CHARTER SCHOOLS: A PHILADELPHIA STUDY

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INTRODUCTION

America no longer enjoys a predominantly industrial economy. Today, service and high technology dominate the economic market in America and the world. Competition is fierce; a skilled and well-educated workforce is needed to ensure economic well-being and a high quality of living for the nation and the individual. Public education, from kindergarten through high school, is the first cornerstone of building such a workforce. Moreover, the public schools educate students to become leaders in their communities, be more responsible citizens, and they provide a safe environment where students mature physically and mentally. Unfortunately, as indicated by numerous studies and reports, the quality of public schools and student achievement has been eroding for over the past forty years. The creation of charter schools is one of the numerous ideas that have been proposed and implemented on how to improve the public education system. Charter schools are funded by public tax dollars and are free to all students, regardless of race and socio-economic background (hence, in theory, there will be little or no segregation), and are also free of many government regulations. Charter school proponents argue that these schools will give birth to great innovations in teaching, serve as "laboratories of education," provide a higher quality education, and, most importantly, raise student achievement. This thesis is about testing the above claims.

To understand the charter school movement and its significance, some historical background is required. Regarding education, the year 1983 serves as a watershed in American history. A report published by the National Commission on Excellence in Education (U.S. Department of Education), *A Nation At Risk: The Imperative for Educational Reform*, made the country painfully aware of the problems with public education that was best described as mediocre.[1] Citing many statistics that showed decreasing academic achievement, the report sparked an excellence movement that called for higher standards in public education.[2] The result was a quick and modest raise in various national standardized test scores, however, at the turn of the decade, the scores leveled off.[3] The government, at all levels, would not provide what many educators had argued as a large part of the problem: a lack of resources, especially

for the under-performing urban schools. During the popular Reagan-era of less spending and smaller government, providing more resources for urban areas was politically impossible.

Since the 1950's, white flight to the suburbs had left poor minorities and the elderly as the largest proportion of citizens in the urban areas around the country. With urban factories closing down and many service businesses moving to the suburbs, cities faced lower revenues that resulted in unbalanced budgets and cuts in government services. Because public schools are funded (and controlled) locally, schools in urban areas suffered the most. This urban crisis peaked in the 1980's. With city governments unable, and state and federal governments unwilling, to provide the necessary resources, many moderate and conservative school reformers turned to other strategies for improving urban education. In a competitive market-based economy, the strategies included vouchers and charter schools.[4] While a number of school advocates still argued for increased resources (as was politically difficult, if not impossible, under a Democratic president but a fiercely Republican-controlled Congress of the 1990's), the above two strategies gained more prominence and generated more controversy.

Competition is the key idea behind vouchers and charter schools: if public schools were to lose students to private and charter schools, they would have to compete and improve to survive. Vouchers give a set sum of public tax dollars to families to send their children to private schools. Because even with vouchers, the poorest families cannot always afford private schools and because some of these schools are many times affiliated with a particular religion (thus crossing the church and state divide), the political reality for vouchers looked bleak. While a Republican favorite, the Democrats did not support vouchers for the above reasons. Charter schools, however, won bipartisan support.[5] Republicans supported charter schools because they did not call for increased spending, reduced government regulations, and created competition with the public schools. At the time, a minority in most state legislatures, Democrats (over the objections of teachers unions) supported charter schools because they were free and open to all students and tended to focus on poor and minority students. Offering a middle ground to both parties, the charter school movement gained support and momentum, and charter schools became a reality. In 1991, Minnesota passed the first state legislation for

the creation of charter schools.[6] There are roughly 2,000 charter schools operating in the 2000-2001 academic year (in 32 states, with the largest numbers in Arizona and California), educating about 500,000 students.[7]

While competition is an important component of charter schools, freedom from many government regulations is also significant. Charter school advocates argue that without much government oversight of how to manage the school, conduct a class, and what courses to offer (except those that are required by the state and local school boards), charter schools will be leaders in innovation in teaching while raising student achievement.[8] Moreover, charter schools are held accountable to their charters when it comes time for renewal and unlike public schools, they must produce results to survive.[9] Believing that teachers, not downtown bureaucrats, know best, teachers will have much control over the curriculum development of the school.[10] Parents will also have the opportunity to influence and become more involved in their children's education through memberships in school boards and volunteer opportunities in the school.[11] Charter school proponents also stress the size of the schools. Much research has shown that students learn better in smaller schools and when class size is small. Almost all charter schools enroll much fewer students than public schools in their host districts; most have smaller class sizes. Thus, advocates argue that charter schools provide a better quality education than public schools.

Charter schools have vocal opponents as well. Many argue that students in private schools achieve more, not because of the education program, but because such schools are able to select the best and highly motivated students from upper-class families.[12] The opponents claim that charter schools will draw only the top students from the public schools, while leaving low-achieving and unmotivated students behind without the benefits of associating with the former.[13] Moreover, because charter schools are not required to provide transportation, it is argued that only students from higher-income families that can afford the transportation costs or have cars will go to such schools.[14] This will not only result in socio-economic segregation, but also racial segregation because many urban minority students come from low-income families. If charter schools, filled with white faces, prove to be better than

urban public schools, the return to "separate and unequal" will raise the specter of Jim Crow and the modern-day consequences would be disastrously unimaginable. Finally, there is much criticism surrounding the educational programs at charter schools. Opponents argue that charter schools are not being innovative at all, or very little at best, as most schools follow a "back-to-basics" curriculum.

Numerous studies have been published to test the supporting and opposing ideas about charter schools. While a significant majority of such studies focus on comparing demographic enrollments and achievement of charter schools with the public schools in the state as a whole, very few compare charter schools with their host districts.[15] A much smaller number of these studies compare charter schools to their neighborhood district schools. In evaluating whether charter schools produce better student achievement and if racial segregation is present, the results of such studies fall into three broad categories: affirmative, negative, and mixed. In explaining affirmative results, researchers are quick to point out that charter schools have smaller class sizes, more parental involvement, and caring teachers. For mixed results, researchers explain that charter schools are relatively young and additional time is needed to pass for more definitive results. Unfortunately, only a small number of these studies give definitive explanations for negative results, even when a higher quality of education appears to be present in the charter school.

This thesis focuses on the two most pertinent questions about charter schools: Is academic achievement higher in charter schools than traditional public schools? and Do charter schools create racial and socio-economic segregation by attracting only middle- and upper-class white students from the public schools? Moreover, because there is a correlation, not causation, between a higher quality of education and academic achievement, there will also be a significant focus on the charter schools' quality of education compared with the quality of education at the public schools. Unlike the majority of other studies on charter schools, this thesis is primarily focused on comparing charter schools with their neighborhood public schools (schools that are located no more than 3 miles from the charter school). Results from these comparisons will be stressed when 50% or more of the students come within the

neighborhood of the charter school. In this study, 40% of the charter schools fall in the above category. After all, if charter schools are about choice and competition, an average student chooses from two or more schools (the charter school and the neighborhood public school) that are within proximity to each other and in his/her neighborhood. The choice is rarely between a neighborhood school and a charter school located at the other end of the city (the fact that Philadelphia is the fifth largest city in the country, only bolsters this point). To keep with scholarly convention, this study will also compare charter schools to the school district as a whole.

Today, one of the biggest stories in urban education is the fate of the School District of Philadelphia.[16] The school district educates over 200,000 students and is one of the ten largest districts in the country. It also has 39 charter schools due, in part, to a 1997 Pennsylvania state law allowing individuals and companies to contract with the city school board in establishing charter schools. In fact, 1 out of every 12 students in the district is enrolled in a charter school. In 1993, the state froze its school spending formula, resulting in dwindling contributions to the School District of Philadelphia.[17] In the spring of 1998, the state passed Act 46 (aimed only at Philadelphia) to allow a state takeover of the district if the district in financial or educational distress.[18] By June 2000, the district was on the brink of bankruptcy and on August 2001, the district could not meet its payroll.[19] In October 2001, the state and the mayor of Philadelphia agreed to create a School Reform Commission (SRC) to take charge of the educational and financial policies of the school district. With the School Reform Commission set up at the start of 2002, the nation's education experts and Philadelphia parents anxiously await to know the reforms that the Commission will put in place. To date, the Commission has awarded contracts to several for- and non-profit education agencies to help manage the school district's finances. Without concrete financial plans for next year, it has also stated that no new contracts for charter schools will be awarded this year. As the nation watches, the fate of existing charter schools remains to be seen.

For this study, only charter high schools that have grades 9 to 12 (or 9 to 11) have been chosen. There are ten such charter schools in Philadelphia. This is primarily for

methodological reasons. Unlike elementary and middle schools, high schools provide more data that includes SAT scores, graduation rates, and post-graduation activities. Additional data comparisons yield better results. When it comes to public education, more is at stake than plain numbers; one can never base conclusions on only a few comparisons. The layout of the data analysis is split in two sections. The first part compares the ten charter schools to their neighborhood high schools and the Philadelphia public high schools as a whole. The second part examines two charter schools in greater detail: the Center for Economics and Law Charter School and the Mathematics, Civics, and Sciences Charter School of Philadelphia. These schools were chosen for their non-residential location (with a closeness to urban residential neighborhoods) for the primary purpose of identifying if segregation exists. The schools provide a *tabula rasa*: any student can enroll from the surrounding neighborhoods; the question is whether or not those students come from primarily white, middle- and upper-class families. Moreover, these schools tout academic programs that are very broad in focus (law and economics, and math and science). Numerous studies have shown that students learn more when courses are focused on a single subject and not a general area because the single subject can be studied more in depth (and thus understood and learned better) than a potpourri of the general area's greatest hits.[20] Thus, these schools are ideal for investigating academic achievement. Finally, because these schools have been in operation for more than two full years, sufficient time has passed to examine the academic achievement of the students. Where applicable, the second section also compares the two charter schools with each other. On another important note, the two sections of the analysis are organized not by schools, but by three categories: segregation, quality of education, and academic achievement. This is solely for the purpose of clarity for the reader. Lastly, the reader might find him/herself wishing to know more about certain quantitative data where a full explanation is not provided. It is hoped that the reader appreciates that time constraints placed on this thesis. Moreover, because the explanations come from interviews and direct observations, there are severe time limits placed on these activities; one simply cannot ask about everything in an extremely short period of time.

A word of caution must be duly noted. The Philadelphia district schools and charter schools almost never release any data to the public, such as the author of this thesis, unless it is favorable. Fortunately, the Pennsylvania Department of Education provides most records of the required information that is necessary to make good comparisons between schools. Unfortunately, the data is always a year or two behind. The reader should be cautioned that any data from the academic year 1999-2000 has changed since then. However, the reader should take comfort in the fact that what is in front of him/her is the most comprehensive and detailed study of charter high schools in the Philadelphia district, if not any urban district to say the least. In fact, much of the data that came from many interviews is so sensitive that the interviewees specifically requested to remain anonymous. Their requests are, of course, honored. In hopes of improving public education, this thesis, "tells it like it is."

LITERATURE REVIEW

Introduction

There are no schools of thought for charter school studies. Schools of thought on the topic are mainly about the benefits and drawbacks of charter schools that are argued by advocates and opponents of charter schools. Hence, this literature review is divided into sections regarding the questions asked by the thesis: segregation, quality of education, and academic achievement. For the point of clarity, the above three categories are organized by subsections. These were taken from the U.S. Department of Education's *Monitoring School Quality: An Indicators Report* (December 2000). No study has looked at all of the above three categories in great detail, and most only focus on only one of the three characteristics, hence, some of the categories will have more information than others. Moreover, many studies only provide partial explanations for their qualitative and quantitative results. As a result, some of the quantitative data presented here is without full explanation.

Segregation

This section is divided in six parts. The first part examines the arguments of why segregation does not and should not occur in charter schools (with case studies). The second part examines case studies that concluded that segregation does occur and identified contributing factors to segregation. The third and fourth parts examine socioeconomic and racial segregation, respectively. The fifth part examines segregation of students with disabilities. The sixth part examines academic segregation between charter and traditional public schools.

No Occurrence of Segregation

Charter school proponents support charter schools because they give choices to low-income families.[1] According to Joe Nathan, an outspoken charter school supporter, "middle and upper-income families can always move to exclusive suburbs, where the price of admission to 'public' schools is the ability to buy a home and pay real estate taxes."[2] Charter schools,

however, create "options for families who have the fewest options now."[3] Thus, in theory, students from low-income and ethnic minority backgrounds should be flocking to charter schools for a better education. Some statistics support this theory. A 2001 Massachusetts study found that "statewide demographics reflect a greater tendency among charter schools to enroll low-income and minority students."[4] Specifically, "thirty-four percent of charter school students qualified for free or reduced lunch, compared to 25 percent of public school students statewide. Charter schools enrolled twice as many black and Latino students as other public schools in the state (38 percent compared to 19 percent)."[5] A 2000 Pennsylvania study also reached similar conclusions: "the proportion of minorities in Pennsylvania charter schools is substantially higher than the state average and comparable to the school districts in which the charter schools are established. Among the 30 participating schools in our study, 79.6 percent of the students are minorities compared with 57 percent minorities in the host districts of these charter schools."[6] However, these studies should be taken with a grain of salt because the statistics are for entire states and not individual school districts. A closer look at individual school districts reveals different conclusions.

Occurrence of Segregation

Amy Wells' study of Los Angeles charter schools reveals that segregation occurs at a district level, if not on a statewide level. She identifies three major factors that contribute to segregation; these include admission requirements, lack of transportation, and required parental involvement. Amy Wells also notes recruiting strategies as a factor contributing to segregation, but she considers this to be only a minor factor without tremendous impact.[7]

Admission requirements help to prevent certain groups of students from attending charter schools. According to Wells, "admissions requirements and processes, in general, allow charter schools to filter their applicants, to ensure that their shared values and beliefs about education are supported and upheld."[8] In fact, a study of charter schools in California revealed that "44 percent of the 98 charter schools surveyed cited student's and/or parent's lack of commitment to the school's philosophy as a factor for being denied admission."[9] The problem

occurs when the charter school decides whether or not the potential applicant and his/her family uphold the values and beliefs of the charter school. Conclusively, charter schools are not as open to the public as proponents make them out to be.

Lack of transportation helps to contribute to segregation by preventing many low-income families from attending the charter school. According to Amy Wells, "it appears that only those residing within the school's prior attendance boundaries, those few students participating in a voluntary transfer plan in one district, or those with – e.g. a car, flexible working hours, the time, etc. – to get themselves to the school site could enroll or stay enrolled in charter schools."[10] Thus, low-income families who do not have ready access to a car or have the time to take their children to school are prevented from attending charter schools that are at a distance from their homes but are better than their neighborhood district school(s).

Required parental involvement is the greatest contributing factor to segregation as many parents of low-income and minority families may not have the opportunity fulfill such requirements. According to Wells, "some groups of parents had less time than others to be involved at the school, often because of their work, family, or childcare situations. And, parents who lived far from the school site, for instance, had more trouble getting to campus."[11] Moreover, "there appeared to be a relationship between the status and social class of the parents and the tasks charter schools asked them to conduct."[12] Many of these tasks ranged from assisting in classrooms, teaching seminars, serving on the school board, to cleaning school facilities, and cutting construction paper at home.[13] According to Wells, the above tasks raise "concerns about some parents' participation being valued more than others, often depending on their professional background, access to resource networks, educational level, and English language proficiency."[14] As Wells concludes, "in general, less-educated and less-professional parents are more likely to be cleaning the school than they are helping with the academic aspects of the schools."[15] These types of activities only perpetuate racial and class stereotypes; for these to occur in a place of learning for children, the future of America, raises serious questions about parental involvement in charter schools. Conclusively, while required parental involvement helps to prevent low-income and minority students from attending the

charter school, when the parents do get a chance to participate, racial and class stereotypes tend to be perpetuated on school grounds.

Socioeconomic Segregation

While no district-level studies on socio-economic segregation were obtainable, national and statewide studies reached mixed conclusions regarding socio-economic segregation in charter schools. Nationally, "the proportion of charter-school students whose family income qualifies them for a free or reduced-price lunch is nearly identical to the proportion in conventional public schools: 39 percent of charter-school students were eligible in 1998–99, compared with 37 percent of public-school students."[16] On a closer inspection, "in 11 of 27 charter-school states in 1998–99, charter schools served a population that was substantially lower-income than the state's public-school population (i.e., the proportion of students eligible for a free or reduced-price lunch was at least 10 percent higher in charter schools than in public schools)."[17] Moreover, "charter schools in six states served a population that was substantially higher-income than the state's public-school population (i.e., the proportion of students eligible for a free or reduced-price lunch was at least 10 percent lower in charter schools than in public schools)."[18] A 2001 Colorado study found that 58% of the charter schools in the state "served a lower percentage of students eligible for free or reduced-price lunch that was more than ten percent of their chartering district's average."[19] Conclusively, on a national level, socioeconomic segregation does not occur in charter schools; however, statewide studies give a more accurate, and sometimes, different, picture.

Racial Segregation

Nationally, charter schools over-enroll students from historically minority ethnic groups. In detail, "among 13 states that had at least 20 charter schools, eight enrolled a charter-school student population that was at least 10 percentage points overrepresentative of nonwhites compared to the state's public-school average."[20] A 1999 Michigan study reveals why it is more useful to examine racial segregation within the district and not the state. According to the study, "of charter school students 69 percent are African-American; of the general Michigan

population only 14 percent are African-American."[21] While this may seem surprising, the study reveals an important, but at first overlooked, fact: more than 50% of the schools in the statewide study were located in Detroit, a city that has a higher percentage of African-American than the state as a whole.[22] A 1997 California study also proves the above point. Statewide comparison supported the conclusion that "students in California charter schools were similar to students throughout the state."[23] However, more detailed within-district comparisons showed much greater variation between white and Hispanic students.[24] The comparisons showed that "although approximately 50% of schools deviated within only 10 percentage points of the district figure, in 19% of schools White students exceeded the district percentage by more than 25 points. In 18% of schools, Hispanic students were less than the district percentage by more than 25 points."[25] Importantly, the study pointed out that the numbers might be the result of voluntary segregation as "conversion schools that are located in ethnically homogeneous communities will almost certainly lack diversity, given that they must give preference to neighborhood students."[26] Nationally, charter schools over-enroll minority students, however, it is necessary to look at district-wide analysis and individual neighborhoods to get the "real numbers."

Socioeconomic and Racial Segregation

The following Phoenix, Arizona case study provides a useful analysis of socioeconomic and racial segregation occurring at the same time. The study found that "the charter schools that had a majority of ethnic minority students enrolled in them tended to be either vocational secondary schools that do not lead to college or 'schools of last resort' for students being expelled from the traditional public schools" and that "the degree of ethnic separation in Arizona schools is large enough and consistent enough to warrant concern among education policymakers."[27] In more detail, out of 25 charter high schools (the missions some schools were unclear), the 12 charter schools with a college-bound curriculum had en enrollment of 86% white students; however, the 10 vocational charter schools had an enrollment of 62% ethnic minority students.[28] As a result, "the proportion of White students in

urban, college-bound charter high schools was well over two times the proportion of White students in urban, non- college-bound charter high schools."[29]

There are various reasons for the above de-facto segregation. First, the researchers conclude that "if parents can choose where to send their children to school, they are likely to choose schools with students of similar orientations to their own."[30] Additionally, "choosers (in this case, charter students and parents) differ from non-choosers in several meaningful ways, which further contributes to the stratification of students along ethnic and socioeconomic lines."[31] Second, "far the most common form of charter school advertisement and recruitment is word-of-mouth" and "word-of-mouth communication tends to remain within homogeneous groups ."[32] Thus, choosing schools with similar students of ethnic background and word-of-mouth advertising (sometimes recruiting) lead to segregation when it comes to charter schools. These should be kept in mind when examining whether segregation exists on a district-wide level.

Students With Disabilities

Nationally, students with disabilities are under-enrolled at charter schools. Even though charter schools cannot refuse admission to students with special needs, many charter schools simply do not have the resources to provide services for such students.[33] Moreover, "states with a relatively high proportion of disabled students in their charter-school enrollments tend to be those that have charter schools specifically aimed at special-needs students."[34] A 1999 District of Columbia case study concluded with the above points as well.[35] A 2001 Colorado study found that 68% of the charter schools in the state "served a lower percentage of students with disabilities that was more than five percent of their chartering district's average."[36] Conclusively, overall, students with disabilities are underrepresented at the charter schools.

Academic Segregation

A 2000 California study found academic segregation between charter schools. Based on Stanford 9 test scores, the study found that "white students are clustered disproportionately in the high achieving schools, while black and Hispanic students are clustered in the lower

performing schools."[37] However, there are some encouraging signs. For example, the "percentage of black students in low performing charter schools has fallen over time, while the percentage of blacks in high performing schools has risen."[38] Additionally, while "Hispanic students experience slight improvements in terms of moving out of lower performing schools, but have not increased their percentages in higher performing schools."[39] The study concluded by saying that "that there is a substantial segregation effect in the charter school movement, but it may be dissipating over time."[40]

Quality of Education

Quality of education depends on three main characteristics: the quality of the teachers, the classrooms, and the school.

Teachers

The quality of teachers is usually determined by the academic skills of teachers, years of experience, and participation in high quality professional development programs. According to the U.S. Department of Education, "students learn more from teachers with strong academic skills and classroom teaching experience than they do from teachers with weak academic skills and less experience."[41]

Nationally, the academic skills of teachers (measured by level of education and certification) at charters schools are lower because many state laws allow charter schools to have a staff that is not 100% certified in teaching.[42] Moreover, the level of education for teachers tends to be lower at charter schools because a master's degree is almost always required for certification in teaching. A 2001 Texas study concluded that the teachers at the charter schools had terrible academic skills. The study found that "more than half (53.9%) of those teaching at charter schools have no form of certification. The percentage is even higher for at-risk teachers (62.3%), who are serving the students that need the most help."[43] However, only 3.9% of the teachers at the district public schools were not certified.[44] The study also found that charter schools "have fewer teachers with baccalaureate or advanced degrees than public schools. A startling 11% of charter school instructors have no degree at all."[45]

Nationally, teachers at charter schools have less experience than traditional public school teachers. Interestingly, an examination of the overall educational system in the U.S. points out that "the highest-poverty schools and schools with the highest concentrations of minority students had nearly *double* the proportion of inexperienced teachers (those with three or fewer years of experience) than schools with the lowest poverty and lowest concentration of minority students.[46] Two different charter school studies both conclude that teachers at charter schools have less experience than at the district public schools. A 1999 Michigan study found that "where charter school teachers differ most from the teachers in traditional public schools is in years of experience. The latter average 15 years' experience; the former, a good deal less…4.38 years."[47] A 2001 Texas study concluded that "charter school teachers also have less than half as much experience as teachers at traditional public schools."[48] More specifically, "in the 1999-2000 school year, teachers at traditional public schools had an average of 11.9 years of teaching experience, while charter school teachers had only 5.2 years experience."[49] Conclusively, the literature indicates that teachers at the charter schools have less experience than teachers at traditional public schools.

