charters and the number of economically disadvantaged students in the 186 charter schools as shown in the table 15 below.

Conducting the tolerance test and the VIF test we also found that there is no correlation among our independent variables when predicting the percentage of students passing the TAKS writing test. Our tolerance coefficients are .998, .993, and .994 for the total number of students, economically disadvantaged students and the attendance rate, all very close to one. As before, all the VIFs are less than as another indicator that there is no collineratity among the independent variables chosen to predict the percentage of passing students the writing test. The coefficients are for the total number of students 1.002, fro the economically disadvantaged 1.007 and for the attendance rate is equal to 1.006.

Table 15. Model Summary Demographic Variables Writing.					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.418	.175	.152	20.55555	1.992
a Predictors: (Constant), AR, ED, TOTSS					
b Dependent Variable: WRITEST					

Table 16. Coefficients Demographic Variables Mathematics.

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1 (Constant)	-140.621	21.024		-6.689	.000		
TOTSS	-1.927E-03	.006	-.019	-.301	.764	.988	1.012
ED	-.205	.061	-.208	-3.374	.001	.996	1.004
AR	2.189	.230	.589	9.497	.000	.986	1.014

a Dependent Variable: MATHTEST

Turning this regression analysis into a regression equation based on table 16:

%Passing TAKS Math = 2.189X1 – 0.205X2 - .001927X3 – 140.621   (3)

Each additional day to attend increases the percentage of passing the writing test by 2.2%. We also notice that the standardized regression coefficient between the two variables is 0.589. The correlation of the attendance rate and the percentage passing math equals to 0.589 is greater than the standardized regression coefficients between economically disadvantaged students and %passing reading -0.208 and also between the number of students and percentage passing reading -0.019. So we are to conclude that attendance rate is a better predictor of percentage passing TAKS math than the number of students of in a charter school or the number of economically disadvantaged students in a charter school.

However, we can also say that for each economically disadvantaged student that enrolls in a charter school the percentage passing rate in reading decreases a 0.2% and for every additional student that enrolls in a charter school in Texas the percentage of

students passing the math TAKS test decreases in a very small 0.002% not really significant.

Our coefficient of determination R=.612 represents the correlation between all the independent variables, attendance rate, economically disadvantaged students and size and our dependent variable in this case the percentage of students passing the TAKS math test, a significant correlation. We can also affirm that our equation predicts almost 38% (R Square=0.375) of the variance of the percentage passing reading by the three variables selected. Our Adjusted R Square = 0.363 predicts that 36.3% of the variance in the passing rate in the writing TAKS test was explained in ALL the charter schools by the attendance rate, the number of students in the charters and the number of economically disadvantaged students in the 186 charter schools as shown in the table 17 below.

Our tolerance coefficients of .988 for the total number of students, .996 for the economically disadvantaged students and .986 for the attendance rate combined with the VIFs indicators of 1.012, 1.004, and 1.014 respectively show that these variables show no correlation among them.

Table 17. Model Summary Demographic Variables Mathematics.					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.612	.375	.363	21.86592	1.829

a. Predictors: (Constant), AR, ED, TOTSS
b. Dependent Variable: MATHTEST

Financial Variables' Impact on Charter School Performance

What is the relationship between the financial variables selected and the passing rates in reading writing and math scores? Table 18 gives the Pearson product moment correlations for the variables in the study.

Table 18– Pearson Product-Moment Correlations Between the Key Performance Variables and the Financial Variables .