Based on national data, charter schools seem to provide quality professional development for its staff. The U.S. Department of Education states that "experts agree that high-quality professional development should enhance student learning" and that "in 1998, 99 percent of the nation's public school teachers had participated in some type of professional development program within the past 12 months."[50] A 1999 Michigan study found that "a number of schools have a mentoring program for new teachers, to provide them with ongoing advice and a means to discuss problems and approaches in such areas as delivering content, managing the classroom, and meeting individual student needs."[51] Moreover, "a number of the study-area schools send faculty to professional conferences and workshops, seminars, and courses offered by universities or professional associations."[52] One charter school gave its teachers $500 (annually) to take professional development courses.[53] Based on the literature, it seems that charter schools do provide professional development for the teachers.

Classrooms

The quality of the classrooms is usually determined by course content (the material taught), technology (student-computer ratio in the classroom), and class size. For the last characteristic, according to the U.S. Department of Education, "younger students, especially disadvantaged and minority students, appear to learn better in smaller classes."[54]

Unfortunately, almost no studies to date examined the course content of charter schools. The main reason for this is that course content is difficult to measure. No studies were found that examined the type and level of courses offered at charter schools. Yet, the U.S. Department of Education states that "research shows that as students take higher-level academic courses they learn more."[55] However, course content need not be restricted to only the material taught in the classroom, innovation is also an important aspect (an argument of many charter school proponents). The power of teachers to develop curricula in the school is important to innovation. In fact, one of the reasons why teachers come to charter schools is because they are "seeking autonomy in creating and implementing curriculum."[56] A 2000 Pennsylvania study found that "there is evidence at a number of charter schools that there was a conscious effort to involve teachers in developing curricula. Teachers indicated that they had autonomy in curriculum decisions and freedom to utilize creative approaches."[57] Moreover, "many teachers report that they have considerable flexibility and opportunities for creativity in their day-to-day activities."[58] While national data is not available for how much control teachers have over the curriculum, the preliminary Pennsylvania study shows that curriculum control by teachers appears to occur in charter schools.

Regarding innovation, charter schools get mixed reviews. A 2000 national study of charter schools concluded that charter schools do not serve as laboratories of innovation in teacher. More explicitly, "charter schools' approaches to curriculum and instruction are not unique, original, or cutting edge when viewed in the national context."[59] However, charter schools do appear to be innovative when examined in a district-wide context. According to the study, "most charter schools have developed in response to local needs and to solve local problems. The academic approaches charter school developers use are often innovative in the

locales where they use them."[60] Moreover, charter schools tend to innovative in terms of "staffing, scheduling, program focus, and strategies that engage students in the school environment."[61] Clearly, when viewed in different contexts charter schools may or may not appear to be innovative.

Based on national statistics, charter schools have a better student-computer ratio than the traditional public schools overall. According to the U.S. Department of Education, "research suggests that student learning is enhanced by computers when the computer is used to teach discrete skills."[62] Importantly, "for schools with high concentrations of poverty (more than 70 percent eligible for free or reduced-price lunch), 39 percent of all instructional rooms had Internet access compared with 62 to 74 percent for schools with lower concentrations of poverty."[63] According to the U.S. Department of Education's study of charter schools, "the estimated mean student to computer ratio in charter schools was 8.9 students per computer, which was slightly lower than the estimated average (10.0 students per computer) for all public schools."[64] A 1999 Michigan study found that almost every charter school "has a computer laboratory that students use on a regular basis, as much as one full day a week."[65] Moreover, "school officials cite research showing that students with easy computer access do more homework than those without such access, collaborate more easily with peers, and show more improvement in academic performance."[66] Based on the above data, it is possible to conclude that in national comparisons, charter schools provide a better student-computer ratio than traditional public schools.

Overall, charter schools have smaller class sizes than traditional public schools. According to the U.S. Department of Education, "researchers have found that greater gains in student achievement occur in classes with 13 to 20 students compared with larger classes, especially for disadvantaged and minority students.[67] A national study of charter schools found that "the median student to teacher ratio for charter schools, 16 students per teacher, was slightly lower than the ratio for all public schools—17.2."[68] A 1999 Michigan study found that "the average pupil-teacher ratio in Michigan public school buildings 21.8:1. Among the 55 study-area charter schools, the average pupil-teacher ratio was 19.2:1, and in three-quarters of

them, the ratio was below the state average."[69] Interestingly, a 2001 Texas study found that "Texas public schools, excluding charter schools, reported the number of students per teacher in the 1999-2000 school year to be approximately 15:1, compared to almost 17:1 in charter schools."[70] Based on the overall evidence, charter schools seem to provide smaller class sizes (student-teacher ratios) than traditional public schools.

Schools

A school's quality is measured by the school's approach to education, an environment with little or no discipline problems, and the school's academic organization (ex. graduation requirements). While these characteristics are important, they are very difficult to measure; one of the reasons for this is that their effect on student learning is also difficult to measure.[71]

A school's approach to education is difficult to measure. However, some of this data may be obtained through interviews with teachers, students, and parents; and examining turnover rates (a higher rate indicates higher teacher dissatisfaction with the school). A 2000 Pennsylvania study found that "parents, teachers, and students often have enhanced opportunities to participate in school decision making."[72] Some of these include "attendance at planning meetings, attendance at school board meetings and other avenues of access to board members, and input via school surveys and interviews."[73] Student surveys revealed that half of the students "would recommend their charter school to a friend," three-fourths of the students "said that their teachers encourage them to think about the future", and one-third of the students "said that other students at their charter school were more interested in learning than students at their previous school."[74] A 2001 Texas study found that "the teacher turnover rate at charter schools is more than three times higher than that of traditional public schools. The Texas Education Agency reports a teacher turnover rate of 49.3% in charter schools, while the state average is 14.9% for public schools (excluding charter schools)."[75] Based on the above two very different conclusion of state studies, it very difficult to come to a sound conclusion regarding charter schools' approach to education.

Overall, charter schools seem to have less discipline problems than traditional public

schools. The U.S. Department of Education states that "researchers have found that a positive disciplinary climate is directly linked to student learning."[76] Interestingly, "the level of school related criminal behavior has changed little between 1976 and 1997, and no differences in victimization rates were found between white and black high school seniors in 1997."[77] Moreover, "in each year, a larger proportion of black and Hispanic students than white students feared attacks at school, and the percentage of black students who feared for their safety nearly doubled from 1989 through 1995."[78] A 2000 Pennsylvania study found that charter schools develop various methods to deal with and prevent discipline problems. One of the most widely-used methods is "extended hours and Saturday sessions, inclusion of both middle and high school grades in order to address common problems in making the transition from middle to high school."[79] Based on the above evidence, charter schools seem to have a safer learning environment than traditional public schools.

When it comes to academic organization, nationally, charter schools get mixed reviews. According to the U.S. Department of Education, "students learn more in schools that emphasize high academic expectations."[80] Nationally, more students have been enrolling in more difficult classes, for example, "from 1982 to 1998, there was an increase in the percentage of students enrolling in higher-level mathematics and science courses."[81] A 2001 Texas study found that part of the innovation at the charter schools was a lower quality of academic organization. For example, the study cites "at least three charter schools interpreted innovation to mean 2- to 4-hour school days, thus allowing the schools to get state money for twice as many students, with each shift attending school for only half a day."[82] An example of the above is Renaissance's XLR8 Campus charter school, "a branch campus for high school students who have fallen behind in their studies."[83] This school operates on a four-hour school day; hence, "students who need the most education receive half the instruction that traditional public schools provide. This may help explain why Renaissance has been rated a low performing campus by TEA due to low TAAS scores."[84]

However, not all charter schools receive negative reviews. An example of charter school success is the Thomas Edison Elementary School in San Francisco. In the 1980's, the

school "was cited in a National Association for the Advancement of Colored People lawsuit charging that minority students were getting an unequal education."[85] Those who observed the school in the 1980's noted that "students fought in the classrooms and washrooms, roamed the hallways and wandered the neighborhood…reading and math scores were abysmal, even compared to other schools with poor black and Hispanic students."[86] In 1998, Edison Schools Inc. took over the school. Today, the school's "rock-bottom test scores had risen in every grade and every subject for every racial/ ethnic group. Black and Latino students, who make up 83 percent of enrollment, had made the greatest gains. Violence was down. Enrollment was up."[87] Moreover, all students after the second grade get a laptop to take home.[88] Based on the above two charter school stories, it is difficult to conclude whether or not in general charter schools have better academic organization than traditional public schools.

Academic Achievement

Because many researchers argue over how to measure academic achievement, this section of the literature review will be divided into the following sections: mixed results, positive results, and negative results. This is because the studies focused on different states and used different criteria for measurement of academic achievement. Two main limitations on assessing academic achievement at charter schools have been noted in many studies. First, because charter schools are very young, this leaves them little time to improve student achievement.[89] Second, data usually does not exist for students' pre-charter achievement rates, as data is not available to researchers for individual students.[90]

Researchers note three main reasons why very little is known about academic achievement in charter schools. First, some states only have a few charter schools, thus limiting the usefulness of statewide evaluations.[91] This is a valid reason because very little research exists (i.e. has been done) on comparing charter schools with their host districts and their neighborhood public schools. Second, many states don't start testing students until the 5th grade, thus limiting evaluation criteria for charter schools that serve grades K-4.[92] The third reason, and perhaps the most important one, has to do with politics. As Gary Miron, a charter

school evaluator notes, "political factors may discourage state officials and others from commissioning, sponsoring, and funding statewide evaluations of charter school achievement."[93] Moreover, "high-profile, statewide evaluations of charter schools' impact on student achievement may appear to policymakers as a threat to their discretion, as unexpected findings might diminish the credibility of popular policy approaches. Officials, in short, might decide that commissioning a high-profile statewide evaluation is not worth the risk."[94] Conclusively, very reliable data on charter school achievement is hard to come by.

Mixed Results

Two case studies conclude that charter schools have mixed results when it comes to student achievement: a 1999 Michigan study and a 2001 Texas study.

The Michigan study looked at 30 schools and compared them to traditional public schools in the district.[95] Statewide standardized test scores were used for assessment.[96] Moreover, demographic characteristics were controlled for school populations.[97] One of the limitations of the study was that the data was only available on a school-level and not for student-level, thus concrete and definite conclusions were difficult to draw.[98] Examining only 4th and 7th grades, the study concluded that "even though most charter schools had improved their scores, the conventional public schools had improved equally as much in grade 7 and more in grade 4."[99] However, an important fact to remember is that these schools were newly opened; "as most charter-school operators would attest, the primary struggle in the opening months of operation is survival. Judging the long-term effectiveness of the charter-school movement based on outcomes of infant schools in their first two years of operation may be unfair, or at least premature."[100] The above results in what charter school researchers term as the "new school effect;" scores from the first two years of a charter school are not conclusive in regards to academic achievement.

The Texas study was able to analyze performance data for individual students, between 1997 and 2000, on the Texas Assessment of Academic Skills (TAAS).[101] The results were interesting. First, "at-risk charters provided slightly more "added value" than did conventional

public schools in terms of student achievement."[102] Second, "conventional public schools slightly out-performed non-at-risk charters, producing an 'added value' of about a point and a half by comparison."[103] The study concluded by saying that "charter schools showed mixed achievement results in their first three years of operation."[104] The "new school effect" was also present in this study. The researchers also concluded that "continuing charters—those in their second and third year of operation—produced better academic out-comes than did new charters—those in their first year of operation."[105] In summary, when examining academic achievement at charter schools, one should be aware of the "new school effect" and place more weight on results from charter schools that have been in operation for more than two years.

Positive Results

Three most recent case studies concluded positive results when measuring academic achievement. However, these conclusions are without explanations.

A 2001 Arizona case study found that when "compared with students remaining in conventional public schools, students spending two to three years in charter schools could expect gains in their Stanford Achievement Test reading scores."[106] Moreover, "in math, students spending two to three years in charter schools did at least as well as, and perhaps better than, students in conventional public schools (depending on model specifications)."[107] A 2001 Massachusetts study concluded from tests such as the Stanford-9, California Achievement Test, and the Iowa Test of Basic Skills that "with 64 percent of classes posting greater than expected growth in math and 58 percent of classes posting greater than expected growth in reading," academic achievement at charter schools looked positive.[108] The 2001 Colorado study found that "although the charter schools in this study represented only about 3.6% of all public schools in the state, charter schools were represented at a much greater rate among the highest performing schools on CSAP (Colorado Student Assessment Program)."[109] Moreover, "in 4th grade reading, of the 25 schools that scored at 90% proficient or advanced, four of these schools (16%) were charter schools. In 7th grade writing, of the six schools that scored at 80% proficient or advanced, five of these schools (86%) were charter schools."[110]

Given the above three studies, charter schools academically performed as well or better statewide than the traditional public schools.

Negative Results

Two studies concluded negative results when measuring academic achievement at charter schools; again, the conclusions are without explanation.

A 2001 Texas study found that "the average TAAS passage rate for charter schools in the 1999-2000 academic year was 37.04% - less than *half* of the state average of 80.0% at public schools."[111] Moreover, "the average TAAS passage rate for 'at-risk' charter school students is 27.81% - less than half the 70.1% TAAS passage rate for 'economically disadvantaged' public school students – a comparable at-risk designation for public school students."[112] To make things worse, "of the 98 charter schools rated for the year 2000, only five schools received the highest possible rating, while almost *half* received the lowest possible rating."[113] The study acknowledges charter school proponents' claims that simply comparing the "the overall TAAS scores at charter schools and traditional public schools is not comparing apples to apples because many charter schools cater to 'at-risk' students."[114] Comparing only "at-risk" charter schools and "economically disadvantaged" public schools, the study found that "students at public schools have a 70.1% average TAAS passage rate, while the 'at-risk' charter school students have only a 27.81% TAAS passage rate."[115] To make the point more powerful, the study found that "of all the Alternative Education charter school campuses rated, more than two-thirds – fully 72.7%- were ranked in the lowest possible category [Need Peer Review]"[116] by the Texas Education Agency.

A North Carolina 2001 study found that "charter school students under-perform other public school students on End-of-Grade (EOG) tests in reading and mathematics."[117] This case caries much weight as the charter schools studied were at least four years old. More findings included that when "one examines performance for each of the four years charter schools have been in existence, students in charter schools were less likely than students in other public schools to score at or above grade levels in either subject area."[118] Moreover, "this is consistent

for both White and Black students all 4 years. In addition, the gap between the two groups of students in charter schools in both reading and mathematics achievement is larger than in other public schools."[119] Based on the two above studies, one would have to conclude that charter schools perform worse academically than the traditional public schools.

Conclusions

Based on all of the above research on segregation, quality of education, and academic achievement, it is clear that there are no definite answers for charter schools when comparisons are done nationwide. Moreover, even statewide comparisons fail to detect subtle details of segregation, quality of education, and academic achievement. Taking into consideration all of the above evidence, a research design will be developed to study the charter high schools in the city of Philadelphia.

RESEARCH DESIGN

Central Questions and Hypotheses

This thesis asks two central questions and tests two hypotheses (that are answers to the questions), one for racial and socio-economic segregation and the other for academic achievement.

Racial and Socio-Economic Segregation

Central Question: How do charter schools compare demographically to the neighborhood high schools (and all of the public high schools in the Philadelphia school district) that their students would have gone to otherwise?

Hypothesis: Charter schools that are located in non-residential areas and do not provide transportation, require parents to participate in school activities, do not recruit in minority neighborhoods, and do not provide food services will be under-enrolled with minority students from low-income families when compared to the demographics of the neighborhood schools. That is, they will be segregated by race and class.

Quality of Education and Academic Achievement

Central Question: Are students in charter schools receiving a higher quality education and do they have higher academic achievement than their neighborhood high schools (and all of the public high schools in the Philadelphia school district)?

Hypothesis: If the quality of education is higher at a charter high school than at a neighborhood district high school, then the academic achievement of charter school students will be higher than that of public school students.

Definition of Concepts and Measurement of Variables

Segregation

Segregation by race and class occurs when a charter school does not have the same racial and socio-economic status (over 10% difference) of students as the surrounding neighborhood

schools and the school district. Many studies (especially those in the Literature Review) use different percent cutoffs; these usually include 10%, 15%, and 20%. 10% will be used in this thesis because it is the most scrutinizing number when it comes to segregation. Here, socio-economic status is determined by the percentage of students who are eligible for the federal free reduced lunch programs. Five factors contribute to segregation: non-provision of transportation, requirement for parental involvement, recruitment of students in only certain neighborhoods, non-provision of food services, and targeting (recruiting) "at-risk" students. The practice of screening out "at-risk" students, in theory, would not happen in Philadelphia because the 1997 Pennsylvania charter school law specifically states that charter schools cannot deny admission to any student who wishes to attend a charter school (unless the charter school has less spaces than applicants, then a lottery must be held).

Transportation: Without provided transportation, many students from lower socio-economic backgrounds cannot attend the charter school. This contributes to segregation.

Parental Involvement: While parental involvement is beneficial in a child's education, many parents do not have the opportunity to be involved. This is primarily due to many parents holding more than one job or taking care of another family member at home. Many parents from lower socio-economic families work more than one job and if a charter school requires parental involvement, the child cannot attend. This contributes to segregation.

Recruitment of Students: By recruiting and advertising in only certain neighborhoods (upper-class, white), charter schools are consciously excluding students from other neighborhoods (lower-class, minority). Undoubtedly, this contributes to segregation.

Providing Food Services: Many families that cannot afford to send a lunch with their child to school rely on federal reduced and/or free lunch programs. Charter schools that do not have a cafeteria and/or do not provide food services will not attracted the described above students. Thus, not providing food services

contributes to segregation.

Targeting (Recruiting) "At-Risk" Students: If a charter school is started to focus on minority or underprivileged children, it will have a significantly higher enrollment of such students. In this case, the "segregation" is voluntary and will be considered as such.

Quality of Education

Quality of education depends on a number of measurements and characteristics (the variables). These have been taken from "Monitoring School Quality: An Indicators Report," a report published in 2000 by the Office of Educational Research and Improvement at the U.S. Department of Education. Moreover, all of the studies cited in the Literature Review section of this thesis used one or more of these variables to derive their conclusions. If the measurements and characteristics of a charter school are better than that of the public school, then the charter school provides a better quality of education. It is important to note that while a better quality education is correlated with greater achievement, a better quality education does not guarantee greater achievement. For the point of clarity, a measurement technique will follow each variable where appropriate, instead of in a separate section. Finally, a few notes on the collection method will be added for some variables for the reasons cited above.

Teachers: Teachers teach the students. They are the individuals that the students come in contact with most often in the school. The quality of the teachers is an important variable in the quality of education and is primarily measured by the following four characteristics: level of education (possession of a bachelor's or a master's degree), years of experience (preferably more than 5), certification, and participation in high quality induction and professional development programs. Many studies have concluded that students learn from more experienced teachers.[1] The reason is simple: teachers with more experience are more effective because they learned from many of their teaching mistakes after the first few years on the job. A teacher with no experience will make many

mistakes in the classroom, and, as a result, student learning will suffer. Certification is critical because teachers learn how handle many classroom problems effectively. These range from discipline to knowing and applying different teaching techniques. Higher levels of education, more years of experience, and participation in induction and development programs show a higher quality of a school's teachers. Finally, scholars agree that teachers with certification are more effective at their jobs, thus, a school with a higher percentage of certified teachers shows a higher quality of education.

Classrooms: This is a very broad category that will be split in three sections for this thesis. The sections include course content, class size, and availability of technology.

Course Content: The quality of education depends largely on what students learn in the classroom. The report from the Office of Educational Research and Improvement clearly states that students "benefit when course content is focused."[2] Here, "focused" course content means a focus on a single subject. The reasons for this are simple (and the evidence is ample): students learn more when courses are focused on a single subject and not a general area because the single subject can be studied more in depth (and thus understood and learned better) than a collection of the general area's greatest hits.[3] For example, students will learn more algebra and American history in courses entitled "Algebra" and "American history," respectively, than in courses entitled "The Wonderful World of Math" or "Social Studies Basics." If the teachers who teach broad subject classes cannot be interviewed, the questions will refer to the amount of material covered in the charter school when compared to the neighborhood district high school. More material covered means more material learned; and more material learned leads to greater academic achievement. A great example of this

phenomenon occurs in math. A student achieves more academically and learns more in calculus when he/she knows how to do derivatives and integrals. Integrals cannot be learned without the mastery of derivates. Thus, in a class that is only able to cover derivatives, students learn less calculus. It's that simple: more material covered leads to higher quality education. Moreover, teachers will be asked about innovation in the classroom—a favorite argument of many charter school proponents. There has been much debate about defining innovation. Without wasting time and space debating the definitions of innovation, the researcher went straight to the source—the teachers. Teachers were not asked to define innovation, but whether they thought it was taking place in the charter school compared to their previous jobs in the district schools. As to the collection method, teacher interviews would provide the necessary information for the above topics.

Class Size: Much research over the past decades has shown that students learn better in smaller classes. Hence, quality of education is directly related to class size. Moreover, a school with a larger proportion of smaller classes and a lower student-teacher ratio offers a higher quality education.

Technology: Student learning is enhanced when computers are available in the classroom. Moreover, learning is also increased by access to the Internet in the school, especially in the classroom. Hence, a lower student-computer ratio and a more available access to the Internet (student-computer with Internet access ratio) indicate a higher quality education.

School: This is a broad category that will be split in four sections: relationship between teachers and the administration, discipline, academic organization, and the student-guidance ratio.

Relationship Between Teachers and the Administration: Numerous studies have shown that teachers teach better when their work is valued and appreciated, when they are supported and backed by the administration in their decisions, and when they are allowed to use their own teaching methods. Measuring such a relationship is difficult because it is solely qualitative. Teacher interviews are the primary collection method for this variable.

Discipline: Students learn in a school that emphasizes and possesses a safe and an orderly environment. A school with a smaller number of and less severity of discipline problems will provide a better quality atmosphere for education, leading an overall better quality education. The quality of discipline is measured by the percentage of students who are suspended annually from the school. A lower percentage indicates that the students are behaving properly and contributing positively to the learning environment, thus, here, the quality of education is higher.

Academic Organization: A school that expects more from its students, challenges its students to work and study harder. According to many studies, this is a characteristic of a high quality education. Measurable characteristics include graduation requirements, number of advanced placement or honors classes, and special projects. For graduation requirements, the National Commission on Excellence in Education (NCEE) recommends at least 4 years of English, 3 years of mathematics, 3 years of science, 3 years of social science, and a half year of computer science.[4] The quality of education depends on how much more the school requires beyond the NCEE minimum requirements. Finally, the above variables in academic organization are primarily a result of the school's leading education philosophy.