Variables	PR	PW	PM	ExpP	CAE
Passing Reading	1	.629**	.865**	.045	-.256**
Passing Writing	.629**	1	.652**	.029	-.176
Passing Math	.865**	.652**	1	-.011	-.250**
Expenditures per Pupil	.045	.029	-.011	1	.017
Central Administration Expenditures	-.256 **	-.176	-.250**	.017	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Expenditures Per Pupil

There is no correlation between the amount spent by pupil versus and the passing rates for the reading, writing and math tests. The Total Operating Expenditures is the sum of all expenditures budgeted for the operation of the district, including payroll, professional and contracted services, supplies and materials. Once divided by the total number of students we get the expenditures per pupil, we could expect to have some correlation between the passing rate of reading, math and writing and the amount spent on the students however there is no correlation. The per-pupil total operating expenditure for charter schools is \$5,925 compared to \$6,322 for the traditional public schools, this represent the 97% and the 89% respectively. The only expenditures that have a positive

impact on the passing rate are the non-operating expenditures which include capital outlay (land, buildings and equipment) and the amount spent on regular education. (Source: PEIMS, 030)

Central Administration Expenses

There is a negative correlation between the central administration expenses and the passing rates of reading (R=-.256) and mathematics tests (R=-.250). As mentioned before the central administration expenses include the full time employee count of personnel classified as administrators in the central office including superintendents, assistant superintendents, business managers, directors of personnel and other roles if they are reported at the central office. (Source: PEIMS, 050,090)

The more the charter schools spend on salaries for central office personnel the scores tend to suffer, one possible argument is that less money is spent on instructional materials or teachers. The charter schools spent an average of 17 percent versus a 6 percent spent by public school for administration expenses.

In addition to correlation analysis a multiple linear regression was run to measure the simultaneous effect of the two independent variables:

X1 Central Administration Expenditures
X2 Total Operating Expenditures per Pupil

on the same three student performance dependent variables:

Y1   percentage passing reading,
Y2 percentage passing math and
Y3 percentage passing reading

Once again, the multiple regression equation is: $Yi = a + b1X1 + b2X2 + b3X3$, where Yi represents the total percentage of students who passed TAKS on the different

subjects of reading, math and writing. Beta coefficients, b1, and b2, were found to measure the effect of one independent variable while taking into consideration the other independent variable at the time and the letter a represents the constant.

After running the above equations these are the results:

Table 19. Coefficients Financial Variables Reading.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	72.011	4.342		16.586	.000		
	CENADEXP	-.481	.139	-.254	-3.450	.001	.992	1.008
	TOOPEXPU	1.604E-04	.001	.023	.305	.760	.992	1.008
a Dependent Variable: READTEST								

Turning this regression analysis into a regression equation based on table 19:

%Passing TAKS Reading = $0.0001604X1 - 0.481X2 + 72.011$ (4)

Each additional dollar spent in operational expenditures per student does not reflect any changes in the percentage of students passing the reading test. We also notice that the standardized regression coefficient between the two variables is 0.023. This correlation of 0.023 is smaller (in absolute terms) than the standardized regression coefficient between central administration expenditures and the percentage of students passing reading -0.254. So we are to conclude that the central administration expenses are a better predictor of percentage passing TAKS reading than the amount of money spent per pupil in a charter school. We can also say that for each additional dollar spent on central administration expenses the percentage passing rate in reading decreases a 0.5%.

However, our coefficient of determination R=.257 represents the correlation between all the independent variables, total expenditures per pupil and the amount of money spent on central administration with the percentage of students passing the TAKS reading test shows a significant correlation. We can also affirm that our equation predicts almost 7% (R Square=.066) of the variance of the percentage passing reading by the two variables selected. Our Adjusted R Square = .055 predicts that 5.5% of the variance in the passing rate in the reading TAKS test was explained in ALL the charter schools by the amount of resources spent in the operating expenditures per pupil and the central administration expenses in the 186 charter schools as shown in the table 20 below.

When it comes to the financial independent variables chosen I can say that there is no correlation among these variables. The tolerance coefficients are both close to one, .992 for the central administration expenditures and for the total operating expenditures per pupil. The variance inflation factors are also the same 1.008 for both variables and also less than two proven also no correlation among these two variables.