Student-Guidance Ratio: Numerous studies note that guidance counselors are valuable in assisting troubled students and advising students on career and college options.[5] A lower student-guidance ratio indicates a higher quality education.

Academic Achievement

While many education scholars argue over measurements on academic achievement, there is consensus on three measurable characteristics: standardized test scores, dropout rates, and post-graduation activities.

Standardized Test Scores: Because each school differs in its evaluation criteria of students, standardized test scores provide a way of evaluation different schools based on the same criteria. Two tests will be examined in this thesis: the annual PSSA (Pennsylvania System of School Assessment) that measures math, reading, and writing ability of 11th graders, and the SAT I: Reasoning Test that measures the math and reading abilities of college-bound students. Higher scores indicate greater academic achievement. If data was provided for more than one year, a percent change in score is also evaluated.

PSSA: The Pennsylvania Department of Education gives the following description for the PSSA. "In 1999, Pennsylvania adopted academic standards for Reading, Writing, Speaking and Listening and Mathematics. These standards identify what a student should know and be able to do at varying grade levels. School districts possess the freedom to design curriculum and instruction to ensure that students meet or exceed the standards' expectations. The annual Pennsylvania System of School Assessment (PSSA) is a standards based criterion-referenced assessment used to measure a student's attainment of the academic standards while also determining the degree to which school programs enable students to attain proficiency of the standards. Every

Pennsylvania student in 5th, 8th and 11th grade is assessed in reading and math, and students in grades 6, 9 and 11 are assessed in writing."[6]

Results Interpretation: The Pennsylvania Department of Education gives the following definitions for the test results.

"*Advanced*: Superior academic performance indicating an in-depth understanding and exemplary display of the skills included in Pennsylvania's Academic Standards;

Proficient: Satisfactory academic performance indicating a solid understanding and adequate display of the skills included in Pennsylvania's Academic Standards;

Basic: Marginal academic performance, work approaching, but not yet reaching, satisfactory performance. Performance indicates a partial understanding and limited display of the skills included in the Pennsylvania's Academic Standards, and the student may need additional instructional opportunities and/or increased student academic commitment to achieve the Proficient Level;

Below Basic: Inadequate academic performance that indicates little understanding and minimal display of the skills included in the Pennsylvania Academic Content Standards. There is a major need for additional instructional opportunities and/or increased student academic commitment to achieve the Proficient Level."[7]

Limitations: It is pertinent to acknowledge the following three limitations of the PSSA. First, the test does not track the performance of individuals so it very difficult to examine a charter school's impact on individual students.[8] Second, charter schools are young and it might take time for the effects of reform to manifest in student achievement.[9] Third, it is difficult to extrapolate trends from only two years of data, as some

research indicates that test scores have the same cycles as economic data; a gain in one year, might be offset by a decline in the next.[10]

Dropout Rates: Numerous data suggests that students who achieve higher academically, rarely drop out of school. High achievers tend to graduate from high school. Hence, lower dropout rates indicate higher academic achievement for the school overall.

Post-Graduation Activities: Students who have high academic achievement go to college after graduating from high school. Students with lower academic achievement tend to go straight into the workforce, specifically in the blue-collar sector. Hence, a higher percentage of students going and/or planning to go to college after high school indicates higher academic achievement.

Data Collection and Analysis

The data is primarily collected from government documents, organization documents, newspapers, interviews, and observations. The collected data is analyzed and organized in a table format for ease of understanding and comparison between charter and district schools. Tables that compare charter schools with district public schools will be found within the main body of the thesis, tables that only provide information for the district public schools are located in the appendix. Importantly, the calculations for the former would not have been possible without the raw data of the latter. Also, the sources for the data tables are also located in the appendix. Finally, many tables contain an "NA" where a piece of data should be located. Here, "NA" means Not Available. The information was unavailable either because the charter school was not in operation at the time the data was collected or the charter school would not release the needed information.

Government Documents: The Pennsylvania Department of Education publishes and posts online annual statistics on the schools in Pennsylvania. While these are a year or two behind, they provided much of the essential information for this study. The titles and dates of the reports used are found in the Bibliography.

Additionally, charter schools are required to submit annual reports to the School District of Philadelphia, reports for the closing of the 2000-2001 school year were obtained for the following schools: Architecture & Design, Center for Economics and Law; Delaware Valley; Imhotep Institute; Mathematics, Civics, and Sciences Charter School of Philadelphia; and the Preparatory School of Mathematics, Science, Technology and Careers.

Organization Documents: On October 25, 2001, the Greater Philadelphia Urban Affairs Coalition (GPUAC) published "Profiles: A Directory of Philadelphia Charter Schools 2000-2001" that contained many pertinent statistics for the Philadelphia charter schools. Finally, informational brochures and pamphlets, and applications were obtained from many of the ten charter schools in this study. From the Center for Law and Economics Charter School, a Student Handbook was obtained along with various memoranda and course selection sheets. From the Mathematics, Civics, and Sciences Charter School of Philadelphia, a brochure, various memoranda, newspaper articles, and positive letters from parents were obtained.

Newspapers: On March 3, 2002, *The Philadelphia Inquirer* published its annual "Report Card on the Schools." This detailed report contained information regarding teachers, demographics, SAT scores, and post-graduate activities.

Interviews: Interviews were conducted with charter school teachers, charter school students, a Chief Administrative Officer of a charter school, parents of current and prospective charter school student, students from a charter school not in the case study, a charter school teacher who transferred to a public high school, and a charter school administrator.

Teachers: Interviews were conducted with charter school teachers who discussed their experiences at the schools and, where applicable, compared these experiences with those at the Philadelphia public schools. Interviews were conducted in private, behind closed doors in a

classroom. All teachers were asked about years of experience, subjects and grades taught, about likes and dislikes regarding their charter school, innovation, professional development, and the course content and its focus. All teachers requested to remain anonymous.

Students: Interviews were also conducted with the students in the charter schools. Questions included reasons for going to a charter schools, favorite subjects, homework, likes and dislikes, and post-graduate activities. Additional interviews were conducted with students enrolled in a charter school that is not part of the case study—Architecture & Design Charter High School (March 20, 2002).

Parents: During the open house at the Center for Economics and Law Charter School, an interview was conducted with a parent of a current charter school student. The parent was primarily asked for reasons for transferring their child to the charter schools, their opinions about the quality of education and the education atmosphere, and other general impressions about the school. A few prospective parents were also interviewed and were asked about their reasons for choosing to transfer their child to the charter school and how they found out about the charter school.

Chief Administrative Officer: Veronica Joyner, the CAO of the Mathematics, Civics, and Sciences Charter School of Philadelphia was asked about the achievements of the school and the obstacles that the school faces.

Former Charter School Teacher: A teacher who taught at the Center For Economics and Law Charter School was asked about her experiences in the school and to comment on many of the characteristics listed under the "Quality of Education" section of this Research Design chapter. The interview was conducted through email.

Charter School Administrator: Joi Little, an administrator at the Center for

Economics and Law Charter School, was asked about the special programs and their details that the school offers to its students.

Observations: Three visits were conducted to charter schools. Two visits (both on school days) were to the Center for Economics and Law charter school. One was on an open house for interested parents and students (March 8, 2002) that consisted of a tour and a general information session about the school. Another was to interview teachers and students, and to observe the school in its daily activities (March 12, 2002). One visit was conducted to the Mathematics, Civics, and Sciences Charter School of Philadelphia (March 13, 2002); it consisted of a tour, and CAO, teacher, and student interviews.

Case Selection

Two charter schools were selected for an in-depth look: the Center for Economics and Law charter school and the Mathematics, Civics, and Sciences Charter School of Philadelphia. There are two main reasons for choosing these schools: their location and their academic programs.

The location of these two charter schools is ideal for testing if segregation exists. The schools are located in non-residential areas, yet these areas are within immediate proximity to different residential neighborhoods. The charter schools are a *tabula rasa*—they are open to everyone from the local neighborhoods. Depending on whether the school provides transportation, requires parental involvement, and its recruitment policies, it will be easy to see how the above policies influence the demographics of the charter school. These results can be extrapolated to other, less-ideal, case studies where the schools are in a residential neighborhood predominated by a certain demographic.

The two charter schools boast about providing a high quality education and the students' high academic achievement. The Center for Economics and Law charter school advertises its "real-life" courses in business and law. The Mathematics, Civics, and Sciences Charter School of Philadelphia promotes its school academies that consist of accounting, law,

medicine, and computer science. The significant question here is whether or not these schools' core academic courses are "focused" and required for graduation as recommended by the National Commission on Excellence in Education. Unfortunately, because the Mathematics, Civics, and Sciences charter school has only added an 11th grade this year (it plans to add a 12th grade next year), much of the data about its academic achievement is unavailable.

The success of charter schools will help shape the future of the School District of Philadelphia. As the School Reform Commission has decided not to award any new contracts to charter schools this year, the future of charter schools in Philadelphia looks uncertain. Unless concrete evidence is found that charter schools provide a better quality education and produce higher academic achievement in students, the schools' future will be in jeopardy. This thesis hopes to provide a significant part of the answer to the above concerns.

HISTORICAL BACKGROUND

Current State of Public Education

Overall, the current state of America's public schools, especially those in urban areas, is alarming. There are many numbers and statistics to support this. For example, 8th grade students, as reported by the National Center for Education Statistics, "scored lower on achievement tests than suburban or rural 8th graders, even when the higher poverty concentration of urban public schools was taken into account."[1] Moreover, "the average standardized test composite score for tenth-grade students in urban schools was lower than for students in both suburban and rural schools (48.8%, 51.2%, and 49.3%, respectively)."[2] In terms of graduation rates, "a lower percentage of students graduate on time in urban schools than in suburban and rural schools, 73.7%, 84.3%, and 83.3%, respectively."[3] Prominent examples of failing education systems include Chicago and New York City. In Chicago, "reading scores in nearly half of Chicago's public schools are in the lowest 1% in the nation."[4] In New York City, 20% of the public schools "have been deemed in need of immediate intervention."[5]

Individually, the condition of America's kindergartens, middle and high schools fare worse when compared in an international and national context. In kindergarten, while "all children showed marked improvement in both reading and mathematics performance," "gaps persisted or grew for children at risk, particularly in more advanced skills."[6] For middle schools, "data from the Third International Mathematics and Science Study (TIMSS) show that the content of mathematics lessons taught to 8th-graders in the United States was more likely to receive a "low"- quality rating than lessons taught to students in Japan and Germany."[7] Results from high schools look much worse. For example, "since 1983, over 10 million Americans have reached the 12th grade without having learned to read at a basic level," "over 20 million have reached their senior year unable to do basic math," and "almost 25 million have reached 12th grade not knowing the essentials of U.S. history." [8] Worse, "in that same period, over six million Americans dropped out of high school altogether."[9] Returning to the

TIMSS test, "three urban districts, the Miami-Dade, Rochester, and Chicago school districts, scored at about the same level as Thailand, Tunisia, and Iran."[10] Clearly, American public schools perform less academically in an international context, and there is much disparity in performance between urban and other public schools.

Overall school quality in America receives terrible marks. Overcrowding and violence is a large concern in urban public schools as "overcrowded schools can have a debilitating effect on a learning environment."[11] Strikingly, "in 1999, 22 percent of public schools reported being overcrowded (i.e., having enrollments more than 5 percent above the number of students a school is designed to accommodate in its permanent facilities)."[12] Moreover, public schools lack accountability to their communities. For example, there are "long-standing poor-performing schools that school boards have allowed to remain open without intervention."[13] Another example is the fact that "despite much research suggesting the wisdom of smaller school size and class size, public school districts continue to build facilities designed for 1,500 to 3,000 students."[14] Students will have to be technologically adept to for the twenty-first century workforce, unfortunately, "only one third of teachers in 1999 reported feeling 'well prepared' or 'very well prepared' to use computers or the Internet for instruction."[15] Clearly, school quality in American public schools should be better.

Background History

If the current statistics cited above shock the reader by providing a bleak picture of public education in America, Americans were more shocked in the early 1980's. In 1983, President Reagan's National Commission on Excellence in Education (under the U.S. Department of Education), published a groundbreaking report entitled *A Nation at Risk: The Imperative for Educational Reform*. Americans were shocked and terrified to learn that the condition of their public schools was best described as mediocre.[16] With many dreadful statistics about the quality of education and student achievement in the United States, the report sparked what became known as the "excellence movement" of the 1980's.[17] Even the President wanted to work with the state governments to improve public education. In 1989,

President Bush held an "Education Summit" where fifty governors set goals to improve the future of America's education.[18] What resulted was a quick rise in test scores as many educators after 1983 argued for higher standards and more professional development for teachers; however, at the turn of the decade, the test scores leveled off. [19] Unfortunately, at a time of Reagan and Republican prosperity, all levels of government would not provide additional resources to public schools. While many educators argued that lack of resources was a large part of the problem with education, political leaders who called for more spending (a call that almost always triggers the "higher taxes" note in the voters' minds) would have committed political suicide.

However, to more fully explain the history of the education crisis, one must search further back to see a more complex picture of American and urban history in particular. During the suburban (Levittown) craze and the economic boom of the 1950's, Americans fled the cities to live in single homes in suburbs with backyards and white fences and faces. With the shameful and highly profitable practice of red line districting, realtors refused to sell homes in the suburbs to American ethnic minorities.[20] With white flight in full swing, mostly low-income minorities and the elderly were the largest proportion of citizens left in urban areas around the country. To make matter worse, the post-industrial economy led to many closing of factories in the cities and the rise of service businesses in the suburbs where zoning laws were very generous to businesses.[21] All of the above culminated in an escape of revenue from city governments. The most crucial fact about public education in America is that public schools are funded (and controlled) locally. Public school systems receive revenue from local property taxes. With very little businesses left in urban areas, and low-income minorities and citizens who lived on low-value properties, the cities' money coffers ran empty. Resources that were once available for education and other government services were now gone.

Facing the above conditions, many educators and politicians still tried their best to reform the education system; however, they faced major obstacles besides money and politics. As Peter Schrag notes, "the schools are so riven with contradictory objectives -- merit versus inclusion, for example -- and so loaded down with extraneous social mandates for everything

from drug education and AIDS counseling to diversity training and social awareness (often imposed by the same politicians who complain about school failure) that it's a wonder anyone learns anything."[22] Importantly, he cites a myth: "that Americans -- and parents in particular -- really do want schools with high academic standards, and would get them if the education establishment didn't stand in their way."[23] If the establishment is not to blame completely for standing against higher academic standards, who are these education culprits? According to Schrag, "they may be religious fundamentalists fighting the teaching of evolution or demanding equal time for creationism in science programs, or complaining about witches and secular humanism in reading textbooks and dirty words in novels."[24] Moreover, "they may be civil-rights groups demanding that *The Adventures of Huckleberry Finn* be taken out of the syllabus because it contains the word "nigger," or opposing tougher standards because they fear that more poor children will fail."[25] Schrag ominously concludes that "anti-intellectualism is as American as apple pie."[26] Facing reform obstacles within and outside the public school system, many moderate and conservative reformers turned to other strategies for improving public education. In a competitive market-based economy, the strategies were based on the concept of school choice—students would be able to choose to attend a school other than their local district public school, either through vouchers or charter schools. [27]

The Charter School Model

What exactly is a charter school? Charter schools are different than public schools in regards to regulations, accountability, and teachers. When it comes to regulations, charter schools are free from most state and district regulations. There are some exceptions, however; these include "regulations regarding health and safety, civil rights, fiscal accountability, performance requirements, and other restrictions specified in the charter."[28] Given the lack of regulations, charter school proponents argue that these schools can test ideas and serve as laboratories for education: "charter schools are uniquely positioned to be innovators, places where new ideas can be turned into reality and good ideas can be tested and perfected."[29] Charter schools are also accountable to parents and the sponsoring district: "failure to attract

sufficient students and teachers, or a failure to meet the provisions of the charter, result in revocation of the charter by the sponsoring body."[30] The role of teachers is different at a charter school than at a district school. For example, in a charter school, teachers may be free to develop their own curricula and have an important voice in school decisions—things that are very difficult, if not impossible, to do in a traditional public high school.

Charter schools are public schools. They cannot charge tuition and discriminate in the admissions process. Students are chosen by lottery, if student demand exceeds the available number of spaces at the school.[31] In terms of funding, a charter school "receives the full public funding allotment associated with its student enrollment."[32] Moreover, when it comes to serving "at-risk" or disabled students, a charter school may also apply for additional grants that are also available to district schools.[33]

Debating School Choice

Before briefly reviewing the history of school choice, it is important to first set out the arguments for and against such strategy for school reform.

Choice proponents argue that the public education system is almost beyond reform unless it is drastically affected—a clean slate is needed that consists of vouchers and charter schools to remove students form public schools. In *Politics, Markets, and America's Schools* (1990), John Chubb and Terry Moe argue that "direct democratic (and bureaucratic) governance turns schools into incoherent institutions dominated by interest groups rather than by a shared sense of educational mission and public purpose."[34] It is the above lack of "shared sense of educational mission and public purpose" that has caused many public schools to fail. According to these theorists, "public schools are paralyzed by a convoluted balancing of the interests of educators, unions, community forces, and politicians. In this web of action, effective educational programs cannot be created and sustained."[35] Chubb and Moe conclude that the only solution to the public education crisis is a "redirection of authority to parents and families through vouchers (charters did not yet exist at the time they wrote), so that they can choose the schools their children attend, can shatter and replace existing arrangements

sufficiently to give hope of improved educational outcomes."[36]

Additionally, many economic theorists argue that public education can be improved by using the power of the market. Milton Friedman, and many other notable economists, have "long argued that more choice in education will lead to improved outcomes by permitting students to transfer to better schools, by introducing competitive pressure for schools to improve, and by permitting a better match between the needs of the individual student and the program offered by the school."[37] With competition as the key idea behind school choice, reformers and theorists hope that "vouchers and charters will provide competition for conventional public schools—in order to survive, they will be forced to improve."[38] As a result, even students who remain in the traditional public schools will also benefit from school choice.

The move for school choice also has many vocal opponents. Many opponents argue that public schools are just as good as private schools. The reason for higher academic achievement in private schools has nothing to do with the schools' education program, but the fact that such schools have the ability to select their "privileged students from highly motivated, high-income families."[39] Opponents also argue that school choice will lead to "skim creaming" as private and charter schools will attract the "highest-achieving and most-advantaged students."[40] Moreover, the "students remaining in the conventional public schools will be worse off as a result, because they will lose the benefit of associating with highly motivated, high-achieving peers."[41] Opponents also contend that charter schools will only attract highly motivated white students whose parents will have more initiative to take their children out of public schools, thus resulting in racial and socio-economic segregation. However, the political strength of the opponents was overpowered by the tough crusade of pro-choice education reformers, as the latter attracted moderates and conservatives.

The Move For School Choice and Charter Schools

While the concept of charter schools took off, support for vouchers floundered. Vouchers did not take off because the Democratic Party did not support them. Under the

voucher system, parents get a set sum of public tax dollars to send their children to private (higher achieving) schools. Unfortunately, even with vouchers, many of the families that would seem to benefit under the system cannot always afford private schools. Moreover, many of these schools are affiliated with a particular religion, thus crossing the Constitutional church and state divide. For above reasons, the Democratic Party did not support vouchers and the political reality for this form of school choice looked bleak. Charter schools, however, appealed to the Right and the Left. The Right (Republicans, conservatives) supports charter schools because they introduce the idea of the market into public education without many burdensome government regulations.[42] Charter schools appeal to the Left (Democrats, liberals) because "these schools often focus on poor and minority children and offer reforms within the public school system."[43] With the political prospects for charter schools looking bright, the idea started to become a reality, but for other reasons as well.

Another reason of popular support for school choice, and charter schools in particular, was the fact that the notion was similar to previous school reforms. For the past few decades educators and public schools had positive experiences with school choice in the public education system; these include, alternative schools, magnet schools, site-based management, and community-parental empowerment, and occasional districtwide and interdistrict choice.[44] Moreover, in the 1970's, Ray Budde, a New England educator, "suggested that small groups of teachers be given con-tracts or 'charters' by their local school boards to explore new approaches" for effective teaching and higher quality education.[45] Albert Shanker, the eccentric "long-time president of the American Federation of Teachers, then publicized the idea, suggesting that local boards could charter an entire school with union and teacher approval."[46] Interestingly, in the "late 1980s, Philadelphia started a number of schools-within-schools and called them 'charters.'"[47] While these were not complete independent charter schools, the Philadelphia "charters" (used mostly in high schools) showed that small learning communities seemed to have a positive impact on students.[48]

Politically important minority groups also supported the idea of charter schools. This support is "based primarily on a conviction that schools responsive to parents will serve their

children better than conventional public schools do."[49] Moreover, "this is thought to be especially true in inner cities where public schools have not lived up to the hopes engendered by desegregation and antipoverty policies, even nearly half a century after *Brown v. Board of Education* and 40 years after federal programs for the education of disadvantaged students were created."[50] Realizing that their neighborhood public schools were not going to improve any time soon, minority groups lend their support to charter schools.

The changing American economy also helped to support the charter school movement. As the country moved from an industrial economy to a service and technology-based economy, it was argued that public education needed to change as well. Traditional public schools were build on a factory model: "built in large buildings with tight class schedules, and standardized systems and curricula."[51] However, charter schools "are founded to reflect the realities of a modern, information-age economy: an economy in which organizations are built not around assembly lines but around missions, in which horizontal management is favored over centralization, in which difference and diversity are recognized as central to innovation."[52] Thus, the changing of the economy helped to fuel the charter school movement.

Related to economics, self-interest also played a role in spearheading the charter school movement. According to one education scholar, "global economic competition, low achievement, poor discipline, private schools' vaunted superiority, and declining societal values were major themes that kindled concern in one or more constituent groups."[53] As a result, and most importantly, "in subtle ways, the campaign capitalized on middle-class, Caucasian fears that their dominance in society, the workplace, and schools was threatened. The campaign against the 'public school monopoly' struck sparks by exploiting fears about safety and discipline in schools."[54] Conclusively, charter schools would have never come to fruition without the support of the white middle class, even it the support was given for selfish reasons.

Given all of the above factors that contributed to the charter school movement, charter schools became a reality. In 1991, Minnesota was the first state to allow the creation of charter schools.[55] At the beginning of the 1999 school year, 36 states and the District of Columbia

allowed charter schools to operate within their boundaries.[56] The rate of growth for charter schools has been startling: in 1992, only two charter schools were in operation in the entire country, in 2001, the number is approximately 2,000.[57] Moreover, charter schools enroll about half a million students each year.[58] During the growth period, political support was strong for charter schools. For example, in the 1997 State of the Union Address, President Clinton hoped that the year 2000, 3,000 charter schools would be in operation throughout the country.[59] With tremendous growth and strong political support, the creation of charter schools is one of the most popular and realistic reforms for public education.

The Case of Philadelphia

As one of the largest cities in the country, white flight from Philadelphia left a significant drain on the resources available to the local government to fund public schools. Strapped for funds, the School District of Philadelphia tried to make other reforms to enhance student learning and achievement. Constance Clayton, the Superintendent at the time, issued a reform mandate to create charter schools-within-schools.[60] These so-called "charter schools" split large high schools into small learning communities of about 200 to 400 students.[61] One of the features included students learning with same teachers over a four-year period to establish good relationships and feel as though they were part of a family.[62] The results showed success. Charter students had higher attendance rates, and higher passage rates for English and mathematics classes when compared to the students who were not part of a charter.[63] Unfortunately, this was not enough, as different standardized test scores were not raised and overall student achievement continued to be low.

In 1993, the state decided to freeze the school funding formula. This resulted in the state paying continuously smaller percentage of the School District's funding.[64] That same year, in the state House of Representatives, a bill allowing charter schools to be established in the state was introduced.[65] In 1997, after the state legislature approved the bill, it was signed into law by Governor Tom Ridge. Only 6 charter schools were ready to open in 1997, however, by 2001, Philadelphia had 39 charter schools in operation.[66] With continuing low

academic achievement and near budget deficits in Philadelphia, in 1998, the state legislature passed Act 46 (aimed just at Philadelphia) that called for "the state to take over the School District if the state secretary of education determines that it is in distress according to financial or educational measures."[67] On July 16, 2001, the School District of Philadelphia announced that "it cannot meet August payroll without help from the state."[68] On July 30, Mayor Street and Governor Ridge agreed to let the state hire an independent consultant to evaluate the school district's condition in terms of finances and education.[69] Edison Schools, Inc. was hired to conduct the evaluation.

In early October, Governor Ridge escaped from handling the Philadelphia education crisis by running off to head the U.S. Office of Homeland Security; Mark Schweiker became the new governor of Pennsylvania. In late October, Mayor Street and Governor Schweiker agreed to create the School Reform Commission (SRC) to manage the school district's educational plans and to decide whether or not the district schools will become privatized and eventually managed by Edison Schools, Inc. While Edison was finally given only a consulting role, the fate of the city's charter schools remains uncertain. The Commission announced that it would not grant new charters to charter schools for next year. This is because the Commission is still uncertain about the future of district and is concerned that the charter schools are draining too much money away from the district. Indeed, the fate of charter schools depends on their success.

DISTRICT-WIDE AND NEIGHBORHOOD ANALYSIS

OVERVIEW OF THE TEN CHARTER SCHOOLS

Name of Charter High School and Grades Served	Year Opened	% of Students Living in School Neighborhood
Architecture & Design Charter High School (9-12)	1999	0%
Center for Economics and Law Charter School (9-12)	1998	30%
Community Academy of Philadelphia Charter School (6-12)	1997	85%
Delaware Valley Charter School (9-12)	2000	75%
Franklin Towne Charter School (9-12)	2000	75%
Imhotep Institute Charter High School (9-12)	1998	50%
MaST Community Charter School (K-12)	1999	40%
Mathematics, Civics, and Science Charter School (1-11)	1999	NA
Multi-Cultural Academy Charter School (9-12)	1998	NA
World Communications Charter School (6-12)	1997	5%

Charter Schools and their Neighborhood Schools

The following neighborhood schools are located within 3 miles of each of the charter schools. Philadelphia district high schools that have special admissions (that is, minimum academic and test score requirements) are in italics. Although these high schools outperform many of the other high schools due to their selectivity of students, they are required to have demographic proportions that are representative of the district as a whole. Moreover, they present another alternative to the students. How charter schools perform academically will help many Philadelphia students to decide whether to go to a charter school or a special admissions public high school.

Architecture & Design Charter H.S.: Franklin H.S., Furness H.S., South Philadelphia H.S.

Center for Economics and Law Charter School: University City H.S., West Philadelphia H.S.

Community Academy of Philadelphia C.S.: Kensington H.S., William Penn H.S.

Delaware Valley Charter School: Germantown H.S., Gratz H.S., King H.S., Edison/Fareira H.S.

Franklin Towne Charter School: Frankford H.S., Lincoln H.S., Olney H.S.

Imhotep Institute Charter School: Martin Luther King H.S., *Girls H.S., Central H.S.*, Olney H.S., Germantown H.S.

Mathematics, Civics, and Science Charter School of Philadelphia: Strawberry Mansion H.S.

MaST Community Charter School: George Washington H.S.

Multi-Cultural Academy Charter School: Gratz H.S., Edison/Fareira H.S., *Central H.S., Girls H.S.*

World Communications Charter School: South Philadelphia H.S.

DISTRICT-WIDE AND NEIGHBORHOOD SEGREGATION ANALYSIS

Two types of segregation will be analyzed: racial and socio-economic. Racial segregation is determined by looking at the demographics of the charter school, the neighborhood district schools, and the schools of the district as a whole. Segregation occurs when the difference in the percentage of enrollment of the above groups is higher than 10 percentage points. To clarify, if a charter school enrolls 50% of one group and the neighborhood schools and the district enroll 70% and 80% of that group, respectively, the differences will be 20% (70%-50%) and 30% (80%-50%) percentage points. Hence, segregation has occurred. Socioeconomic segregation is determined the same way, with a difference of more than 10 percentage points indicating segregation.

If a charter school over-enrolls a certain demographic that is considered to be a national minority, it is not considered segregation as the choice to attend a charter school is voluntary and some charter schools target "at-risk" students. The primary concern of this study is under-enrollment of national minorities in charter schools.

Contributing Factors to Segregation

Below is a table with the characteristics that contribute to racial and socio-economic segregation and how they relate to each charter school in the study.

Table 1.1[1]
Segregation: Contributing Factors and Charter Schools
(some data may not be available)

Charter School and Grades Served	Require Parent Involvement	Provide Transportation	How Advertised / Recruited	Target "At-risk" Students	Provide Food Services
Architecture & Design (9-12)	NO	NO	Local papers; to students taking art classes at Moore College of Art.	YES (there is an initiative for under-represented students in the design fields)	YES
Center for Economics and Law (9-12)	NO	NO	Local newspapers; brochures distributed at churches and recreation centers	NO	NO
Community Academy of Phila. (6-12)	NO	NO	Internet; local newspapers	NO	NO
Delaware Valley (9-12)		NO			NO
Franklin Towne (9-12)	YES (2 hrs a month)	NO	Word of mouth	NO	YES
Imhotep Institute (9-12)				YES (African-Americn students through an African-centered curriculum)	
Mathematics, Civics, and Sciences (1-11)	NO	YES (to elementary and middle school students)	Community newspapers	YES ("academically at risk" students)	YES
MaST Community (K-12)	YES				
Multi-Cultural Academy (9-12)	NO	NO	Word of mouth	NO	NO
World Communications (6-12)	YES (exemption on case by case basis)	NO	Word of mouth (South and West Philadelphia, Germantown)	NO	NO

Racial Segregation

The following four tables present information about the student demographics of each charter school compared with their neighborhood schools and all of the district schools. The data is for the 2001-2002 academic school year. Each table is devoted to one demographic (race) and the order of the tables is arranged from the highest demographic in the city to the lowest. The demographics and the order are: African-American, White, Hispanic, and Asian-American. A brief analysis will follow each table that also incorporates the data in Table 1.1

Table 1.2[2]
African-American Enrollment in Charter and District High Schools

Charter School	(High) School Enrollment	% in Charter School	Number of Students	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Architecture & Design	355	96.0%	341	66.8%	29.2%	64%	32.5%
Center for Economics and Law	375	94.0%	353	97.0%	-3.0%	64%	30.5%
Community Academy of Phila.	208	18.0%	37	64.8%	-46.8%	64%	-45.5%
Delaware Valley	350	100.0%	350	71.5%	28.5%	64%	36.5%
Franklin Towne	686	14.0%	96	46.8%	-32.8%	64%	-49.5%
Imhotep Institute	400	99.0%	396	62.0%	37.0%	64%	35.5%
Mathematics, Civics, and Sciences	840	99.0%	832	100.0%	-1.0%	64%	35.5%
MaST Community	218	14.0%	31	50.0%	-36.0%	64%	-49.5%
Multi-Cultural Academy	175	72.0%	126	48.6%	23.4%	64%	8.5%
World Communications	122	99.0%	121	18.0%	81.0%	64%	35.5%
Totals & Averages	**3,729**	**71.9%**	**2,682**	**62.5%**	**9.4%**	**64%**	**8.4%**

At first glance, there does not appear to be segregation for African-American students in the Philadelphia charter schools. The total average charter high school enrollment is at 71.9%, while the neighborhood and the district enrollments are 62.5% and 64%, respectively. This is only a difference of 9.4 and 8.4 percentage points, below the 10% required for segregation to occur in this study. However, a closer look reveals more interesting information. Comparisons with the neighborhood schools leads to a difference of 46.8, 46.8, and 50.0 percentage points for the Community Academy of Philadelphia, Franklin Towne, and MaST Community charter schools, respectively. Table 1.1 helps to reveal possible explanations. The fact that the Community Academy of Philadelphia does not provide food services, and Franklin Towne and MaST Community require parents to volunteer at the schools most likely helped to make it difficult for African-American students from low-income families to attend such schools. It is unclear whether or not recruitment strategies also influence the segregation of the above three schools. Unfortunately, only two of the three schools were willing to release their recruitment strategies. Franklin Towne does not advertise nor recruit for students; it depends solely on word of mouth. Because the school has a majority of white students (74%; see below), it will most likely continue to perpetuate this segregation if its advertising will remain to be word of mouth between parents and their friends. The Community Academy of Philadelphia (in a

predominantly minority neighborhood) advertised in local newspapers, like most of the other charter schools that are not segregated according to the above table; it does, however, over-enroll Hispanic students (see charts below). Finally, 2 of the 6 schools that over-enroll African-American students, have curriculum targeted for "at-risk" students. This voluntary segregation is not a cause for much concern.

Table 1.3[3]
White Enrollment in Charter and District High Schools

Charter School	(High) School Enrollment	% in Charter School	Number of Students	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Architecture & Design	355	2.5%	9	13.5%	-11.0%	17.8%	-15.3%
Center for Economics and Law	375	5.0%	19	1.0%	4.0%	17.8%	-12.8%
Community Academy of Phila.	208	1.0%	2	11.3%	-10.3%	17.8%	-16.8%
Delaware Valley	350	0.0%	0	1.3%	-1.3%	17.8%	-17.8%
Franklin Towne	686	74.0%	508	23.9%	50.1%	17.8%	56.2%
Imhotep Institute	400	0.0%	0	13.8%	-13.8%	17.8%	-17.8%
Mathematics, Civics, and Sciences	840	1.0%	8	1.0%	0.0%	17.8%	-16.8%
MaST Community	218	77.0%	168	50.0%	27.0%	17.8%	59.2%
Multi-Cultural Academy	175	0.0%	0	16.3%	-16.3%	17.8%	-17.8%
World Communications	122	0.0%	0	18.0%	-18.0%	17.8%	-17.8%
Totals & Averages	**3,729**	**19.1%**	**714**	**15.0%**	**4.1%**	**17.8%**	**1.3%**

Looking at the Totals & Averages, there does not appear to be evidence supporting charter school opponents' claims that charter schools will become segregated as they draw white students away from the public schools. On the contrary, a look at the individual charter schools reveals that 6 of the 10 schools under-enroll white students when compared with the neighborhood and district-wide schools. Only 2 schools are grossly over-enrolled with white students: Franklin Towne (difference of 50.1 percentage points) and MaST Community (difference of 59 percentage points). Table 1.1 shows that these schools require parental involvement in the charter schools. Many minority and low-income families cannot afford to get involved and, thus, do not send their children to these schools. Of the 5 charter high schools that under-enroll white students, 2 (Imhotep and Architecture & Design) target "at-risk" students.

Table 1.4[4]
Hispanic Enrollment in Charter and District High Schools

Charter School	(High) School Enrollment	% in Charter School	Number of Students	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Architecture & Design	355	1.0%	4	4.4%	-3.4%	11.3%	-10.3%
Center for Economics and Law	375	1.0%	4	1.0%	0.0%	11.3%	-10.3%
Community Academy of Phila.	208	82.0%	171	22.1%	59.9%	11.3%	70.7%
Delaware Valley	350	0.0%	0	24.9%	-24.9%	11.3%	-11.3%
Franklin Towne	686	7.0%	48	22.1%	-15.1%	11.3%	-4.3%
Imhotep Institute	400	1.0%	4	12.0%	-11.0%	11.3%	-10.3%
Mathematics, Civics, and Sciences	840	1.0%	8	1.0%	0.0%	11.3%	-10.3%
MaST Community	218	8.0%	17	12.0%	-4.0%	11.3%	-3.3%
Multi-Cultural Academy	175	5.0%	9	25.4%	-20.4%	11.3%	-6.3%
World Communications	122	3.0%	4	18.0%	-15.0%	11.3%	-8.3%
Totals & Averages	**3,729**	**7.2%**	**268**	**14.3%**	**-7.1%**	**11.3%**	**-4.1%**

Overall, charter schools under-enroll Hispanic students in the Philadelphia area. Only one charter school, Community Academy of Philadelphia, over-enrolled Hispanic students and this was by 79.2 percentage points. Interestingly, the school does not provide food service. Four schools significantly under-enroll Hispanic students: Delaware Valley (by 24.9 percentage points), Franklin Town (by 15.1 percentage points), Multi-Cultural Academy (by 20.4 percentage points), and World Communications (by 15.0 percentage points). Three of the four schools did not provide food service and two schools required parental involvement. These characteristics most likely helped to contribute to the racial disparity.

Table 1.5[5]
Asian-American Enrollment in Charter and District High Schools

Charter School	(High) School Enrollment	% in Charter School	Number of Students	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Architecture & Design	355	0.5%	2	17.6%	-17.1%	7.0%	-6.5%
Center for Economics and Law	375	0.0%	0	1.5%	-1.5%	7.0%	-7.0%
Community Academy of Phila.	208	0.0%	0	1.8%	-1.8%	7.0%	-7.0%
Delaware Valley	350	0.0%	0	2.3%	-2.3%	7.0%	-7.0%
Franklin Towne	686	1.0%	7	5.7%	-4.7%	7.0%	-6.0%
Imhotep Institute	400	0.0%	0	12.2%	-12.2%	7.0%	-7.0%
Mathematics, Civics, and Sciences	840	0.0%	0	1.0%	-1.0%	7.0%	-7.0%
MaST Community	218	1.0%	2	12.0%	-11.0%	7.0%	-6.0%
Multi-Cultural Academy	175	9.0%	16	9.7%	-0.7%	7.0%	2.0%
World Communications	122	3.0%	4	18.0%	-15.0%	7.0%	-4.0%
Totals & Averages	**3,729**	**0.8%**	**30**	**8.2%**	**-7.4%**	**7.0%**	**-6.2%**

Although Asian-American students make up only 7% of the entire enrollment in the school district of Philadelphia, their characteristic enrollment in charter schools indicate some interesting findings. For example, only 5 of the 10 charter school enrolls Asian-American students, and the highest enrollment is 16 students. Architecture & Design, Imhotep Institute, MaST Community and World Communication charter schools under-enroll Asian-American students by more than 10 percentage points, 17.1, 12.2, 11 and 15 percentage points, respectively (when compared to the neighborhood schools). The fact that two of these charter schools require parental participation, and one does not provide food services, helps to explain the racial disparity.

Socioeconomic Segregation

The three tables below show the enrollment of students from low-income families in the charter schools. Low-income indicates students who are eligible for the federal free and/or reduced lunch programs. Unfortunately, only district-wide data was available for the Philadelphia public schools and not for each individual high school. However, the data is available for the last four years, hence, it is possible to observe a trend.

Table 1.6a[6]
Enrollment in Charter and District High Schools from Low-Income Families

	1998-1999		
Charter School	**% in Charter School**	**% in School District**	**Difference**
Center for Economics and Law	50.9%	78.4%	-27.5%
Community Academy of Phila.	96.3%	78.4%	17.9%
Imhotep Institute	68.0%	78.4%	-10.4%
Multi-Cultural Academy	90.0%	78.4%	11.6%
World Communications	75.0%	78.4%	-3.4%
Total	**76.0%**	**78.4%**	**-2.4%**

Table 1.6b[7]
Enrollment in Charter and District High Schools from Low-Income Families

	1999-2000		
Charter School	**% in Charter School**	**% in School District**	**Difference**
Center for Economics and Law	70.0%	76.4%	-6.4%
Community Academy of Phila.	96.5%	76.4%	20.1%
Imhotep Institute	85.0%	76.4%	8.6%
Mathematics, Civics, and Sciences	77.0%	76.4%	0.6%
MaST Community	28.0%	76.4%	-48.4%
Multi-Cultural Academy	89.9%	76.4%	13.5%
World Communications	60.0%	76.4%	-16.4%
Total	**72.3%**	**76.4%**	**-4.1%**

Table 1.6c[8]
Enrollment in Charter and District High Schools from Low-Income Families

	2000-2001		
Charter School	**% in Charter School**	**% in School District**	**Difference**
Architecture & Design	80.6%	72.3%	8.3%
Center for Economics and Law	70.0%	72.3%	-2.3%
Community Academy of Phila.	97.8%	72.3%	25.5%
Delaware Valley	73.0%	72.3%	0.7%
Franklin Towne	58.6%	72.3%	-13.7%
Imhotep Institute	85.0%	72.3%	12.7%
Mathematics, Civics, and Sciences	79.0%	72.3%	6.7%
MaST Community	68.0%	72.3%	-4.3%
Multi-Cultural Academy	89.0%	72.3%	16.7%
World Communications	60.0%	72.3%	-12.3%
Total	**76.1%**	**72.3%**	**3.8%**

In the past year, charter schools have enrolled more students from low-income families than the district high schools. Since 1998, enrollment of students from low-income families increased in the charter schools (while decreasing in the district), however, it has decreased in one: World Communications charter school. Unsurprisingly, this charter school requires parental involvement and does not provide food services. Franklin Towne also under-enrolls students from low-income families (by 13.7 percentage points) and it also requires parental involvement in the school. Surprisingly, Community Academy of Philadelphia and Multi-Cultural Academy over-enroll students from low-income families, yet they do not provide any food services.

Overall Summary and Conclusions

With few exceptions, there is very little segregation based on race and socio-economic background in the Philadelphia charter high schools. As hypothesized, charter schools that require parental involvement and do not provide food services enroll a significantly smaller percentage of minority and low-income students. No conclusive evidence exists to show that recruitment techniques influence the racial make-up of charter schools in Philadelphia. Charter schools that target "at-risk" students enroll a higher percentage of such students than the neighborhood schools and the district as a whole. The above conclusions could not have been drawn without comparing charter schools to the neighborhood public schools. If comparisons were only done for the district as a whole, the conclusion would have been that no segregation occurs at all in the Philadelphia charter schools. This is confirmation of the argument that in charter schools studies, comparisons should be done to neighborhood schools and not only to the districts as a whole.

DISTRICT-WIDE AND NEIGHBORHOOD QUALITY OF EDUCATION ANALYSIS

Quality of education is measured by three variables: teachers, classrooms, and the general characteristics of the school. Each variable contains sub-variables. Some of the tables below compare characteristics of charter schools to all schools in the Philadelphia school district only, as the Philadelphia Board of Education would not release information about individual schools.

Teachers

Quality of teachers is measured by four characteristics: level of education, years of experience, certification in teaching, and participation in high-quality induction and professional development programs. Because all teachers, in public and charter schools, must participate in induction and professional development programs, this data will not be tabulated. Moreover, information about the quality of such programs can only come from the participants, the teachers. This data was obtained from teacher interviews and is located in the detailed case studies section.

Table 2.1[1]
Teachers' Level of Education (2000-2001)

	Less than B.A. Deg.		Only a B.A. Degree		Only a M.A. Degree		Doctor's Deg.	
Charter School	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Architecture & Design	0	0.0%	10	55.6%	8	44.4%	0	0.0%
Center for Economics and Law	0	0.0%	12	66.7%	5	27.8%	1	5.6%
Community Academy of Phila.	0	0.0%	9	69.2%	4	30.8%	0	0.0%
Delaware Valley	0	0.0%	7	70.0%	2	20.0%	1	10.0%
Franklin Towne	3	12.5%	14	58.3%	6	25.0%	1	4.2%
Imhotep Institute	0	0.0%	16	76.2%	5	23.8%	0	0.0%
Mathematics, Civics, and Sciences	0	0.0%	31	70.5%	12	27.3%	1	2.3%
MaST Community	0	0.0%	45	88.2%	6	11.8%	0	0.0%
Multi-Cultural Academy	0	0.0%	6	85.7%	1	14.3%	0	0.0%
World Communications	0	0.0%	12	57.1%	9	42.9%	0	0.0%
Total	**3**	**1.3%**	**162**	**71.4%**	**58**	**25.6%**	**4**	**1.8%**
Philadelphia City School District	**1**	**0.0%**	**5,982**	**52.9%**	**5,293**	**46.8%**	**31**	**0.3%**
Difference		**-1.3%**		**-18.5%**		**21.3%**		**-1.5%**

Clearly, when it comes to the level of education, teachers at the schools in the Philadelphia school district show better quality than the teachers at the charter schools. Importantly, only 25.6% of the teachers at charter schools have obtained a Master's degree compared to 46.8% at the district public schools. Many scholars agree that a Master's degree is generally required to teach within one's field of study. A Master's degree cannot be obtained without a Bachelor's degree. Hence, to conclude that charter schools have better quality teachers based on the fact that 71.4% of charter school teachers have a Bachelor's degree compared to 52.9% of the teachers in the Philadelphia school district is a grave error. One must take into account the fact that almost all of the remaining Philadelphia school teachers have Master's degrees. Interestingly, when comparing the percentage of teachers with a doctor's degree, charter schools outperform the school district. However, on a much closer inspection, it is seen that there are only four teachers with doctorates in the charter school teachers' pool, and they all work at different charter schools. Conclusively, based on teachers' level of education, Philadelphia school district schools provide better quality teachers than charter schools.