Table 20. Model Summary Financial Variables Reading.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.257	.066	.055	19.14965	1.792

a Predictors: (Constant), TOOPEXPU, CENADEXP
b Dependent Variable: READTEST

Using the same kind of regression analysis to determine the possible relationships among the variables, total operating expenditures per pupil and central administration expenses and our dependent variable percentage of students passing the mathematics TAKS test, we obtain the following regression equation from table 21:

%Passing TAKS Math = -0.663X1 – 0.0003226X2 + 58.225   (5)

Table 21. Coefficients Financial Variables Mathematics.								
	Unstandardized Coefficients			Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	58.225	6.039		9.641	.000		
	CENADEXP	-.663	.194	-.253	-3.427	.001	.993	1.007
	TOOPEXPU	-3.226E-04	.001	-.033	-.440	.660	.993	1.007
a Dependent Variable: MATHTEST								

Each additional dollar spent in operational expenditures per student does reflect a 0.66% decrease in the percentage of students passing the math TAKS test. We also notice that the standardized regression coefficient between the two variables is -0.033. This correlation of -0.033 is smaller (in absolute terms) than the standardized regression coefficient between central administration expenditures and the percentage of students passing math -0.253.

So we are to conclude that the central administration expenses are a better predictor of percentage passing TAKS math than the amount of money spent per pupil in a charter school even though both have a negative impact on the scores. There is no significant impact by the amount spent on total operating expenditures per pupil on the Math TAKS scores.

However, our coefficient of determination R=.252 represents the correlation between all the independent variables, total expenditures per pupil and the amount of money spent on central administration with the percentage of students passing the TAKS mathematics test shows a significant correlation. We can also affirm that our equation predicts almost 6% (R Square=.064) of the variance of the percentage passing reading by the two variables selected.

Our Adjusted R Square = .053 predicts that 5.3% of the variance in the passing rate in the mathematics TAKS test was explained in ALL the charter schools by the amount of resources spent in the operating expenditures per pupil and the central administration expenses in the 186 charter schools as shown in the table 22 below.

When it comes to the independent variables of central administration expenditures and the total operating expenditures per pupil as predictors of the percentage passing the TAKS mathematics test I also found no correlation among the independent variables. The tolerance coefficients are the same for both variables .993 close to one and the VIF indicators of 1.007 less than two also prove no correlation among the variables chosen.

Table 22. Model Summary Financial Variables Mathematics.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Durbin-Watson
1	.252	.064	.053	26.65213	.064	1.750

a Predictors: (Constant), TOOPEXPU, CENADEXP
b Dependent Variable: MATHTEST

Applying the same regression analysis for the writing TAKS test from table 23:

%Passing TAKS Writing = -.390X1 + 0.0000524X2 + 75.502   (6)

Table 23. Coefficients Financial Variables Writing.							
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	75.502	6.289		12.005	.000		
CENADEXP	-.390	.210	-.175	-1.855	.066	.984	1.016
TOOPEXPU	5.524E-05	.001	.007	.073	.942	.984	1.016
a Dependent Variable: WRITEST							

Each additional dollar spent on central administration expenses decreases the percentage of passing the writing test by a .4%. We also notice that the standardized regression coefficient between the two variables is -0.175. The correlation of the central administration expenses and the percentage passing writing shown by the standard coefficient is greater (in absolute terms) than the standardized regression coefficients between total operating expenditures per pupil and the percentage passing writing TAKS test of 0.007. So we can say that the central administration expenses is a better predictor of percentage passing writing TAKS test than the total operating expenditures per pupil in a charter school. The total operating expenditures do not have a significant impact on the writing TAKS scores

Our coefficient of determination R=.176 represents the correlation between all the independent variables, central administration expenses and total operating expenditures with the percentage of students passing the TAKS writing test, a   no

significant correlation. As a consequence of this there is no prediction by our R Square=.031 or by our adjusted R Square= 0.14 as shown from table 24.

As with the two other regression models the tolerance indicators of .984 and VIF of 1.016 for the independent variables of central administration expenditures and total operating expenditures per pupils as predictors of the percentage passing the TAKS writing test they show no correlation between them.

Table 24. Model Summary Financial Variables Writing.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Durbin-Watson
1	.176	.031	.014	22.08597	.031	1.776

a Predictors: (Constant), TOOPEXPU, CENADEXP
b Dependent Variable: WRITEST

Organizational Variables' Impact on Charter School Performance

What is the relationship between the organizational variables selected and the passing rates in reading writing and math scores? Table 10 gives the Pearson product moment correlations for the variables in the study.

Table 25. Pearson Product-Moment Correlations Between the Key Performance Variables and the Organizational Variables.

Variables	PR	PW	PM	TC	TOR
Passing Reading	1	.629**	.865**	.194*	-.183*
Passing Writing	.629**	1	.652**	.011	-.314**
Passing Math	.865**	.652**	1	.167*	-.225**
Teacher FTE Count	.194*	.011	.167*	1	-.138
Turnover Rate	-.183*	-.314**	-.225**	-.138	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Teacher Count

As we can observe from table 25, there is a positive correlation between the subjects of reading (R=.194) and math (R=.167) with the number of teacher at a campus. However this not significant correlation between the passing writing TAKS test and the teacher count.

In numerous studies is cited the strong association between teacher knowledge and skills and a higher level of student achievement (National Commission on Teaching and American's Future, 2003; Wayne and Youngs, 2003). Since NCLB (No Child Left Behind) implementation it is required that highly qualified teachers requirements apply also to the charter schools. However there is an important difference for charter school teachers with respect to teacher certification. In the state of Texas, the state law does not require a teacher employed by an open-enrollment charter school to be have a teaching certificate unless the teacher is assigned to teach in special education or bilingual

education programs. The minimum qualification required by state law is a high school diploma. However, many charter schools set qualification standards above the state requirements and demand at least college degrees for those future teachers.

Teacher Turnover Rate

There is a negative relationship between passing writing (R=-.314), passing math (R=-.225), and passing reading (R=-.183) with the teacher turnover rate. The greater the number of teachers that left the 2001-2002 school year and did not come back for the 2002-2003 school year the larger the number of students that did not pass the reading, writing and math tests.

There are different and several reasons why teachers choose to work in a charter. Teachers report that the most important factors why they look for employment in a charter school are working with like-minded educators (91 percent), being part of an educational reform effort (90 percent), having small classes (88 percent) and the school size (86 percent) (TEA. Charter Report 2003-2004). Some other reasons are greater autonomy, greater parental involvement and working with certain kind of student populations like LEP or minority students. And of course some cite less standardized testing or the possibility to teach without the required teaching certificate

In addition to correlation analysis a multiple linear regression was run to measure the simultaneous effect of the two independent variables:

X1 Teacher Turnover Rate
X2 Teacher Count

in the same three student performance dependent variables:

Y1 percentage passing reading,
Y2 percentage passing math and
Y3 percentage passing reading

Once again, the multiple regression equation is: $Yi = a + b1X1 + b2X2 + b3X3$, where Yi represents the total percentage of students who passed TAKS on the different subjects of reading, math and writing. Beta coefficients, b1, and b2, were found to measure the effect of one independent variable while taking into consideration the other independent variable at the time and the letter a represents the constant.

After running the above equations these are the results shown by table 26:

$Y1= -0.142X1 + .207X2 + 67.590$ (7}

Table 26. Coefficients Demographic Variables Reading.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	67.590	4.002		16.890	.000		
TEATURRA	-.142	.067	-.161	-2.114	.036	.984	1.017
TOTTEACH	.207	.092	.171	2.247	.026	.984	1.017
a Dependent Variable: READTEST							

Each additional teacher that resigns at the end of the school year has a negative impact on the percentage of students passing the TAKS reading test, the decrease is a 0.14%. It is also noticeable that the standardized regression coefficient between the two variables is -0.161. This correlation of -0.161 is less than the standardized regression coefficients between the total teacher FTE and the percentage of students passing reading 0.171, implying that the total number of teachers, including special education and

permanent substitutes are a better predictor of percentage passing TAKS reading than the teacher turnover rate in a charter school. We can also state that for each additional teacher hired in a charter school the percentage of students passing the TAKS reading test increases by a 0.207%.