Table 2.1a[2]
Teachers' Years of Experience and Certification (2000-2001)

	0-2 Years		3-10 Years		11 + Years		Avg. # of Yrs.	% Cert.
Charter School	**Number**	**%**	**Number**	**%**	**Number**	**%**		
Architecture & Design	18	72.0%	7	28.0%	0	0.0%		90.0%
Center for Economics and Law	7	41.2%	10	58.8%	0	0.0%	5	100.0%
Community Academy of Phila.	1	9.1%	8	72.7%	2	18.2%	6	85.0%
Delaware Valley	4	36.4%	2	18.2%	5	45.5%		63.0%
Franklin Towne	16	40.0%	20	50.0%	4	10.0%		75.0%
Imhotep Institute	4	14.3%	15	53.6%	9	32.1%		80.0%
Mathematics, Civics, and Sciences	NA	NA	NA	NA	NA	NA	5	78.0%
MaST Community	12	23.1%	30	57.7%	10	19.2%	7	77.0%
Multi-Cultural Academy	NA	NA	NA	NA	NA	NA		96.0%
World Communications	0	0.0%	22	100.0%	0	0.0%	5	100.0%
Total	**62**	**30.1%**	**114**	**55.3%**	**30**	**14.6%**	**6**	**75.4%**
Philadelphia City School District	**1,681**	**14.7%**	**4,162**	**36.3%**	**5,627**	**49.1%**	**10**	**100.0%**
Difference		**15.4%**		**19.1%**		**-34.5%**	**-4**	**-25%**

On all counts, the teachers at the School District of Philadelphia have more years of experiences than the teachers at the charter schools. For example, almost a third of all charter

schools have between 0 and 2 years of experience, compared to the 14% in the city school district. To make this point more striking, almost half the teachers in the district public schools have more than 11 years of experience, compared to only 14.6% charter school teachers. 100% of all teachers teaching for Philadelphia district schools must be certified. By law, only 75% of the teachers have to be certified at charter schools. The above table shows that, overall, charter schools only meet their minimum requirements. Only two charter schools have a staff of 100% certified teachers, and most charter schools are in the 75% to 90% range. Conclusively, when it comes to years of experience, teachers at the district public schools demonstrate higher quality than their counterparts at charter schools.

Classrooms

The quality of the classrooms is measured by the following characteristics: course content, average class size, and student-computer ratio. Access to the Internet cannot be substantially measured as some schools have computer labs and other have a computer in every classroom; it is impossible to assess which set-up provides easier access to the Internet. However, data was obtained from three schools on how many of their computers have Internet access. The data is provided below, however, the reader should keep the above cautions in mind. An evaluation of course content cannot be evaluated in a tabular fashion and such information comes best from the teachers. This data was obtained from teacher interviews and is located in the detailed case studies section.

Table 2.2a[3]
Average Class Size (2001-2002)
Based on the Average 10th Grade English Class Size

Charter School	Average Class Size	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Architecture & Design	25	32	-7	31	-6
Center for Economics and Law	NA	32	NA	31	NA
Community Academy of Phila.	28	30	-2	31	-3
Delaware Valley	NA	32	NA	31	NA
Franklin Towne	25	27	-2	31	-6
Imhotep Institute	NA	29	NA	31	NA
Mathematics, Civics, and Sciences	20	30	-10	31	-11
MaST Community	18	31	-13	31	-13
Multi-Cultural Academy	NA	32	NA	31	NA
World Communications	19	30	-11	31	-12
Totals & Averages	**23**	**30**	**-8**	**31**	**-9**

Clearly, charter schools have much smaller class sizes than the Philadelphia public high schools. Average class sizes in the above charter schools are three-fourths the average class size in the neighborhood schools and the schools in the district as a whole. With a significant class reduction such as this one, it appears that when it comes to class sizes, charter schools provide a higher quality education than the district public schools.

Table 2.2b[4]
Student-Computer Ratio (2000-2001)

Charter School	School Enrollment	Number of Computers	Ratio	Neighborhood Schools' Ratio	Diff.	District Weighed Average	Diff.
Architecture & Design	355	30	11.8	6.3	46.6%	8.6	27.3%
Center for Economics and Law	375	25	15.0	6.1	59.3%	8.6	42.7%
Community Academy of Phila.	270	23	11.7	NA	NA	8.6	26.7%
Delaware Valley	350	20	17.5	4.8	72.4%	8.6	50.9%
Franklin Towne	686	100	6.9	7.7	-12.6%	8.6	-25.4%
Imhotep Institute	400	100	4.0	9.8	-144.4%	8.6	-115.0%
Mathematics, Civics, and Sciences	840	NA	NA	7.1	NA	8.6	NA
MaST Community	1,000	130	7.7	4.6	39.9%	8.6	-11.8%
Multi-Cultural Academy	175	27	6.5	6.3	2.9%	8.6	-32.7%
World Communications	450	125	3.6	5.4	-51.1%	8.6	-138.9%
Total	**4,901**	**580**	**6.7**	**6.4**	**4.5%**	**8.6**	**-28.4%**

At first glance (after only looking at the totals), charter schools appear to have a lower student-computer ratio than the district public schools. However, on an individual charter school comparison to the district as a whole, only 5 of the 9 charter schools have a lower student-computer ratio. Of these 5, only 3 charter schools have a lower student-computer ratio than their neighborhood schools. Thus, when it comes to student-computer ratios, overall, charter schools provide the same quality of education as the district public schools.

Table 2.2c[5]
Student-Computers With Internet Access Ratio (1999-2000)

Charter School	School Enrollment	Number of Computers With Internet Access	Ratio	Neighborhood Schools' Ratio	Diff.	District Weighed Average	Diff.
Center for Economics and Law	375	22	17.0	7.3	57.1%	11.6	31.9%
Community Academy of Phila.	270	10	27.0	NA	NA	11.6	57.0%
MaST Community	1,000	115	8.7	5.5	36.2%	11.6	-33.4%
Total	**1,645**	**147**	**11.2**	**6.4**	**88.5%**	**11.6**	**-3.7%**

Because the data is very limited and is two years old, it is difficult to draw many conclusions from this table. However, two observations can be made. First, the above charter schools have higher ratios than their neighborhood high schools, thus, providing a lower quality education. Second, the difference in ratios between the charter schools and the district as a whole is statistically insignificant (0.4 points); the two ratios are almost the same. However, since this study is more focused neighborhood schools comparison, from the above table, it can be concluded that in terms of providing computers with Internet access, the district schools provide a higher quality education.

School

The quality of the school is measured by the following characteristics: the relationship between teachers and the administration, discipline (percent of students suspended), academic organization (graduation requirements and academic programs), and student-guidance ratio. Data on the relationship between teachers and the administration and academic organization

could only substantially be obtained from interviews and school visits, respectively. This data is located in the detailed case studies section.

Table 2.3a[6]
Percentage of Students Suspended During the Year (1999-2000)

Charter School	High School Enrollment	Suspension Rate	Number of Suspensions	Neighborhood Schools' Weighed Rate	Diff.	District Weighed Average	Diff.
Center for Economics and Law	375	5.6%	21	34.5%	-28.9%	27.4%	-21.8%
Community Academy of Phila.	270	17.8%	48	36.5%	-18.7%	27.4%	-9.6%
MaST Community	1,000	4.0%	40	29.5%	-25.5%	27.4%	-23.4%
Total & Averages	**1,645**	**6.6%**	**109**	**33.5%**	**-26.9%**	**27.4%**	**-20.8%**

Because the data is very limited and is two years old, it is difficult to draw many conclusions from this table. However, one main conclusion can be drawn: the percentage of students suspended in this sample of charter schools is significantly lower than the public high schools in their neighborhood and the district as a whole. Clearly, these three schools seem to provide a much safer environment for learning than the public schools.

Table 2.3b[7]
Student-Guidance Ratio (2001-2002)

Charter School	Ratio	Neighborhood Schools' Average Ratio	% Diff.	District Ratio	%Diff.
Architecture & Design	178	631	56.0%	472	45.2%
Center for Economics and Law	178	537	50.2%	472	45.2%
Community Academy of Phila.	104	425	60.6%	472	63.9%
Delaware Valley	58	504	79.4%	472	78.1%
Franklin Towne	228	463	34.0%	472	34.9%
Imhotep Institute	133	420	51.9%	472	56.0%
Mathematics, Civics, and Sciences	420	400	-2.4%	472	5.8%
MaST Community	218	462	35.9%	472	36.8%
Multi-Cultural Academy	175	422	41.4%	472	45.9%
World Communications	122	544	63.4%	472	58.9%
Totals & Averages	**181**	**481**	**45.2%**	**472**	**44.5%**

Clearly, when it comes to student-guidance ratios, charter schools overall provide a better quality education. All but one charter school had a lower student-guidance ratio than their neighborhood public high schools. Moreover, the percent differences between the charter and

neighborhood public school ratios are astounding, ranging from 35% to 79%. When compared to the district, the numbers are also very high, up to 78%. Conclusively, in terms of providing students guidance, charter schools provide a better quality education.

Overall Summary and Conclusions

The following chart summarizes the above findings in quality of education in charter school in relation to the Philadelphia district schools. The charter school results for each category (higher, lower, or same as neighborhood and district schools) were assigned a numerical value. While there is some argument regarding the relative weight of these characteristics, after speaking with public school educators and conducting on-site observations, numerical values were assigned to the characteristics. The values add up to 100, and each major category is about a one-third of the "pie."

Teachers account for the largest piece (38%) of the pie because they come in contact directly with the students and teach them the material Within this category, level of education and years of experience count more than certification and professional development because a highly educated teacher is more knowledgeable about the material and more years of experience help make a more effective teacher after years of learning from mistakes. The school category is the second largest (38%) because the surrounding environment has a great impact on the quality of education. Within this category, academic organization and discipline count more than the relationship between teachers and the administration and the student-guidance ratio. This is because higher graduation requirements and expectations help students work harder and, hopefully, achieve more; discipline is important because learning cannot take place in a disrupting environment. The smallest piece (28%) of the overall pie is the classrooms category. Within this category, course content and class size count more than technology because course content is a measure of what students learn and the average class size shows the individual attention that a student receives; technology is not essential to most courses and is mostly used only in math and science courses. Overall, there is not much difference between the relative weights because different arguments can be made for why each

of the variables should count more than others. The totals line gives the general summary of the quality of education.

	Higher	Lower	Same
Teachers (38)			
Level of Education (11)		11	
Years of Experience (11)		11	
Certification (8)		8	
Professional Development (8)	NA	NA	NA
Classrooms (28)			
Focused Course Content (11)	NA	NA	NA
Average Class Size (11)	11		
Student-Computer Ratio (3)			3
Student-Computer w/ Internet Ratio (3)		3	
School (34)			
Teachers and Administration Rel. (7)	NA	NA	NA
Discipline (8)	8		
Academic Organization (12)	NA	NA	NA
Student-Guidance Ratio (7)	7		
Total Points (NA=38)	26	33	3

From the above chart and data, it is unclear whether or not charter schools provide a higher quality of education because information was not available for 4 of the variables: professional development, focused course content, the relationship between teachers and administration, and the academic organization. The information for these variables can only be substantially obtained from teacher interviews and charter schools visits. However, from the data that is available in the above table, charter schools, overall, seem to provide a somewhat lower quality of education than the Philadelphia district schools. It is important to note that this is not a final conclusion as 38 points are not accounted for and the difference of lower to higher quality is only 7 points. However, even without the available data, one conclusion can be drawn: overall, the quality of the teachers is substantially lower in charter schools than the Philadelphia school district. The detailed case studies section will provide more definite conclusions.

DISTRICT-WIDE AND NEIGHBORHOOD ACADEMIC ACHIEVEMENT ANALYSIS

Academic achievement is measured by three variables: standardized test scores, dropout rates, and post-graduation activities.

Standardized Test Scores

Two test scores are used as basis for comparison: the annual PSSA (Pennsylvania System of School Achievement) test and the SAT I: Reasoning Test administered by the College Board. The PSSA measures math, reading, and writing ability of 11th graders, and the SAT measures the math and reading abilities of college-bound students. If data was provided for more than one year, a percent change in test scores is also calculated for the purposes of assessing growth or decline in test scores.

PSSA (Pennsylvania System of School Achievement)

All data, except where noted, is from the 2000-2001 school year test cycle. In summary, Advanced and Proficient are good results, and Basic and Below Basic are unsatisfactory results. For more detailed definitions of results reported in the table, please see the Research Design section. Data for the Mathematics, Civics, and Sciences Charter School of Philadelphia is unavailable because its 11th grade was only added in the fall of 2001.

Mathematics

The data in the following tables is from the 11th grade results of the PSSA.

Table 3.1a[1]
Charter Schools' Math Results (2000-2001)

Charter School	% Advanced Math	% Proficient Math	% Basic Math	% Below Basic Math
Architecture & Design	0.0	12.1	19.0	69.0
Center for Economics and Law	1.7	0.0	22.0	76.3
Community Academy of Phila.	0.0	12.1	12.1	75.8
Delaware Valley	0.0	3.1	3.1	93.8
Franklin Towne	0.0	8.9	19.6	71.4
Imhotep Institute	0.0	1.4	9.5	89.2
MaST Community	0.0	4.5	40.9	54.5
Multi-Cultural Academy	0.0	9.4	25.0	65.6
World Communications	0.0	30.3	36.4	33.3
Averages	**0.2**	**9.1**	**20.8**	**69.9**

Table 3.1b[2]
Neighborhood Schools' Math Weighed Average Results (2000-2001)

Charter School	% Advanced Math	% Proficient Math	% Basic Math	% Below Basic Math
Architecture & Design	3.1	7.6	16.7	72.6
Center for Economics and Law	0.2	4.1	14.2	81.5
Community Academy of Phila.	0.3	3.7	13.0	83.1
Delaware Valley	0.2	3.6	12.9	83.4
Franklin Towne	1.6	12.0	18.7	67.7
Imhotep Institute	28.8	28.6	17.0	35.4
Mathematics, Civics, and Sciences	9.3	23.1	26.9	40.7
MaST Community	29.0	27.8	15.9	27.3
Multi-Cultural Academy	7.1	8.9	21.4	62.5
Averages	**8.8**	**13.3**	**17.4**	**61.6**

From the above tables, it is clear that charter schools, overall, scored lower on the math portion of the PSSA than the district public schools. More exactly, an average of only 9.3% of all charter school students scored Advanced or Proficient, compared to 22.1% for the district schools, respectively. Moreover, an average of 90.7% of all charter school students scored Basic or Below Basic, compared to 79% for the district schools, respectively. Conclusively, when it comes to math scores on the PSSA, the charter schools, overall, have lower academic achievement than the district schools.

Table 3.1c[3]
Difference in Percentage Points Between Charter Schools and the Neighborhood Schools' Weighed Average Results (2000-2001)
(Formula: Charter School Result – Neighborhood School Result)

Charter School	% Advanced Math	% Proficient Math	% Basic Math	% Below Basic Math
Architecture & Design	-3.1	4.5	2.3	-3.6
Center for Economics and Law	1.5	-4.1	7.8	-5.2
Community Academy of Phila.	-0.3	8.4	-0.9	-7.3
Delaware Valley	-0.2	-0.5	-9.8	10.4
Franklin Towne	-1.6	-3.1	0.9	3.7
Imhotep Institute	-28.8	-27.2	-7.5	53.8
Mathematics, Civics, and Sciences	-9.3	-18.6	14.0	13.8
MaST Community	-29.0	-18.4	9.1	38.3
Multi-Cultural Academy	-7.1	21.4	15.0	-29.2
Averages	**-8.6**	**-4.2**	**3.4**	**8.3**

Table 3.1d[4]
Difference in Percentage Points Between Charter Schools and the District Schools' Average Results (2000-2001)
(Formula: Charter School Result – District Result)

Charter School	% Advanced Math	% Proficient Math	% Basic Math	% Below Basic Math
Architecture & Design	-7.8	-2.0	-2.1	12.0
Center for Economics and Law	-6.1	-14.1	0.9	19.3
Community Academy of Phila.	-7.8	-2.0	-9.0	18.8
Delaware Valley	-7.8	-11.0	-18.0	36.8
Franklin Towne	-7.8	-5.2	-1.5	14.4
Imhotep Institute	-7.8	-12.7	-11.6	32.2
Mathematics, Civics, and Sciences	-7.8	-9.6	19.8	-2.5
MaST Community	-7.8	-4.7	3.9	8.6
Multi-Cultural Academy	-7.8	16.2	15.3	-23.7
Averages	**-7.6**	**-5.0**	**-0.3**	**12.9**

The above two tables show by how much (the difference in percentage points) the charter schools scored higher and/or lower than the neighborhood and the district schools. They also reveal more interesting results. For example, in comparison to the neighborhood schools, 4 charter schools had higher percentages of students with scores of Advanced and/or Proficient. Moreover, 7 charter schools had lower percentages of students with scores of Basic and/or

Below Basic when compared to the neighborhood schools. In comparisons with the district as a whole, only 1 charter school had a higher percentage of students with a score of Proficient (there were no higher proportion of scores with Advanced). Conclusively, after combining the above information, charter school students have lower academic achievement than their neighborhood and district counterparts when comparing the differences in Math scores on the PSSA.

Reading

The data in the following tables is from the 11th grade results of the PSSA.

Table 3.2a[5]
Charter Schools' Reading Results (2000-2001)

Charter School	% Advanced Reading	% Proficient Reading	% Basic Reading	% Below Basic Reading
Architecture & Design	0.0	24.1	37.9	37.9
Center for Economics and Law	1.7	16.7	38.3	43.3
Community Academy of Phila.	6.1	15.2	42.4	36.4
Delaware Valley	0.0	10.7	3.6	85.7
Franklin Towne	1.7	24.1	25.9	48.3
Imhotep Institute	1.4	21.1	28.2	49.3
MaST Community	0.0	18.2	63.6	18.2
Multi-Cultural Academy	0.0	15.6	56.3	28.1
World Communications	3.1	43.8	37.5	15.6
Averages	**1.6**	**21.1**	**37.1**	**40.3**

Table 3.2b[6]
Neighborhood Schools' Reading Weighed Average Results (2000-2001)

Charter School	% Advanced Reading	% Proficient Reading	% Basic Reading	% Below Basic Reading
Architecture & Design	0.6	10.8	22.7	65.9
Center for Economics and Law	0.2	8.7	14.0	77.0
Community Academy of Phila.	0.3	7.7	21.7	70.3
Delaware Valley	0.0	9.8	22.2	67.9
Franklin Towne	1.1	18.0	25.4	55.5
Imhotep Institute	18.0	42.9	13.2	26.0
MaST Community	6.4	32.6	28.5	32.4
Multi-Cultural Academy	19.3	45.0	13.2	22.5
World Communications	1.0	12.4	26.7	60.0
Averages	**5.2**	**20.9**	**20.9**	**53.1**

From the above tables, it is clear that charter schools, overall, scored a little lower on the reading portion of the PSSA than the district public schools. More exactly, an average of only 22.7% of all charter school students scored Advanced or Proficient, compared to 26.1% for the district schools, respectively. Moreover, an average of 77.4% of all charter school students scored Basic or Below Basic, compared to only 74% for the district schools, respectively. It is also interesting to note that charter school students scored much better on the reading section of the PSSA than the math section. However, when it comes to reading scores on the PSSA, the charter schools, overall, have a somewhat lower academic achievement than the district schools.

Table 3.2c[7]
Difference in Percentage Points Between Charter Schools and the Neighborhood Schools' Weighed Average Results (2000-2001)
(Formula: Charter School Result – Neighborhood School Result)

Charter School	% Advanced Reading	% Proficient Reading	% Basic Reading	% Below Basic Reading
Architecture & Design	-0.6	13.3	15.2	-28.0
Center for Economics and Law	1.5	8.0	24.3	-33.7
Community Academy of Phila.	5.8	7.5	20.7	-33.9
Delaware Valley	0.0	0.9	-18.6	17.8
Franklin Towne	0.6	6.1	0.5	-7.2
Imhotep Institute	-16.6	-21.8	15.0	23.3
MaST Community	-6.4	-14.4	35.1	-14.2
Multi-Cultural Academy	-19.3	-29.4	43.1	5.6
World Communications	2.1	31.4	10.8	-44.4
Averages	**-3.7**	**0.2**	**16.2**	**-12.8**

Table 3.2d[8]
Difference in Percentage Points Between Charter Schools and the District Schools' Average Results (2000-2001)
(Formula: Charter School Result – District Result)

Charter School	% Advanced Reading	% Proficient Reading	% Basic Reading	% Below Basic Reading
Architecture & Design	-5.8	-1.2	15.5	-8.5
Center for Economics and Law	-4.1	-8.6	15.9	-3.1
Community Academy of Phila.	0.3	-10.1	20.0	-10.0
Delaware Valley	-5.8	-14.6	-18.8	39.3
Franklin Towne	-4.1	-1.2	3.5	1.9
Imhotep Institute	-4.4	-4.2	5.8	2.9
MaST Community	-5.8	-7.1	41.2	-28.2
Multi-Cultural Academy	-5.8	-9.7	33.9	-18.3
World Communications	-2.7	18.5	15.1	-30.8
Averages	**-4.3**	**-4.3**	**14.6**	**-6.1**

The above two tables show by how much (the difference in percentage points) the charter schools scored higher and/or lower than the neighborhood and the district schools on the reading section of the PSSA. However, by looking at individual schools, more information is revealed. For example, in comparison to the neighborhood schools, 7 charter schools had higher percentages of students with scores of Advanced and/or Proficient. Moreover, 7 charter

schools had lower percentages of students with scores of Basic and/or Below Basic when compared to the neighborhood schools. This seems to be a sign of higher academic achievement as 6 charter schools had a much lower percentage (28, 33.7, 33.9, 7.2, 14.2, 44.4 points) of students scoring Below Basic. In comparisons with the district as a whole, only 2 charter schools had a higher percentage of students with a score of Advanced and/or Proficient, and 7 had a lower percentage of students with a score of Basic and/or Below Basic. This seems to be a sign of higher academic achievement as 6 charter schools had a much lower percentage (28, 33.7, 33.9, 7.2, 14.2, 44.4 points) of students scoring Below Basic. Conclusively, after combining the above information, charter school students have a higher academic achievement than their neighborhood and district counterparts when comparing the differences in Reading scores on the PSSA.

Numerical Scores

The PSSA also measures the Math and Reading levels in numerical scores and assigns an average numerical score to each school. Two years of data (1999-2000 and 2000-2001) is available for this data set. Hence, the change in total scores from one year to the next will also be compared between charter and district schools. Detailed definitions of Advanced, Proficient, Basic, and Below Basic are found in the Research Design section.