Our coefficient of determination R=.249 represents the correlation between all the independent variables, teacher turnover rate and the total teacher count with the percentage of students passing the TAKS reading test a significant correlation. We can also affirm that our equation predicts almost 6% (R Square=.062) of the variance of the percentage passing reading by the two variables selected. Our Adjusted R Square = .051 predicts that 5.1% of the variance in the passing rate in the reading TAKS test was explained in ALL the charter schools by the teacher turnover rate and the total teacher FTE count in the 186 charter schools as shown in the table 27 below.

The two independent variables chosen, the teacher turnover rate and the total number of teachers in a charter school, as predictors of the percent students passing the TAKS reading test show no collinearity problem between them. The tolerance coefficient of .984 for both being close to one and the VIFs indicator of 1.017 less than two show also no correlation between these independent variables.

Table 27. Model Summary Demographic Variables Reading.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.249	.062	.051	19.28123	2.015

a Predictors: (Constant), TOTTEACH, TEATURRA
b Dependent Variable: READTEST

The same analysis was used for the percentage of students passing the mathematics TAKS test as can be observed by table 28:

$$Y1 = -.250\ X1 + 0.238\ X2 + 52.206 \quad (8)$$

Table 28. Coefficients Demographic Variables Mathematics.

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1 (Constant)	52.206	5.475		9.535	.000		
TEATURRA	-.250	.091	-.207	-2.733	.007	.984	1.016
TOTTEACH	.238	.127	.142	1.872	.063	.984	1.016

a Dependent Variable: MATHTEST

Each additional teacher that resigns at the end of the school year has a negative impact on the percentage of students passing the TAKS mathematics test, the decrease is a 0.25%. It is also noticeable that the standardized regression coefficient between the two variables is -0.207. This correlation of -0.207 is greater in absolute terms than the standardized regression coefficients between the total teacher FTE and the percentage of students passing mathematics 0.142, implying that the total number of teachers, including special education and permanent substitutes are not a better predictor of

percentage passing TAKS reading than the teacher turnover rate in a charter school. We can also state that for each additional teacher hired in a charter school the percentage of students passing the TAKS reading test increases by a 0.24%.

Our coefficient of determination R=.265 represents the correlation between all the independent variables, teacher turnover rate and total teacher count with the percentage of students passing the TAKS mathematics test a significant correlation. We can also affirm that our equation predicts almost 7% (R Square=.070) of the variance of the percentage passing reading by the two variables selected. Our Adjusted R Square = .059 predicts that 5.9% of the variance in the passing rate in the reading TAKS test was explained in ALL the charter schools by the teacher turnover rate and the total teacher FTE count in the 186 charter schools as shown in the table 29 below.

When it comes to determine if there is any collinearity problem between these two variables as predictors of the percent of students passing the TAKS mathematics test, based on the tolerance coefficient of .984 and the VIF of 1.016 proves that there is no correlation among them.

Table 29. Model Summary Demographic Variables Mathematics.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.265	.070	.059	26.53591	1.971

a Predictors: (Constant), TOTTEACH, TEATURRA
b Dependent Variable: MATHTEST

The same analysis was conducted fro the percentage of students passing the writing test:

$$Y3 = -0.353X1 - 0.0874X2 + 88.361 \quad (9)$$

Table 30. Coefficients Demographic Variables Writing.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	88.361	5.806		15.220	.000		
	TEATURRA	-.353	.102	-.322	-3.464	.001	.987	1.014
	TOTTEACH	-8.747E-02	.112	-.073	-.781	.437	.987	1.014
a Dependent Variable: WRITEST								

Each additional teacher that resigns at the end of the school year has a negative impact on the percentage of students passing the TAKS writing test, the decrease is a 0.35%. It is also noticeable that the standardized regression coefficient between the two variables is -0.322, see table 30. This correlation of -0.322 is greater in absolute terms than the standardized regression coefficients between the total teacher FTE and the percentage of students passing mathematics -0.073, implying that the total number of teachers, including special education and permanent substitutes are not a better predictor of percentage passing TAKS writing than the teacher turnover rate in a charter school. We can also state that for each additional teacher hired in a charter school the percentage of students passing the TAKS writing test decreases by a 0.09%.

Our coefficient of determination R=.322 represents the correlation between all the independent variables, teacher turnover rate and total teacher count with the percentage of students passing the TAKS writing test a significant correlation. We can also affirm that our equation predicts almost 10% (R Square=.104) of the variance of the

percentage passing writing by the two variables selected. Our Adjusted R Square = .087 predicts that 8.7% of the variance in the passing rate in the reading TAKS test was explained in ALL the charter schools by the teacher turnover rate and the total teacher FTE count in the 186 charter schools as shown in the table 31 below.

Finally, the tolerance coefficient of .987 and 1.014, the former being very close to one and the latter less than two are clear indicators that there is no correlation among these two independent variables.

Table 31. Model Summary Demographic Variables Writing.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.322	.104	.087	20.47872	1.922

a Predictors: (Constant), TOTTEACH, TEATURRA
b Dependent Variable: WRITEST

Summary

We can conclude saying among that the demographic variables selected the attendance rate has the strongest correlation with the percentage passing writing of R=.290, with the percentage passing reading R=.493 and percentage passing math R=.576 and it is also the better predictor for the three dependent variables based on the standardized coefficients of the three multiple regressions performed.

When it comes to the financial variables selected the amount of money spent by the operating expenditures budget, in the charter schools in Texas, has no correlation on the TAKS mandated tests, while the central administration expenses show a negative

correlation of R=-.256 for the percentage passing reading, R=-.176 for the percentage passing writing and R=-.250 for the percentage passing math. Therefore, the central administration expenses are a better predictor for the three dependent variables: percentage of students passing reading, mathematics and writing.

Finally, the organizational variables selected the total number of teachers in a charter school, and the teacher turnover rate show a positive and negative relationship respectively for all three testing subjects. After performing the regression analysis we can conclude that the total number of teachers in a charter school is a better predictor than the teacher turnover rate.

CHAPTER V

SUMMARY OF CONCLUSIONS

There are many reasons why we should have more than specific knowledge about charter schools in Texas, but the most important one is that the charter movement is already being implemented. As long as the charter movement continues to grow, the student performance will be a national and state wide-concern due to NCLB and AYP (Adequate yearly progress) accountability. Charter schools are included in the state accountability system.

As the traditional public schools the charter schools vary considerably in terms of their quality and population served. However, like mentioned before charter schools need to perform in the areas of dropout prevention, attendance and test scores. It was until the school year 2001-2002 that the TAAS was used by the Texas Education Agency to measure student performance. By the school year 2002-2003 TAAS was renamed TAKS (Texas Assessment of Knowledge and Skills) and became the new statewide assessment program for student performance.

The TAKS represents a more vigorous and challenging step in increasing the rigor of the Texas assessment program. Why do some charter schools perform better on these tests than others? In this study, we are hypothesizing that the variation in charter school performance is related to selected demographic, organizational and financial variables.

The variables chosen were the ones with the most likelihood to have an impact on the state standardized tests in Texas. .The demographic variables are the total number of students, the percent of economically disadvantaged students and the attendance rate. The financial variables selected are total operating expenditures per pupil, and the central administration expenses. Finally the organizational variables used in the analysis are the total number of teachers and the teacher turnover rate.