Explanation of Numerical Scores[9]

	ADVANCED	PROFICIENT	BASIC	BELOW BASIC
MATH	1490 +	1310 – 1489	1180 – 1309	1179 -
READING	1520 +	1290 – 1519	1140 – 1289	1139 -

Table 3.3a[10]
Charter Schools' Math Scores (1999-2000)

Charter School	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Architecture & Design	1110	992	11.9%	1156	-4.0%
Center for Economics and Law	1060	1044	1.6%	1156	-8.3%
Community Academy of Phila.	1110	1046	6.1%	1156	-4.0%
Delaware Valley	NA	1070	NA	1156	NA
Franklin Towne	NA	1098	NA	1156	NA
Imhotep Institute	1050	1331	-21.1%	1156	-9.2%
MaST Community	1130	1190	-5.0%	1156	-2.2%
Multi-Cultural Academy	1060	1334	-20.5%	1156	-8.3%
World Communications	1100	1130	-2.7%	1156	-4.8%
Totals & Averages	**1089**	**1137**	**-4.3%**	**1156**	**-5.8%**

Table 3.3b[11]
Charter Schools' Reading Scores (1999-2000)

Charter School	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Architecture & Design	1130	1030	9.7%	1119	1.0%
Center for Economics and Law	1000	1000	0.0%	1119	-10.6%
Community Academy of Phila.	1090	1023	6.5%	1119	-2.6%
Delaware Valley	NA	1018	NA	1119	NA
Franklin Towne	NA	1059	NA	1119	NA
Imhotep Institute	1030	1286	-19.9%	1119	-8.0%
MaST Community	1130	1150	-1.7%	1119	1.0%
Multi-Cultural Academy	1070	1296	-17.4%	1119	-4.4%
World Communications	1090	1050	3.8%	1119	-2.6%
Totals & Averages	**1077**	**1101**	**-2.2%**	1119	**-3.7%**

In the 1999-2000 PSSA test cycle, charter schools, overall, performed somewhat lower than their neighborhood and district-wide schools. The percent differences in scores ranged from 2.2% to 5.8%. In more detail, 3 charter schools scored higher in math than their neighborhood schools; none scored higher when compared to the district as a whole. Again, 3 charter schools scored higher in reading than their neighborhood schools; but 2 scored higher when compared to the district as a whole. Two charter schools scored much lower than their neighborhood schools in math and reading, by 21.1%, 20.5% and 19.9%, 17.4%, respectively. These large numbers would have been masked if the comparisons were only made with the district-wide

scores. This supports the point that charter schools studies should compare charter schools to their neighborhood schools and not only to district-wide scores. Also, as can be seen from the tables, all of the charter schools, for math and reading, scored Below Basic. Only 2 neighborhood averages provided scores of Proficient in Math, and 1 in Reading, all the other averages were Basic and/or Below Basic. It appears that the district schools are the lesser of two evils. Conclusively, charter schools, overall, had somewhat lower academic achievement than their neighborhood and district-wide schools on the 1999-2000 PSSA.

Table 3.3c[12]
Charter Schools' Math Scores (2000-2001)

Charter School	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Architecture & Design	1140	1169	-2.4%	1179	-3.3%
Center for Economics and Law	1110	1070	3.7%	1179	-5.9%
Community Academy of Phila.	1110	1077	3.1%	1179	-5.9%
Delaware Valley	1030	1075	-4.2%	1179	-12.6%
Franklin Towne	1130	1126	0.4%	1179	-4.2%
Imhotep Institute	1070	1343	-20.4%	1179	-9.2%
MaST Community	1150	1240	-7.3%	1179	-2.5%
Multi-Cultural Academy	1130	1370	-17.5%	1179	-4.2%
World Communications	1220	1160	5.2%	1179	3.5%
Totals & Averages	**1121**	**1181**	**-5.1%**	**1179**	**-4.9%**

Table 3.3d[13]
Charter Schools' Reading Scores (2000-2001)

Charter School	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Architecture & Design	1170	1088	7.5%	1168	0.2%
Center for Economics and Law	1150	1020	12.7%	1168	-1.5%
Community Academy of Phila.	1190	1050	13.4%	1168	1.9%
Delaware Valley	970	1060	-8.5%	1168	-17.0%
Franklin Towne	1150	1108	3.8%	1168	-1.5%
Imhotep Institute	1130	1318	-14.3%	1168	-3.3%
MaST Community	1220	1220	0.0%	1168	4.5%
Multi-Cultural Academy	1200	1343	-10.6%	1168	2.7%
World Communications	1280	1110	15.3%	1168	9.6%
Totals & Averages	**1162**	**1146**	**1.4%**	**1168**	**-0.5%**

In the 2000-2001 PSSA cycle, charter schools, overall, scored lower than the district schools. The increase and/or decrease of the scores will be explained in the next charts. For this year, the percent differences ranged from .5% to 5.1%. In more detail, in math, only 4 charter schools scored higher than their neighborhood schools and in reading, 5 charter schools scored higher than their neighborhood schools. When compared to the district as a whole, only 1 charter school scored higher in math, and only 5 scored higher in reading. As in the previous year, charter schools do much better than district schools in reading than in math. For example, when compared to the neighborhood schools, charter schools' higher scores ranged from 0.4% to 5.2% difference in math, but in reading, the scores ranged from 7.5% to 15.3%. As in the analysis of the previous year, the above numbers would not have been obtained had the schools been compared to only district-wide scores. These test results indicate that charter schools do not "cream off" the best students form the district schools. In fact, the lower test scores in all likelihood indicate that the quality of the students is lower at the charter school than at the district schools. Based on the above, charter schools, overall, had somewhat lower academic achievement than their neighborhood and district-wide schools on the 2000-2001 PSSA.

Growth in Academic Achievement

Using the 1999-2000 and the 2000-2001 PSSA test scores, it is now possible to compare test scores from these two years.

Table 3.4a[14]
Charter Schools' Math Scores (1999-2000 and 2000-2001)

	1999-2000			2000-2001		
Charter School	**Score**	**Neighborhood Schools Weighed Average**	**District Weighed Average**	**Score**	**Neighborhood Schools Weighed Average**	**District Weighed Average**
Architecture & Design	1110	992	1156	1140	1169	1179
Center for Economics and Law	1060	1044	1156	1110	1070	1179
Community Academy of Phila.	1110	1046	1156	1110	1077	1179
Delaware Valley	NA	1070	1156	1030	1075	1179
Franklin Towne	NA	1098	1156	1130	1126	1179
Imhotep Institute	1050	1331	1156	1070	1343	1179
MaST Community	1130	1190	1156	1150	1240	1179
Multi-Cultural Academy	1060	1334	1156	1130	1370	1179
World Communications	1100	1130	1156	1220	1160	1179
Totals & Averages	**1089**	**1137**	**1156**	**1121**	**1181**	**1179**

Table 3.4b[15]
% Difference in Math Scores from 1999-2000 to 2000-2001

Charter School	**Score**	**Neighborhood Schools' Weighed Average**	**% Diff.**	**District Weighed Average**	**% Diff.**
Architecture & Design	2.7%	17.9%	-15.1%	2.0%	0.7%
Center for Economics and Law	4.7%	2.6%	2.1%	2.0%	2.7%
Community Academy of Phila.	0.0%	2.9%	-2.9%	2.0%	-2.0%
Delaware Valley	NA	0.5%	NA	2.0%	NA
Franklin Towne	NA	2.5%	NA	2.0%	NA
Imhotep Institute	1.9%	1.0%	0.9%	2.0%	-0.1%
MaST Community	1.8%	4.2%	-2.4%	2.0%	-0.2%
Multi-Cultural Academy	6.6%	2.7%	3.9%	2.0%	4.6%
World Communications	10.9%	2.7%	8.3%	2.0%	8.9%
Totals & Averages	**3.0%**	**3.9%**	**-0.9%**	**2.0%**	**1.0%**

An overview of the change in math scores from the 1999-2000 to 2000-2001 PSSA test scores shows an increase in the scores for charter schools (3.0%), the neighborhood schools (3.9%), and the district as a whole (2.0%). The totals and averages show that charter schools' scores increased less than their neighborhood schools, but more than the district as a whole. Only 4 of the 7 seven charter schools increased their scores more than the neighborhood schools, and the same 4 schools had larger score increases than the district as a whole. Score increases ranged from 0.9% to 8.3% for the neighborhood comparison, and from 0.7 to 8.9% for the district

comparison. Conclusively, in math, charter schools had slightly higher score increases than the district schools that showed a modest increase in academic achievement.

Table 3.4c[16]
Charter Schools' Reading Scores (1999-2000 and 2000-2001)

	1999-2000			2000-2001		
Charter School	**Score**	**Neighborhood Schools Weighed Average**	**District Weighed Average**	**Score**	**Neighborhood Schools Weighed Average**	**District Weighed Average**
Architecture & Design	1130	1030	1119	1170	1088	1168
Center for Economics and Law	1000	1000	1119	1150	1020	1168
Community Academy of Phila.	1090	1023	1119	1190	1050	1168
Delaware Valley	NA	1018	1119	970	1060	1168
Franklin Towne	NA	1059	1119	1150	1108	1168
Imhotep Institute	1030	1286	1119	1130	1318	1168
MaST Community	1130	1150	1119	1220	1220	1168
Multi-Cultural Academy	1070	1296	1119	1200	1343	1168
World Communications	1090	1050	1119	1280	1110	1168
Totals & Averages	**1077**	**1101**	1119	**1162**	**1146**	**1168**

Table 3.4d[17]
% Difference in Reading Scores from 1999-2000 to 2000-2001

Charter School	**Score**	**Neighborhood Schools' Weighed Average**	**% Diff.**	**District Weighed Average**	**% Diff.**
Architecture & Design	3.5%	5.7%	-2.1%	4.4%	-0.8%
Center for Economics and Law	15.0%	2.0%	13.0%	4.4%	10.6%
Community Academy of Phila.	9.2%	2.6%	6.6%	4.4%	4.8%
Delaware Valley	NA	4.1%	NA	4.4%	NA
Franklin Towne	NA	4.7%	NA	4.4%	NA
Imhotep Institute	9.7%	2.5%	7.2%	4.4%	5.3%
MaST Community	8.0%	6.1%	1.9%	4.4%	3.6%
Multi-Cultural Academy	12.1%	3.6%	8.5%	4.4%	7.8%
World Communications	17.4%	5.7%	11.7%	4.4%	13.1%
Totals & Averages	**7.9%**	**4.1%**	**3.8%**	**4.4%**	**3.5%**

Clearly, the reading scores of charter school students increased significantly higher than those of the district students. 6 of the 7 charter schools had higher score increases than the neighborhood schools and the district as a whole. For comparison with the neighborhood schools, increases ranged from 1.9% to 13.0%; for the district as a whole, the range was 3.6%

to 13.1%. All charter schools had increases in reading scores and these ranged from 3.5% to 17.4%. While the test questions changed, the PSSA for reading still tested the same skills. However, the content of the test is not as important as the higher rise in test scores for charter schools than district schools. Conclusively, in reading, charter schools had much higher score increases than the district schools that showed a very significant increase in student achievement.

Writing

The data in the following tables is from the 11th grade results of the PSSA.

Explanation of Numerical Scores[18]

ADVANCED	PROFICIENT	BASIC	BELOW BASIC
1563 +	1236 - 1562	1088 - 1235	1087 -

Table 3.5a[19]
Writing Scores and % Point Differences (2000-2001)

Charter School and Grades Served	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Architecture & Design (9-12)	1180	1050	12.4%	1186	-0.5%
Center for Economics and Law (9-12)	1180	1104	6.9%	1186	-0.5%
Community Academy of Phila. (6-12)	1150	1049	9.6%	1186	-3.0%
Delaware Valley (9-12)	1020	1074	-5.0%	1186	-14.0%
Franklin Towne (9-12)	1220	1137	7.3%	1186	2.9%
Imhotep Institute (9-12)	1220	1309	-6.8%	1186	2.9%
MaST Community (K-12)	1280	1240	3.2%	1186	7.9%
Multi-Cultural Academy (9-12)	1230	1341	-8.3%	1186	3.7%
World Communications (6-12)	1350	1120	20.5%	1186	13.8%
Totals & Averages	**1203**	**1158**	**3.9%**	**1186**	**1.5%**

When it comes to scores on the writing portion of the PSSA, charter schools clearly outperform their neighborhood and district schools. 6 out of 9 charter schools had higher scores than their neighborhood schools, and 5 had higher scores than the district as a whole. When comparing to the neighborhood schools, charter schools' scores showed a higher percentage that ranged from 3.2% to 20.5%. Lower scoring charter schools had scores that

ranged from 5.0% to 8.3% lower than the neighborhood schools. Clearly and conclusively, charter schools showed higher academic achievement than the district schools in the writing portion of the PSSA.

SAT I: Reasoning Test

Table 3.6a[20]
SAT I: Verbal Scores (2000-2001)

Charter School	Average Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Community Academy of Phila.	490	336	32%	406	17%
MaST Community	460	425	8%	406	12%
World Communications	550	326	41%	406	26%
Totals & Averages	**500**	**362**	**28%**	**406**	**19%**

Table 3.6b[21]
SAT I: Math Scores (2000-2001)

Charter School	Average Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Community Academy of Phila.	390	361	7%	407	-4%
MaST Community	610	450	41%	407	33%
World Communications	500	401	25%	407	19%
Totals & Averages	**500**	**404**	**25%**	**407**	**19%**

Table 3.6c[22]
SAT I: Total Scores (2000-2001)

Charter School	Average Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Community Academy of Phila.	880	697	21%	813	8%
MaST Community	1,070	875	18%	813	24%
World Communications	1,050	727	31%	813	23%
Totals & Averages	**1,000**	**766**	**23%**	**813**	**19%**

Unfortunately, only 3 charter schools provided their average SAT scores in *The Philadelphia Inquirer*. Numerous calls to the individual schools and the College Board, the agency that

administers the SAT, resulted in denials of access to the information. However, from the 3 charter schools that did provide their SAT scores, it is clear from the above tables that the charter schools outperform their neighborhood schools and the district as a whole. The total scores for charter schools were higher by an average of 23% when compared to the neighborhood schools and 19% when compared to the district as a whole. Conclusively, for the 3 above charter schools, academic achievement is higher than for the district schools.

Dropout Rates

The Pennsylvania Department of Education gives the following definition of a dropout: "a student who, for any reason other than death, leaves school before graduation without transferring to another school/institution."[23] The dropout rate is defined as "an annual or 'event' rate that measures the proportion of students enrolled who dropout during a single school year. The total number of dropouts for the school year is divided by the fall enrollment for the same year."[24]

Table 3.7[25]
Dropout Rates for Grades 7 to 12 (1999-2000)

Charter School and Grades Served	Dropout Rate (%)	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Architecture & Design (9-12)	0.5%	16.4%	-15.9%	11.1%	-10.6%
Center for Economics and Law (9-12)	0.0%	13.4%	-13.4%	11.1%	-11.1%
Community Academy of Phila. (6-12)	0.8%	9.3%	-8.5%	11.1%	-10.3%
Imhotep Institute (9-12)	10.0%	10.3%	-0.3%	11.1%	-1.1%
Mathematics, Civics, and Sciences (1-11)	0.0%	1.0%	-1.0%	11.1%	-11.1%
MaST Community (K-12)	1.1%	50.0%	-48.9%	11.1%	-10.0%
Multi-Cultural Academy (9-12)	1.3%	12.5%	-11.2%	11.1%	-9.8%
World Communications (6-12)	0.0%	18.0%	-18.0%	11.1%	-11.1%
Total & Averages	**1.7%**	**16.4%**	**-14.7%**	**11.1%**	**-9.4%**

From the above table, it is clear that the charter schools' dropout rates are much lower than those of the neighborhood schools and district as a whole. Most charter school rates were at 1% or below; only 1 school had a dropout rate of 10%. For the neighborhood schools, the dropout rates ranged from 9.3% to 50.0%; only 1 neighborhood average had 1.0%.

Conclusively, in terms of dropout rates, charter schools have higher academic achievement than the district schools.

Post-Graduation Activities

High academic achievement consists of post-graduation activities that include a high percentage of students going to college and a high percentage of students planning to go to college.

Table 3.8a[26]
Percentage of Graduates Going to a PA Community College, PA Private 2-Year College, PA Private 4-Year College, or a Non-PA 4-Year College (1999-2000)

Charter School	Total Number of Graduates	Number From Charter School	% From Charter School	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Community Academy of Phila.	40	10	25%	51.7%	-26.7%	67.8%	-42.8%
Imhotep Institute	4	4	100%	78.5%	21.5%	67.8%	32.2%
MaST Community	2	2	100%	72.5%	27.5%	67.8%	32.2%
Multi-Cultural Academy	11	10	91%	80.8%	10.1%	67.8%	23.1%
Totals & Averages	**57**	**26**	**79%**	**70.9%**	**8.1%**	**67.8%**	**11.2%**

Out of the 4 charter schools above, 3 have higher percentages of graduates going to college than their neighborhood and district schools. The neighborhood schools' weighed averages for Imhotep Institute and Multi-Cultural Academy are about 10% points higher than the district average because the neighborhood schools include special admissions district high schools (i.e. Central H.S. and Girls H.S.). However, the use of special admissions district schools is valid because the charter schools are competing with these schools as well. When compared to the neighborhood schools, the percentages for charter school graduates are higher by 21.5%, 27.5%, and 10.1% points; when compared to the district as whole, the numbers are 32.2%, 32.2%, and 23.1%. Part of the high rate for the charter schools is due to the fact that the graduation classes ranged from 2 to 11 students. For the Community Academy of Philadelphia that had 40 graduates, only 10 (25%) are going to college. This is significantly less than the neighborhood average (51.7%) and district average (67.8%). Conclusively, charter schools,

overall, have a slightly higher percentage of students going to college, thus resulting in higher academic achievement.

Table 3.8b[27]
Percentage of Students Planning to go to College (2000-2001)

Charter School	% in Charter School	Neighborhood Schools' Weighed Average	Difference	District Weighed Average	Difference
Center for Economics and Law	50%	50.5%	-0.5%	65%	-15%
Community Academy of Phila.	100%	94.2%	5.8%	65%	35%
MaST Community	35%	73.0%	-38.0%	65%	-30%
World Communications	100%	82.0%	18.0%	65%	35%
Totals & Averages	**71%**	**74.9%**	**-3.7%**	**65%**	**6%**

Looking at the totals and averages, it seems that the percentage of students planning to go to college is slightly lower for charter schools than the neighborhood and slightly higher than the district as a whole. However, the picture is a little more complicated. When comparing charter schools to neighborhood schools and the district as a whole, only 2 charter schools have a higher percentage of students going to college. The differences in these percentages are 5.8% and 18.0%. Overall, charter schools have a similar percentage of students planning to attend college as do their neighborhood schools and the district as a whole.

Overall Summary and Conclusions

The following chart summarizes the above findings in quality of education. The charter school results for each category (higher, lower, or same as neighborhood and district schools) were assigned a numerical value. While there is some argument regarding the relative weight of these characteristics, after speaking with public school educators and conducting on-site observations, numerical values were assigned to the characteristics. The values add up to 100, and each major category is about a one-third of the "pie."

Because so much emphasis is placed on testing, standardized test score account for 40% percent of the pie. Growth in test scores accounts for 10% and the SAT I: Reasoning Test accounts for 15% of this category. The second largest piece of the "pie" is post-graduation

activity (35%) with more weight given to the percentage of students actually going to college than just planning to do so. Finally, dropout rates account for 25% of the entire category.

	Higher / Good	Lower / Bad	Same / Mixed
Standardized Test Scores (40) **PSSA**			
Math Results (2)		2	
Point Differences (2)		2	
Reading Results (2)		2	
Point Differences (2)	2		
Numerical Scores 1999-2000 (2)		2	
2000-2001 (2)		2	
Growth in Achievement Math (5)	5		
Reading (5)	5		
Writing (3)	3		
SAT I: Reasoning Test (15)	15		
Dropout Rates (25)	25		
Post-Graduation Activity (35) % Going to College (25)	25		
% Planning on Going to College (10)			10
Total	**80**	**10**	**10**

Clearly, charter schools have higher academic achievement than the neighborhood and district schools. In the standardized tests category, charter schools had the same number of higher and lower outcomes. However, charter schools had higher academic achievement in the "growth in achievement" category. After spending a year at the charter school, the students improved their scores more than the neighborhood and district schools. Charter schools also outperformed district schools on the writing portion of the PSSA and the SAT I: Reasoning Test. Additionally, the dropout rates were significantly lower in charter schools than at the district schools. In terms of post-graduation activity, more charter schools students were going to college than the district schools. Although, this conclusion should be taken with caution as the charter schools had very small graduation classes. On the percentage of the students who are planning on going to college, charter schools "scored" the same as the district schools.

Conclusively, overall, charter schools have higher academic achievement than the district schools.

DETAILED CASE STUDIES ANALYSIS

OVERVIEW OF THE TWO CHARTER SCHOOLS

Name of Charter High School and Grades Served	Year Opened	% of Students Living in School Neighborhood
Center for Economics and Law Charter School (9-12)	1998	30%
Mathematics, Civics, and Science Charter School (1-11)	1999	NA

Charter Schools and their Neighborhood Schools

The following neighborhood schools are located within 3 miles of each of the above two charter schools.

Center for Economics and Law Charter School: University City H.S., West Philadelphia H.S.

Mathematics, Civics, and Science Charter School of Philadelphia: Strawberry Mansion H.S.

Mission of the Charter Schools

The following missions statements are quoted from the schools' annual reports to the School District of Philadelphia.

Center for Economics and Law Charter School: "The mission of the Center for Economics and Law (CEL) Charter Schools is to ensure that the children of Philadelphia will be given opportunities, experiences and academic preparation needed for employment and/or post secondary education upon graduation."[1]

Mathematics, Civics, and Science Charter School of Philadelphia: "The mission of the Mathematics, Civics and Sciences Charter School of Philadelphia, Inc. is to provide quality education and intervention to children classified as academically at risk. We believe that all children can learn at high levels, but we recognize that all children have varied learning styles. Our educational process will include positive role models, respect, love, individual attention, and a reward system for success. Our school will address basic skill deficiencies and accelerate the development of advanced academic performance in mathematics, citizenship and the

sciences. Our non-academic program will be specifically designed to provide students with the essential social skills to achieve in today's economic work place as well as in the community."[2]

DETAILED CASE STUDIES
SEGREGATION ANALYSIS

Two types of segregation will be analyzed: racial and socio-economic. Racial segregation is determined by looking at the demographics of the charter school, the neighborhood district schools, and the schools of the district as a whole. Segregation occurs when the difference in the percentage of enrollment of the above groups is higher than 10 percentage points. Socioeconomic segregation is determined the same way, with a difference of more than 10 percentage points indicating segregation. Many studies (especially those in the Literature Review) use different percent cutoffs; these usually include 10%, 15%, and 20%. 10% will be used in this thesis because it is the most scrutinizing number when it comes to segregation.

If a charter school over-enrolls a certain demographic that is considered to a national minority, it is not considered segregation as the choice to attend a charter school is voluntary and some charter schools target "at-risk" students. The primary concern of this study is under-enrollment of national minorities in charter schools.

Contributing Factors to Segregation

Below is a table with the characteristics that contribute to racial and socio-economic segregation and how they relate to each charter school in the detailed case study. Almost all of the data came from the schools' annual report (2000-2001) to the District School Board of Philadelphia as required by law (this is data is directly quoted so as not misrepresent it by a single nuance—the importance of this topic does not allow such leeway). Data that helps to clarify what is in the annual reports came from interviews, obtained memoranda, and observations during visits to the two charter schools.