Based in our analysis we can conclude saying that among the demographic variables selected the attendance rate has the strongest correlation with the percentage passing writing of $R=.290$, with the percentage passing reading $R=.493$ and percentage passing math $R=.576$. There is a negative correlation between the number of economically disadvantaged students and the percentage of students passing reading $(R=-.189)$, the percent of students passing the writing test $(R=-.273)$ and the percent of students passing the mathematics test $(R=-.-181)$. And there is no correlation among the total number of students and the percentage of students passing the reading, writing or mathematics TAKS test. The higher the attendance rate, the less number of economically disadvantaged students and as long as the number of students in a charter school in Texas allows the charter school to keep itself in business there percentage of students passing the state mandated test of reading, writing and mathematics will be higher. After running three regression models we found out that the better predictor for the three dependent variables percentage passing reading, percentage passing writing and percentage passing mathematics TAKS test is the attendance rate. Each additional day the students attend classes the percentage of passing the reading test increases by 1.4%,

the writing test by 1.4% and the mathematics test by 2.2%. Therefore, the attendance rate is a critical factor for students performing in the state standardized tests.

When it comes to the financial variables selected the amount of money spent by the operating expenditures per pupil in the charter schools in Texas, has no correlation on the TAKS mandated tests. On the other hand the central administration expenses show a negative correlation for the percentage passing reading (R=-.256), no significant correlation for the percentage passing writing and also a significant negative correlation for the percentage of students passing the math TAKS test (R=-.250).

The three regression models reflect that the central administration expenses are a better predictor compared to the total operating expenditures per pupil of the percentage of students passing the reading, the writing and the mathematics TAKS tests based on the standardized coefficients of -254, -.175 and -.253 respectively. The central administration expenses have a bigger impact on the student performance that the amount of money spent per pupil.

Finally, the organizational variables selected the total number of teachers in a charter school, and the teacher turnover rate show a positive and negative relationship respectively for all three testing subjects. After performing the regression analysis our first regression model indicates that our two organizational variables predict 6 percent (R Square=.062) of the variance of the percentage passing reading. They also explain 7 percent of the percentage of students passing the mathematics TAKS test and finally these two variables explain more than 10 percent of the variance of the percentage

passing the writing TAKS test. We can conclude that the total number of teachers in a charter school is a better predictor than the teacher turnover rate.

Implications

There are several implications based in our findings. The attendance rate is a very important determinant on the student performance and the profitability of the charter school since the funds received by the charter depend on the ADA. The total number of students in a charter school does not represent a critical factor when it comes to student performance, however it is important to keep in mind that a minimum number of students around 200-250 are needed to keep the charter in operation and be able to develop economies of scale. The number of economically disadvantaged students represents a population with a greater share of African-American and Hispanic students considered students at risk where new ways of teaching concept and culturally based need to be implemented making sure that a differentiated instruction is provided in the classroom.

When it comes to the money spent in a charter school it seems to be necessary to keep a balance between the money spent on administration and the money spent on instruction in order to make sure that the testing scores are not affected by the lack of resources. Providing the necessary monetary resources for teachers, staff development and curriculum alignment among the grades will result in a better student performance.

Teachers are also a key element in the student performance as shown in our research. The larger the number of teachers in a charter school the students tend to perform better, while the higher the turnover rates the scores decline. But if the charter

school can only provide a certain number of teachers per student, training teachers is one of the possible solutions to cope with this limitation. Strategies like ESL instruction, SIOP (Sheltered Observation Protocol) or Thinking Maps are some of the possible strategies that the teachers can implement to reach ALL students regardless of the socio-economic status, the number of students or the race of their students. It is also important to motivate teachers, train and support them in order to decrease the turnover rate. It should be through instructional leadership that a charter school build better relationship and achieve better standards of performance.

REFERENCES

Association for Supervision and Curriculum Development.(1995). *Democratic Schools.* Alexandria, VA: Apple.

Association for Supervision and Curriculum Development (2003) *Principals and Student Achievement.* Alexandria VA: Cotton.

Barth, R. (1990). *Improving Schools from Within.* San Francisco, CA: Jossey-Bass Publishers.

Birkett, F. (2000). *Charter Schools: The Parent's Complete Guide.* Roseville, CA: Prima.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences.* Hillsdale, NJ: Lawrence Erlbaum Associates Publishers.

Esquith, R. (2004). *There Are No Shortcuts.* New York, NY: First Anchor Books Edition.