Table 5.1[1]
Segregation: Contributing Factors and Charter Schools

Charter School and Grades Served	Require Parent Involvement	Provide Transportation	How Advertised	Target "At-risk" Students	Provide Food Services
Center for Economics and Law (9-12)	NO	NO	Local newspapers; brochures distributed at churches and recreation centers	NO	NO
Mathematics, Civics, and Sciences (1-11)	NO	YES (to elementary and middle school students)	Community newspapers; radio	YES ("academically at risk" students)	YES

Center for Economics and Law Charter School

Advertisement and Recruitment: "School brochures were mailed and distributed at churches, recreation centers, YMCA's, YWCA's, street festivals and school fairs. … We advertised in local and neighborhood newspapers. Presentations were made in various private schools, churches, and at meetings held in parents' homes."[2] At the Open House for the charter school, some parents were asked how they found out about the school: two parents said that a counselor at their public school suggested this charter school, and another two parents spotted an advertisement from the school in their local newspapers (South Philadelphia).[3] Moreover, Dr. Andrews (Chief Administrative Officer), a classical musician, performs regularly at churches in Philadelphia—it would not be difficult to make a pitch for the school at these places of worship.[4]

Enrollment Procedures: "Once an application is received an interview is scheduled. Both parent and child attend this interview. The interviewer determines if the parent and child want to attend the school. Both the parent and the child must express the desire to attend. Both are requested to sign the school pledge. If the number of applicants from Philadelphia exceeds the projected enrollment, a lottery will be held and a waiting list established in lottery order."[5]

Food Services: "Our school does not have a food service program. Students bring their own lunch to school. Vending machines and a small microwave are available."[6] Upon visiting the school and interviewing teachers and students, the above statement is not exactly true. The

updated policy of the school is that students cannot bring and eat their lunch inside the school as no food (brought by students) is allowed in the building.[7] Students are told go to 30th Street Station and purchase their lunches there.[8]

Transportation: "Students use public transportation."[9] As a high school, the school is not required to provide transportation to students.

Student interviews help to reveal some of the reasons why they choose to come to the Center for Economics and Law Charter School. The reason most cited by students is the quality of education.[10] It is not that the students think that the quality of education is better, but it is the case that their guardian (mother, father, grandmother, etc.) holds the opinion. The students do not always come voluntarily.[11] Some students state that they did not want to leave their old school and friends, but after spending time at the charter school, they adjusted well to the new environment. One of the students interviewed, transferred from another charter school (Delaware Valley), the reason being: "my Mom wanted me to come here because that school was not organized."[12] The student's observation of her new charter school: "They make it seem that everything is organized here, but it's really not."[13] Overall, though, the students do seem to be happier at this charter school than at their previous schools, be it public, private, or charter, despite their original apprehension.

Mathematics, Civics, and Sciences Charter School of Philadelphia

Advertisement and Recruitment: "The recruitment was through the newspapers, radio, and community flyers. MCSCS has an extensive waiting list that was established through the lottery. Additional students will be enrolled from the waiting list."[14] An interview with Ms. Joyner (Chief Administrative Officer) revealed that the day after she advertised for the charter school on the radio, there was a long line of hundreds of parents waiting outside the school's doors to enroll their students.[15] In fact, the initial demand was so high that the school cut its enrollment period in half, after the approval from the School Board.[16]

Enrollment Procedures: "Students were enrolled as a result of the lottery. The waiting list is used for student replacement."[17]

Food Services: Breakfasts and hot lunches are available to every student free of cost.[18] In fact, by using its money wisely, the school is able to pay for these meals out of its own budget; it does not receive additional funds from the state or district for food services.[19] Moreover, at the end of the fiscal year, the school always has a budget surplus. How does the school achieve this budgetary miracle? According to Ms. Joyner, the Chief Administrative Officer, the school does not pay the teachers "overly high salaries like at other charter schools."[20] Moreover, from the Annual Reports to the Philadelphia Board of Education, one can see that Ms. Joyner's salary is only three-quarters of Dr. Curtis Andrews' salary (the CAO of the Center for Economics and Law Charter School). Perhaps, expectedly, the teachers at the Center for Economics and Law Charter School complain that they don't have enough resources to be innovative in their teaching; some classes do not have enough textbooks for the children to take home.[21]

Compared to the public schools, the Mathematics, Civics, and Sciences Charter School of Philadelphia only serves lunches that are nutritious (salads, fruits, etc.); no soda machines are found in the lunchroom, only juice machines occupy that space.[22] Moreover, the school doesn't "stop anyone from eating and the kids can eat as much as they want. Every child gets breakfast. Every child gets a snack on request. They need it, they request it, they get it. You can't teach children that are hungry."[23] If a student stays after school for tutoring or another program until dinnertime, the student is also served dinner (depending if anything is left over after lunch).[24] In the words of Ms. Joyner, "so, most of the time, the homework is done and those children are fed, the parents are happy."[25]

Transportation: "Students from grades 1 – 6 receive free bus transportation by the Philadelphia Department of Transportation. Students in grades 7 – 10 arrive to school by public transportation (bus, subway), taxi or parents transport students."[26]

Student interviews help to reveal some of the reasons why they choose to come to this school in particular and how they or their parents found out about it. A vast majority of the students interviewed states that they and their parents found out about the school by enrolling in Ms. Joyner's PUBS (Parents United for Better Schools) tutoring program. It was there that the students and parents found out that Ms. Joyner was opening a charter school. One student blatantly stated: after the lottery, "I was chosen to come here. And I had to do what my grandma wanted me to do."[27] Again, as in the Center for Economics and Law Charter School, some students are forced by their parents to attend charter schools. Other students stated that their parents searched on the Internet for charter schools and picked this one; another reason was by word of mouth: "One of her [Mom's] friend's daughters goes to this school, so she figured because she was getting a good education that was better than my neighborhood school so that I should come here."[28] In conclusion, the students do not come to these voluntarily (they do not necessarily object all of the time) and their parents found out about the school mostly through word of mouth and previous association with the charter school founder, Ms. Joyner, and her tutoring program.

Racial Segregation

The following four tables present information about the student demographics of each charter school compared with their neighborhood schools and all of the district schools. The data is for the 2001-2002 academic school year. Each table is devoted to one demographic (race) and the order of the tables is arranged from the highest demographic in the city to the lowest. The demographics and the order are: African-American, White, Hispanic, and Asian-American. An analysis will follow the tables that also incorporates the data in Table 1.1

Table 5.2[29]
African-American Enrollment in Charter and District High Schools

Charter School	(High) School Enrollment	% in Charter School	Number of Students	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Center for Economics and Law	375	94.0%	353	97.0%	-3.0%	64%	30.5%
Mathematics, Civics, and Sciences	840	99.0%	832	100.0%	-1.0%	64%	35.5%

Table 5.3[30]
White Enrollment in Charter and District High Schools

Charter School	(High) School Enrollment	% in Charter School	Number of Students	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Center for Economics and Law	375	5.0%	19	1.0%	4.0%	17.8%	-12.8%
Mathematics, Civics, and Sciences	840	1.0%	8	1.0%	0.0%	17.8%	-16.8%

Table 5.4[31]
Hispanic Enrollment in Charter and District High Schools

Charter School	(High) School Enrollment	% in Charter School	Number of Students	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Center for Economics and Law	375	1.0%	4	6.0%	-5.0%	11.3%	-10.3%
Mathematics, Civics, and Sciences	840	1.0%	8	1.0%	0.0%	11.3%	-10.3%

Table 5.5[32]
Asian-American Enrollment in Charter and District High Schools

Charter School	(High) School Enrollment	% in Charter School	Number of Students	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Center for Economics and Law	375	0.0%	0	1.5%	-1.5%	7.0%	-7.0%
Mathematics, Civics, and Sciences	840	0.0%	0	1.0%	-1.0%	7.0%	-7.0%

Overall, when compared to their neighborhood schools, the Center for Economics and Law Charter School and the Mathematics, Civics, and Sciences Charter School of Philadelphia do not exhibit any form of segregation. Both charter schools, over-enroll African-American students and under-enroll students of other backgrounds when compared to the school district as a whole. It is interesting that the above two charter schools under-enroll white, Hispanic, and Asian-American students when compared to their neighborhood district schools and the district as a whole. When compared only to the neighborhood schools, the percent difference is less than 10%, the number required for segregation to occur. Conclusively, racial segregation does not occur at the Center for Economics and Law Charter School and the Mathematics, Civics, and Sciences Charter School of Philadelphia.

Socioeconomic Segregation

The three tables below show the enrollment of students from low-income families in the charter schools. Low-income indicates students who are eligible for the federal free and/or reduced lunch programs. Unfortunately, only district-wide data was available for the Philadelphia public schools and not for each individual high school. However, the data is available for a period of three years, hence, it is possible to observe a trend.

Table 5.6a[33]
Enrollment in Charter and District High Schools from Low-Income Families

	1998-1999		
Charter School	**% in Charter School**	**% in School District**	**Difference**
Center for Economics and Law	50.9%	78.4%	-27.5%

Table 5.6b[34]
Enrollment in Charter and District High Schools from Low-Income Families

	1999-2000		
Charter School	**% in Charter School**	**% in School District**	**Difference**
Center for Economics and Law	70.0%	76.4%	-6.4%
Mathematics, Civics, and Sciences	77.0%	76.4%	0.6%

Table 5.6c[35]
Enrollment in Charter and District High Schools from Low-Income Families

	2000-2001		
Charter School	**% in Charter School**	**% in School District**	**Difference**
Center for Economics and Law	70.0%	72.3%	-2.3%
Mathematics, Civics, and Sciences	79.0%	72.3%	6.7%

Currently, the above two charter schools are not segregated by class when compared to the district as a whole. For the past two years, the percentage difference has been between –6.4% (under-enrollment) and 6.7% (over-enrollment). A definitive trend can be observed in the Center for Economics and Law Charter School. In its first year of operation, the school under-enrolled low-income students by 27.5%, today, the number is 2.3%. The initial substantial

under-enrollment can be attributed to the fact that the charter school does not provide food services. However, the above factor that leads to segregation does not help to explain why no segregation has occurred for the past two years (the percent differences have been decreasing drastically, even though the percent of low-income students in the school has remained the same for the past two years). In fact, it only confuses the issue. Moreover, while the Mathematics, Civics, and Sciences Charter School of Philadelphia provides food services it does not significantly over-enroll low-income students (the percent difference is only 6.7%). A reasonable conclusion may be that in this case, the provision of food services by the Center for Economics and Law Charter School has no significant effect on segregation.

Overall Summary and Conclusions

All of the above data indicates that no segregation by race and class occurs in the above two charter schools. The Center for Economics and Law Charter School and the Mathematics, Civics, and Sciences Charter School of Philadelphia over-enroll (a difference of more than 10 percentage points) African-American students and under-enroll (but not by more than 10 percentage points) students who are white, Hispanic, and Asian-American when compared to the district schools. An interesting finding was observed in the Center for Economics and Law Charter High School. Even though the charter school does not provide food services, its doesn't under-enroll students from low-income families. In fact, the over-enrollment percentage differences for the past two years have been 6.4% and 2.3%, respectively. This leads to the reasonable conclusion that the provision of food services be reexamined as a major factor that contributes to segregation. Although, it is possible that this phenomenon only occurred at the Center for Law and Economics Charter School—further research in other districts is necessary to test the above hypothesis.

Recruiting strategies had no effect on segregation in these two charter schools. Advertisements on radio and newspapers reached many minority parents. In fact, one of the most interesting phenomena in Philadelphia is the fact that very great majority of the students in charter schools are minority even though white students make up about a fifth of the student

population in Philadelphia. Another interesting finding is the fact that most of the students interviewed stated that, at first, they did not want to go to the charter school. They did not want to leave their old schools but had to do so because of their parents' decision to enroll them at a charter school. However, once spending time at a charter school, most students, not all, found that they enjoyed their new schools about the same and, sometimes, better than their old schools.

DETAILED CASE STUDIES
QUALITY OF EDUCATION ANALYSIS

Quality of education is measured by three variables: teachers, classrooms, and the general characteristics of the school. Each variable contains sub-variables. Some of the tables below compare characteristics of charter schools to all schools in the Philadelphia school district only, as the Philadelphia Board of Education would not release information about individual schools.

Teachers

Quality of teachers is measured by four characteristics: level of education, years of experience, certification in teaching, and participation in high-quality induction and professional development programs. Because all teachers, in public and charter schools, must participate in induction and professional development programs, this data will be presented qualitatively and it will not be tabulated. A *General* section is added at the end to examine how students feel about their teachers.

Level of Education

Table 6.1[1]
Teachers' Level of Education (2000-2001)

	Less than B.A. Deg.		B.A. Degree		M.A. Degree		Doctor's Deg.	
Charter School	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Center for Economics and Law	0	0.0%	12	66.7%	5	27.8%	1	5.6%
Mathematics, Civics, and Sciences	0	0.0%	31	70.5%	12	27.3%	1	2.3%
Philadelphia City School District	**1**	**0.0%**	**5,982**	**52.9%**	**5,293**	**46.8%**	**31**	**0.3%**

Clearly, the teachers' level of education is higher in the Philadelphia School District than at the two charter schools. For example, when it comes to Master's degrees, the percentage point difference between the district and the two schools is about 20 points. Interestingly, even though the two charter schools have a higher percentage of teachers with a Ph.D., each charter school only has one teacher with that degree. Overall, the level of teachers' education is lower at the two charter schools than at the district schools.

Years of Experience and Certification

Table 6.1a[2]
Teachers' Years of Experience and Certification (2000-2001)

	0-2 Years		3-10 Years		11 + Years		Avg. # of Yrs.	% Cert.
Charter School	**Number**	**%**	**Number**	**%**	**Number**	**%**		
Center for Economics and Law	7	41.2%	10	58.8%	0	0.0%	5	100.0%
Mathematics, Civics, and Sciences	NA	NA	NA	NA	NA	NA	5	78.0%
Philadelphia City School District	**1,681**	**14.7%**	**4,162**	**36.3%**	**5,627**	**49.1%**	**10**	**100.0%**

The teachers' years of experience demonstrate much lesser quality at the two charter schools than at the Philadelphia School District. First, the average years of experience at the two charter schools is five, but it is ten for the district schools. Moreover, for the Center for Economics and Law Charter School, a much higher proportion of teachers have only zero to two years of experience (41.2%) compared to that of the school district (14.7%). Almost half of all school district teachers have taught for over eleven years, such teachers are not found in the Center for Economics and Law Charter School. When it comes to certification, 100% of all teachers at the Center for Economics and Law are certified, as in the school district. At the Mathematics, Civics, and Sciences Charter School of Philadelphia, only 78% of the teachers are certified. However, all of the uncertified teachers are working towards their certification.[3] Conclusively, while the years of experience for teachers is much less at the above two charter schools, when it comes to certification, only one school falls a little short.

Participation in High Quality Induction and Professional Development Programs

Center for Economics and Law Charter School

The following statements are taken from the school's annual report to the School Board of Philadelphia.

> *Induction Program*: "We provide individualized support to new teachers including mentoring, observations, conferences, and professional development opportunities. Classroom management [handling difficult students] is a primary

concern, as well as support in implementing various aspects of the instructional program."[4]

Professional Development Program: "Professional development is scheduled throughout the year including sessions scheduled during August. Monthly staff development meetings were held, including meetings beyond the school day. Professional development sessions are for the entire staff, grade and/or subject groups of teachers, or individuals as needed."[5]

Teacher interviews helped to reveal their somewhat mixed evaluations of professional development. At first, the school's professional development program could best be described as "a joke;" however, the second year, it was "more 'professional.'"[6] The school had time to develop a professional development program. Some teachers thought that program was worthwhile; others disagreed.[7] One teacher was happy that she had a chance to go to Harrisburg to attend differences about teaching.[8] Overall, though, the evaluation of the professional development program was mixed at this charter school.

Mathematics, Civics, and Sciences Charter School of Philadelphia

The following statements are taken from the school's annual report to the School Board of Philadelphia.

Induction Program: "New teachers are paired up with certified teachers where possible. The CAO, principal and educational consultants provide training for new staff."[9]

Professional Development Program: "Staff was allocated ten days during the summer, bi-weekly professional development sessions after school and four days during the school year. The CAO and or the principal, and educational consultants provide professional development during grade group meetings."[10]

Teacher interviews helped to reveal an overall negative assessment of the professional development program at this charter school. Most of the teachers interviewed cited the lack of professional development as one of their least favorite characteristics of the charter school.

One former Philadelphia public school teacher wished for a more "systematic plan for professional development"—the teacher missed the opportunity to take different courses that were sponsored by the district.[11] Another teacher, after asked to characterize the school's professional development, blatantly stated that "there's not any. It's very bad."[12] Continuing the description, "more often than that, it's administrative, top-down, telling us how to teach in very unhelpful ways and in ways that aren't real. They're sort of "do this," and through the sheer force of my will it will be done even if I haven't told you how to do it."[13] Conclusively, for this charter school, professional development is poor due to negative teacher evaluations, lack of opportunities, and the seemingly unnecessary administrative interference in the classroom.

General

Center for Economics and Law Charter School: Student and teacher interviews indicate positive evaluations of the teachers at this charter school. Many teachers thought that one of the school's biggest strengths was the commitment of the teachers to the students.[14] Many students felt that the teachers cared more about them at this school than at their previous public, private, and charter schools.[15] Reasons cited by students included teachers pushing them to be better students, continuously offering extra help, and a good relationship between the students and teachers.[16]

Mathematics, Civics, and Sciences Charter School of Philadelphia: Student interviews revealed an overwhelmingly positive evaluation of the teachers. All students felt that the teachers care about them, more than at their previous schools.[17] Reasons cited by students included the teachers helping them at lunchtime and after school, seeing the teachers trying to find better ways for students to learn the material, and the teachers motivating their students "come be above what people might think about us and that we should try to strive for the best."[18] One student commented on the professionalism of the teachers at the charter school. Describing her previous public school, the student commented that the teachers "come in with baggy pants and not representing themselves in a nice way;" in this charter school, the teachers "don't get all frustrated and curse you out like in public schools" and they wear "suits with

pants. They don't come in here with some nasty clothes on and they don't come in here with baggy pants on; and the men, they wear their suits. They're respectable to themselves and their students. That's what I like."[19] Conclusively, when it comes to teachers' evaluations at this charter school, the students give the teachers very high marks.

Classrooms

The quality of the classrooms is measured by the following characteristics: course content, average class size, and student-computer ratio. Access to the Internet cannot be substantially measured as some schools have computer labs and other have a computer in every classroom; it is impossible to assess which set-up provides easier access to the Internet. However, data was obtained for one of the schools on how many of their computers have Internet access. The data is provided below, however, the reader should keep the above cautions in mind. Unfortunately, teachers that teach general subject areas were not available for interviews. Interviewed teachers taught American History, English, and Biology (no subject will be identified with a specific school to protect the teachers' requested anonymity). Hence, questions on course content were not about focus but how much material the teacher was able to cover whether or not the teachers were innovative in their teaching.

Course Content

Center for Economics and Law Charter School

Teacher interviews revealed that almost no innovation occurred in the classroom. One teacher stated that "technically, we can be very innovative here. But because of all the constraints placed on the teachers and me here, there is no innovation."[20] One of the reasons cited was "I have nothing to work with—no materials;" the students were not even allowed to their textbooks home.[21] A former teacher felt that there were more restrictions placed on the methods of teaching in a charter school than at a public school: "the administrator would very often intervene with the way a teacher was presenting material or suggest other methods based on his own opinion of the way the material should be presented."[22] The administration received much criticism for interference in teaching. Dr. Andrews, the Chief Administrative Officer,

was heavily criticized for interfering. One teacher summed up the main reason why this was so: "Dr. Andrews was never a teacher—there's really a problem with that. Dr. Andrews' background is working with education systems at prisons, which is really different. When you don't have a background in education, how can you tell someone how to run a classroom?"[23] Conclusively, no innovation takes place in the classroom at this charter school as Dr. Andrews "gives us the freedom to do innovative things, but the conditions he gives us makes it impossible. We try."[24]

More material was covered in class in the charter school than at the local public high schools. Teachers felt that they saw a large difference in being able to teach more in a charter than at a public school.[25] One English teacher recounted a few stories from his former students. One of these was about a student who transferred to Central High School (a special admissions public high school in Philadelphia; considered to be the top public school in the city). After learning Beowulf at the charter school's English class, she had to remind the teacher of many things about the book in her English class at Central High School.[26] According to the teacher, "when I hear some of these stories it makes me think that the kids actually learned something in my English class. They are covering material not at the same standard that I have set in this class."[27]

Parent and student interviews also help to reveal some things about the course content. One parent of a current student was most impressed with the academics. Her child spent more time on homework and performed better academically than at the public school. Moreover, the parent noticed that the material covered at the charter schools was better than the public school.[28] Many students also feel that they are learning more because they are covered more material than at their previous schools.[29] Conclusively, while there is no innovation inside this charter school's classroom, the course content and the amount of material covered surpasses that of the public school.

Mathematics, Civics, and Sciences Charter School of Philadelphia

Teacher interviews revealed mixed feelings about innovation in this charter school. One teacher stated that while working for in Philadelphia public schools, there was a lot pressure to adhere to a specified program; in the charter school, teachers have a lot of freedom as long as they follow Ms. Joyner's set program.[30] However, other teachers had negative feelings about innovation. One teacher blatantly stated that "in regards to innovation, there's not a lot that we're able to do."[31] Like other interviewed teachers, this teacher was upset that the classes couldn't take field trips, primarily due to funding issues.[32] Another teacher stated that "innovation" in this charter school was "back to basics, it's nothing revolutionary. I mean it is a big change because it's going back so far in the way things used to be but it's not anything that's innovative."[33] This affirms the argument of many charter school opponents who claim that charter schools are not very innovative as many of their curriculums are "back to basics."

In terms of material covered, all teachers and students felt that they had covered more material than at their previous district schools.[34] One teacher was surprised at how fast she was covering the material: "Many days, I find myself, "Oh my God, I can't believe we finished a chapter already." You know, we're moving right along. And the way I teach, I want them to be prepared for the next level in college. I'll lecture to them and they'll have to take notes. I don't just give them everything 'cause that's not how it's like in the real world. They wanna go to college, you have to prepare them."[35] Other reasons for covering more material include smaller classes and better discipline—without a doubt, the above two have a great impact on student learning.[36] Another reason cited was the fact that the classrooms in the elementary and middle grades had tutors.[37] In the words of one teacher, "we have tutors for our students who are having trouble. They receive individualized attention and are able to learn more effectively."[38] Conclusively, while ideas about innovation are mixed (unlike at the Center for Economics and Law Charter School where no innovation takes), teachers and students at this charter school (like the other) feel that more material was covered and learned than at the district schools.