Frederickson G. H. and J.M. Johnston (1999). *Public Management Reform and Innovation.* Birmingham: The University of Alabama Press.

Fuller, B. (2000). *Inside Charter Schools: The Paradox of Radical Decentralization.* Cambridge: Harvard University Press.

Griffin,B. (1993). Administrators Can Use Alternative Schools to Meet Students Needs. *Journal of School Leadership, 121,* 416-418.

Hamm, S.C. (1999). *Alternative Schools: Meeting the Needs of Non-Traditional Students.* Commerce, TX: Texas A&M Commerce.

Hess, F. (2002). *Revolution at the Margins. The Impact of Competition on Urban School Systems.* Washington, D.C. The Brookings Institution.

Hill, P and R. Lake (2002). *Charter Schools and Accountability in Public Education.* Washington, D.C.: Brookings Institution Press.

Hirsh, E.D. (1999). *The Schools We Need and Why We Do Not Have Them.* New York, NY: Anchor Books.

Jacobs, B.G. (1995). Recommendations for Alternative Education. *Texas Study of Secondary Education. 4 (11)* 10-15.

Maranto R. and S. Milliman. (2001). *School Choice in the Real World.* Boulder, CO: Westview.

McClafferty, K., C.A. Torres and T. Mitchell (2000). *Challenges of Urban Education. Sociological Perspectives for the Next Century.* New York: State University of New York.

Meier, D (2002). *In Schools We trust. Creating Communities of Learning in an Era of Testing and Standardization.* Boston, MA: Beacon Press.

Miles J. and M. Shevlin (2001). *Applying Regression and Correlation.* London, England: SAGE Publications.

Nathan, J. (1996). *Charter Schools: Creating Hope and Opportunity for American Education.* San Francisco, CA: Jossey-Bass.

Noguera, P. and J.Y. Wing (2006). *Unfinished Business. Closing the Racial Achievement Gap in Our Schools.* San Francisco, CA: Jossey-Bass.

Pollit, C and G. Bouckaert (2000). *Public Management Reform: A Comparative Analysis.* Oxford: Oxford University Press.

Postman, N. (1996). *The End of Education.* New York, NY: Vintage Books.

Ravitch and Vitteri (1997). *New Schools for a New Century. The Redesign of Urban Education.* New Haven: Yale University Press.

Sarason, S. (2002). *Charter Schools and Vouchers.* New Haven, CT: Heinemann.

Scardamaglia, R. (2000). *Why Charter Schools?* Haverford, PA: Buybook.

Spiegel, M. and L. Stephens (1999). *Statistics.* New York, NY: McGraw-Hill Companies Inc.

Tatum, S.L. (1997). *Are Alternative Schools Effectively Educating Students Placed at Risk for School Failure? The Role of Families.* Dissertation Abstracts International, 58, 06A. (University Microfilms No AAG97-372770).

Texas Education Agency. (1999). *Briefing Book of 76th Texas Legislature.* Austin: Texas Education Agency.

Texas Education Agency. (2000a). *Texas School Law Bulletin.* Austin: Texas Education Agency.

Texas Education Agency. (2000). *2000 Accountability Manual.* Austin: Texas
   Education Agency.

Vornberg, J. (1998). *Texas Public School Organization and Administration: 1998.*
   Austin, TX: Kendall/Hunt Publishing Co.

Young, T.W. (1990). *Public Alternative Education: Options and Choice for Today's
   Schools.* New York: Teachers College Press.

VITA

Name: Raul D'Lorm

Address: 3503 Ginger Avenue. Edinburg TX 78539

Email Address: delorme@neo.tamu.edu

Education: **B.S.** in Economics, Universidad de Las Americas, Puebla, Mexico, 1988
M.B.A., The University of Texas–Pan American, Edinburg, Texas, 1990
Region XIII–Alternative Certification Program, Bilingual/ESL Pre-K to 6th
Grade Certified Teacher, Austin, Texas, 1999