Class Size

Table 6.2a[39]
Average Class Size (2001-2002)
Based on the Average 10th Grade English Class Size

Charter School	Average Class Size	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Center for Economics and Law	NA	32	NA	31	NA
Mathematics, Civics, and Sciences	20	30	-10	31	-11

Center for Economics and Law Charter School: While the school did not provide its average class size, during trips to the school it was observed that many of the classes had an average of 25 students (lower than the neighborhood and district schools' average).[40] There were some exceptions, though. For example, there were only 8 students in the Geometry and Constitutional Law classes.[41] Hence, clearly, this charter school, when it comes to class size, provides a higher quality education. When asked for some of their favorite about this charter school, almost every teacher stated that small class sizes were a real asset.[42]

Mathematics, Civics, and Science Charter School of Philadelphia: As in the Center for Economics and Law Charter School, teachers at this charter school also love the small classes. One teacher blatantly stated: "What I like the most about teaching here is the class size. I have 20 students; all the class sizes are 20 as opposed to 33 in Philadelphia. 20 students is a real gift to someone like me who has taught up to 36 to 38 kids at a time while I was in the public schools in Philadelphia. That's my most favorite thing."[43] Students also cited small classes as one of their favorite things about this charter school. One student stated that the school is "like a small family."[44] At both of these charter schools, students and teachers enjoy the small classes. Conclusively, when it comes to class sizes, these two charter schools provide a much higher quality of education when compared to the neighborhood and district high schools.

Technology

Table 6.2b[45]
Student-Computer Ratio (2000-2001)

Charter School	School Enrollment	Number of Computers	Ratio	Neighborhood Schools' Weighed Ratio	Diff.	District Weighed Average	Diff.
Center for Economics and Law	375	25	15.0	6.1	59.3%	8.6	42.7%

Table 6.2c[46]
Student-Computers With Internet Access Ratio (1999-2000)

Charter School	School Enrollment	Number of Computers With Internet Access	Ratio	Neighborhood Schools' Weighed Ratio	Diff.	District Weighed Average	Diff.
Center for Economics and Law	375	22	17.0	7.3	57.1%	11.6	31.9%

Center for Economics and Law Charter School: Unfortunately, the technology information was not available for the Mathematics, Civics, and Science Charter School of Philadelphia. Examining the data for the Center for Economics and Law Charter School, it is clear that student to computer ratios are much high at the charter school than at the neighborhood and district high schools. One teacher complained there were no computers in the classroom.[47] Moreover, the students do not have access to the computer lab because "they destroyed a lot of the computers or looked at dirty websites."[48] Clearly, when looking at technology, this charter school provides a lower quality education than the neighborhood and district high schools.

School

The quality of the school is measured by the following characteristics: the relationship between teachers and the administration, discipline (percentage of students suspended), academic organization (graduation requirements and special programs), and student-guidance ratio.

Relationship Between Teachers and the Administration

Center for Economics and Law Charter School

Teacher interviews revealed that the relationship between teachers and the administration is very poor. Dr. Andrews, the Chief Administrative Officer, was highly

criticized by all of the teachers. According to one teacher, "the principal has total control and he wields it unfairly;" moreover, "Dr. Andrews can make any rule he wants to. He just snaps his fingers."[49] Another teacher summed up the situation in the following way: "Charter schools have much more autonomy. And someone in that situation can be very manipulative. And that's what Dr. Andrews does—he gets everyone around him to be 'yes-men.' His administrators are 'yes-men.' We don't have a vice-principal because he doesn't want to share the power with anyone. And I think that's a real problem. Charter schools are susceptible to abuse. That is the issue at the core of all our problems here."[50] Moreover, according to a former teacher, "one person having too much control over the livelihood of so many people, in my opinion is a very dangerous thing. Unfortunately, unless the person in control is someone who has strong professional ethics and integrity, the result is generally that the majority of teachers and staff feel mistreated or disrespected most of the time."[51] Facing the above situation, teachers want one thing: "a teacher's union would have eliminated much of the poor treatment."[52]

Almost every teacher that was interviewed noted the need for a teachers' union. According to one teacher, "One of the real problems here is that the teachers aren't unionized. The principal has total control and he wields it unfairly. And we don't have a lot of protection for that."[53] Another teacher stated that "I don't have the administrative support that I thought I would have. The biggest problem here is that the CAO, Chief Administrative Office, is also the principal. He does what he pleases when he pleases. He doesn't listen to the teachers. And when he does, it goes in one ear and out the other."[54] One teacher explained that "One day you're on the good list, and the next day your job may be on the line: 'I'm going to do everything I can to get you out of here.' It's very iffy from day to day. It's a very moody type of atmosphere here."[55] The need for a teachers' union is readily apparent from the above comments.

Teachers also complained about administrative back up, policies, and general treatment. When dealing with parents, many teachers argued that the administration does not back up the teachers—in a disagreement between parents and teachers, the administration

always tends to side with the parents.[56] The administration also changes policies from day to day and it is hard for teachers to adjust daily from one policy to another.[57] As to the treatment of teachers, one teacher recounted the following story: "One day, at the beginning of the semester, he (Dr. Andrews) walked into my classroom, threw my syllabus down on my desk and told me that it was trash—right in front of my students. He told me to look at another teacher's syllabus—there were misspelled words, run-on sentences. The only thing I did wrong was that I didn't write in dates; I split the syllabus into weeks and units. I put in the dates, and he said it was excellent."[58] Almost all of the teachers stated that their treatment at the charter school was poor. Conclusively, the relationship between teachers and the administration at this school is tenuous at best.

Mathematics, Civics, and Sciences Charter School of Philadelphia

As in the Center for Economics and Law Charter School, the relationship between teachers and the administration in this school is also very poor. One of the main reasons for this is a lack of professionalism. According to one teacher, "this is not the place that I think a lot of people who are very professionally interested in teaching would come because they're not treated very often as professionals. It's a very top down organizational structure here. You probably won't hear this a lot because there's actually a lot of, there's a lot of, quite honestly intimidation and fear of administrative oversight of things here…. it's just not the most nurturing place to work for the employees."[59] Teachers deal with this in a very interesting way: "The other irony of it all is sort of that there is this top-down and authoritarian administration, but the administration is swamped with so many things to do that accountability isn't that incredibly high because you do what you want to do."[60] Also, like the Center for Economics and Law Charter School, teachers feel the desperate need for unions. According to one teacher, "it's amazing to me, that after 3 years, it's really the fear I think that actually has kept people from talking and talking about unions because most public schools, of course, are unionized. Charter schools are not. That's a pretty significant thing. I'm not a huge union person but I can see a lot of the rationale behind the union after being here."[61] Indeed, even teachers who at first

did not believe in unions are seeing the necessity of one after working at the charter schools. Another reason for the poor relationship is the administration's inconsistency in applying school policies. According to one teacher, one of larger problems is "inconsistency, when it comes to the administration. A policy not being applied across the board; depending on the child or depending on the class, policies being administered."[62] Conclusively, with the lack of professionalism and administrative inconsistency, the relationship between the teachers and the administration is poor.

Discipline

Table 6.3a[63]
Percentage of Students Suspended During the Year (1999-2000; 2000-2001)

Charter School	High School Enrollment	Suspension Rate	Number of Suspensions	Neighborhood Schools' Weighed Rate	Diff.	District Weighed Average	Diff.
Center for Economics and Law	375	5.6%	21	34.5%	-28.9%	27.4%	-21.8%
Mathematics, Civics, and Sciences	840	39.3%	330	NA	NA	27.4%	11.9%

Center for Economics and Law Charter School

Dr. Curtis Andrews is the Chief Administrative Officer of the school. A classical pianist and a former teacher at federal prisons,[64] Dr. Andrews makes sure that safety and learning are the top priorities at the charter school. Speaking at the open house, he proclaimed that a school is just like a prison: "when you know where every student is, like in a prison, you have an orderly environment where learning can take place."[65] Indeed, judging from the above suspension rates, the Center for Economics and Law Charter School seems to be a very orderly and safe school when compared to its neighborhood and district schools. Moreover, teachers give high marks to Dr. Andrews for his policy on discipline and the fact that they feel safer at the charter school than at the public schools.[66] Students also agree that the Center for Economics and Law Charter School is much safer than their previous schools.[67] Conclusively, this charter school much safer when compared its neighborhood and district high schools.

Mathematics, Civics, and Sciences Charter School of Philadelphia

From first glance, it seems that the discipline problems at this charter school are much worse than the neighborhood and district high schools. The number of suspensions was obtained from a detailed list sent by the charter school to the school board. Below are some of the more interesting reasons for students being suspended.[68]

9th Grader: "Told teacher to get off his dick"

7th Grader: "Threw a bottle and hit another student in the eye"

2nd Grader: "Threw a book at the teacher"

6th Grader: "Bringing pornographic material to school"

Three 6th Graders: "Attempting to stuff another student in toilet"

4th Grader: "Punched and beat up another student"

7th Grader: "Hit another student on head"

6th Grader: "Bit another student"

4th Grader: "Indecent Exposure"

9th Grader: "Inappropriate Behavior Exposed self"

8th Grader: "I have a weapon, this is going to be another Columbine"

The above might seem that it came from a school with many discipline problems, yet observations and teacher interviews tell a different story. Upon a visit to the school, it was observed that all of the children were well behaved. There was almost not noise in the hall, children walked in a quiet and orderly manner. Where do the 330 suspensions come from? Most of the students are suspended for forgetting to wear their proper uniform, coming late to school, and other "minor" violations of the rules—violations that in a public school would only garner a detention. Teacher interviews also indicated the discipline of the school. According to one teacher, "The kids here know what is expected of them; and they know what will and will not be tolerated. That's the main thing: discipline…I've never seen a fight in this school and I've been here for 3 years. I've never seen one fight. If the children are disrespectful, it's handled right then and there…And most of the kids here, they want to stay here and so they adhere to the policies."[69] From more teacher and student interviews, and direct observations,

one can rightly conclude that the Mathematics, Civics, and Sciences Charter School of Philadelphia is safer than the neighborhood and district schools.

Academic Organization

Table 6.3b[70]
Graduation Requirements by Subject and Number of Credits/Years

Subject	NCEE Recommends	Philadelphia School District	Center for Economics and Law	Mathematics, Civics, and Sciences
English	4	4	4	4
Mathematics	3	4	4	4
Science	3	4	4	4
Social Science	3	3	3	4
Computer Science	0.5			4
Foreign Language		2	2	4
Physical Education/Health			1.5	
Arts			2	
Special Projects			2 Practicums	

Center for Economics and Law Charter School

Because of the practicums, the Center for Economics and Law Charter School has higher graduation requirements than the Philadelphia district schools. Two practicums (junior and senior year) require "students to write, and defend, in a public forum, two original research papers."[71] These two papers involve "more than one subject" and should demonstrate "problem solving, communication, citizenship, school-to-career, and/or multicultural competencies."[72]

When it comes to innovation and after school programs, this charter school has some unique features. First, the school has a cultural enrichment program in which students are exposed to different cultures. For example, in February 2002, the CAO (Dr. Curtis Andrews) took the High Achievers Club (3.5 GPA minimum required) to Canada.[73] Private donations helped to finance this trip.[74] An interesting course innovation includes a requirement for all 12th grade students to attend classes for 4 hours every Saturday for 10 weeks at Lincoln University where they learn research methods for writing their practicums.[75] Moreover, to support the academic program, the school only offers extracurricular activities that are academic in nature (sports are not offered).[76] On one last note, while many educators cite the

importance of a school library, this charter school does not have one. Students are encouraged to use the Free Libraries of Philadelphia, however, there is no replacement for a school library. There are also tutoring sessions after school for students who have difficulty grasping the material. A special Saturday program was set up for student with discipline problems to learn about conflict resolution techniques.[77]

This section is the place to mention that students are mixed by ability in many classes at this charter school because it concerns academic organization. According to one teacher, "You would think that would help, but it doesn't. The kids who are remedial do not listen to the advanced students that are trying to help them. Fighting a lot of attitude, too."[78] For those who are worried that charter schools are "cream-skimming," this does not happen in this case. According to many of the teachers at this charter school, the students' abilities range far and wide.[79] Moreover, the lottery process ensures that everyone, even the low-performing students, have a chance at attending the charter school.

Mathematics, Civics, and Sciences Charter School of Philadelphia

This charter school is planning to add its first 12th grade class next year. According to Ms. Joyner, the graduation requirements will be as follows: 4 years of English, Mathematics, Social Studies, Science, Foreign Language, Computer Science, and one of the Academies (Law, Medical, Computer Science, and Accounting).[80] These requirements are higher than those of the Philadelphia district schools. In terms of academics, the charter school offers an innovative curriculum that consists of four Academies in the above subject areas. Moreover, professional lawyers, doctors, certified public accountants, and a computer specialist teach the classes in the Academies.[81] According to Ms. Joyner, the Academies provide a unique opportunity for students to pursue their career interests.[82] The students are taught the basic material in these introductory courses and if they so choose, they may pursue these career interests in post-secondary education; as a result of these high school classes, they will be better prepared. The charter school also provides twice a week, for two hours after school,

tutoring for students in need. All tutors are state certified teachers.[83] Moreover, the school also provides after school activities such as a newspaper club, violin, and a dance club.[84]

Ms. Veronica Joyner is the Chief Administrative Officer of this charter school. A former teacher in the Philadelphia public school system and the national president and founder of Parents United for Better Schools (PUBS),[85] Ms. Joyner provides the driving force behind the educational philosophy at the school. According to the school brochure, the charter school provides "an alternative setting for children experiencing learning difficulties classified as 'at-risk.'"[86] In fact, there are no special education classes at this charter school, all students previously classified as "special-ed" are in classrooms with all of the other students and, if needed, receive tutoring after school.[87] Moreover, these students are performing well and the teachers have no problems with them.[88]

Student interviews reveal that the students enjoy being at the charter school for many reasons. Many students cite reasons that include smaller classes and better teachers after coming from district schools.[89] Moreover, the students feel that they're learning, they can't prove it, but they see their grades going up and the teachers caring about them.[90] However, there is one aspect of the school that the students don't like—the small size. Many students complained the school was too small; there were not enough students.[91] Even though many educational studies have suggested that smaller school sizes contribute to a higher quality education, the effects of a small school on students who come from larger schools are interesting. The reason most cited by the students was the fact that they had to see the same students over and over again—because of too little students, there was not enough diversity of seeing other students.[92] Students also liked the Academies because they felt the classes gave them good preparation for college.[93] One student had the following to point out when asked if she felt she was getting a better education at the charter school than at a public school: "I think it's both. We just did a persuasive paper on it and that's what mine was about--how people say charter schools are better. But I think it depends on who you are; cause if you're willing to learn in one place, you're willing to learn in another. So I guess it's both, cause no matter where

I am at, I'm still gonna learn."[94] Although this was only one student's opinion, it makes one wonder.

Teachers cite a better relationship with the parents as part of a good academic structure that the school provides; however, this is more of a reflection of the parents rather than the school. According to one teacher, when asked about some of the things that can be done in a charter school that can't be done at a public school: "I don't know if there's anything, but what immediately came to mind had to with requesting that parents come in for conferences. You can do that in a public school, whether you get a parent to come in is another question; but at least here, parents do come in. … I can't think of anything that I can do here that I couldn't do at a public school. I'm lost."[95] This returns to the point of innovation and how little of it exists in the two charter schools chosen for this case study. Another teacher pointed out that "we're very limited as far as our facilities are concerned. We're packed in here. We only have 20 kids in a class, but we don't have a gymnasium, we don't have a library, an auditorium, and our lunchroom is literally packed with kids at all times. That's a pretty serious problem. It really limits also as far as things you can do, as far as creative elements you can do with teaching." Limited resources, as in the Center for Economics and Law Charter School, also hinder innovation in this charter school.

One brave teacher gave an insider's view of the educational philosophy of the school. The administration forces the teachers to use specific teaching methods for grades 1 through 11--these methods are "back to basics."[96] According to the teacher, "it's sort of funny because the methods are seen as sort of some educational philosophically breakthrough or some revolutionary way of teaching, when really it's just a basic, it's an old school method of basic skills and in going back to the basics of things."[97] An example is breaking every word into syllables.[98] Because this method is used for 11th graders as well, there is "no distinction made between elementary and high school. The high school kids are basically treated like elementary school kids. Which is really frustrating because there're some very gifted students that are completely frustrated by that…We're told we should be doing this de-coding in an 11th grade high school class which is demeaning to the kids and boring to the kids."[99] This type of

educational practice undermines the integrity of the high school courses that the students are taking in the charter school; but there's a more interesting education practice occurring at this school.

The teacher also noted the fact that "students can't fail here."[100] Moreover, "they can't even be given D's. We have a grade A, B, C, D, and E for failing here. And no one has ever received an E because we're not allowed to give E's."[101] The theory behind this practice is that "no one will fail because no one will be allowed to fail. Before it gets that serious, teachers are to be calling home and to be making sure that it never ever gets to that stage. That's what's intended."[102] However, "what works out in reality is that teachers say, 'I can't fail this kid, I give him a C because I can't fail him.' And it's pretty easy to see that that's what's going to happen if you just tell your teachers, 'you can't fail kids.'"[103] For the current academic year, "it's been upgraded to no one can get lower than a C. Of course, everyone that deserves a D, E, or F, just gets a C. And it's ridiculous; the kids all know this. It's not like a mystery to them."[104] The teacher concluded by saying that "no college should ever take the transcripts from you seriously" because the students who deserve to fail will pass.[105] This educational practice calls the academic integrity of the school into question. It might also help to explain why students do better this charter school than at the district school. Unfortunately, the 11th grade PSSA test scores are not available yet to see how the school compares academically with other schools on a test given by outsiders. Once this data becomes available, it will be possible to see the effect of the above educational practices.

The teacher, however, also acknowledged many of the positive things about this charter school. These included the safety of the students, the high workloads, the student-teacher ratio, and the better contact between parents and teachers.[106] However, the teacher cautions that "some of the language that's used is really sort of questionable--on how staff are told to do things. The way staff are treated also is a strange thing; they're not treated as professionals, they're treated as employees who are there to carry out the will of the CAO."[107] Ms. Joyner, the CAO, concludes that when it comes to students, "give them a regular certified teacher every day. Give them textbooks. Yes, reduce the classroom sizes. In terms of these

problems, we were able to do it. And we've only been in existence for 2 complete school years. Reduce the classroom sizes—we did it. Give every child a textbook and a certified teacher or a qualified teacher on a consistent level—we did it. And the school district never did that. They never did that."[108] From observations and teacher and student interviews, that above appears to be case; however, given the educational philosophy and practice at the charter school, the academic integrity of the school is in jeopardy.

Student-Guidance Ratio

Table 6.3c[109]
Student-Guidance Ratio (2001-2002)

Charter School	Ratio	Neighborhood Schools' Average Ratio	% Diff.	District Ratio	%Diff.
Center for Economics and Law	178	537	50.2%	472	45.2%
Mathematics, Civics, and Sciences	420	400	-2.4%	472	5.8%

From the above table it is clear that the Center for Economics and Law Charter School has a much lower student-guidance ratio the its neighborhood and district schools. The Mathematics, Civics, and Sciences Charter School has a slightly higher ratio; however, because the difference is only 2.4%, it is almost negligible.

Overall Summary and Conclusions

The following chart summarizes the above findings in quality of education. The charter school results for each category are arranged as follows: higher/good, lower/bad, and same in comparison to the district schools and the description of characteristics, respectively. For the teachers category, there is an added sub-category, General, where students' evaluations of the teachers are taken into account. For this, the Professional Development category is worth fewer points than in the previous quality of education section. The Total line gives the general summary of quality of education.

	Center for Law and Economics Charter School			Mathematics, Civics, and Sciences Charter School of Philadelphia		
	Higher / Good	**Lower / Bad**	**Same / Mixed**	**Higher / Good**	**Lower / Bad**	**Same / Mixed**
Teachers (38)						
Level of Education (11)		11			11	
Years of Experience (11)		11			11	
Certification (8)			8		8	
Professional Development (4)			4		4	
General (4)	4			4		
Classrooms (28)						
Focused Course Content (11)	11			11		
Average Class Size (11)	11			11		
Student-Computer Ratio (3)		3			NA	
Student-Computer w/ Internet Ratio (3)		3			NA	
School (34)						
Teachers and Administration Rel. (7)		7			7	
Discipline (8)	8			8		
Academic Organization (12)	12					12
Student-Guidance Ratio (7)	7					7
Totals	**53**	**35**	**12**	**34**	**41**	**19**

Overall, only the Center for Economics and Law Charter School provides a higher quality of education than the neighborhood and district schools. Mathematics, Civics, and Sciences Charter School of Philadelphia provides a somewhat lower quality education than the neighborhood and district schools. Even though the two schools are very different, they share many characteristics, as will be summarized below.

Regarding the quality of teachers, both schools have lower quality than the district schools. However, at both schools, students gave high marks to their teachers. According to the students, the teacher cared about them, pushed them to work harder, and inspired them.

The two schools also have similar characteristics in the classroom category. At both schools, teachers are able to cover more material in the classroom. The average class sizes are significantly smaller as well. When it comes to technology, the charter schools show a lower quality of education. Regarding innovation in teaching, there does not appear to be any. All teachers listed the lack of resources (and teachers at one school complained about intrusion of the administration into teaching methods) as the primary reason why this is so. At the

Mathematics, Civics, and Sciences Charter School of Philadelphia, innovation meant going "back to the basics." When it comes to the quality of professional development, the reviews are mixed to low quality as teachers wished they had more opportunities for growth and learning.

The relationship between the teachers and the administration was very poor at the two charter schools. All teachers noted that the administration acted on whims, the teachers had no protection, and that the administration intruded negatively into the classroom by directing teachers on how to teach. The CAO was cited as a person who has too much control and does not act fairly towards all teachers and classes. Given the above, all teachers appreciate, understand, and want a union; even those who were anti-union before coming to teach at these charter schools have changed their minds.

Teachers and students appreciated the discipline at the two charter schools because students did not disrupt the learning environment, as is the case in many district schools. Regarding the student-guidance ratio, it is much lower at the Center for Economics and Law Charter School and about the same at the Mathematics, Civics, and Sciences Charter School of Philadelphia.

Academic organization differs at the two schools. At the Center for Economics and Law Charter School, the graduation requirements are higher than at the district schools. This is because of the required practicums—long research papers that students write in their junior and senior years at the school. However, the academic organization at the Mathematics, Civics, and Sciences Charter School of Philadelphia gets mixed reviews. The future, next year's, graduation requirements are much higher than at the district schools, however, there're some problems with the educational practice at the school. For example, high school students are taught using the "de-coding" technique (breaking words down into syllables), this is insulting and demeaning to the kids. Moreover, the teachers are not allowed to fail any student in the school because the administration feels that given the high quality of education at the school, this should not be the case. In reality, the teachers just pass the students that deserve to fail. That is why in the category of Academic Organization, the school is placed under mixed results despite its future graduation requirements. Had the school been placed under the

Higher/Good column, the conclusion would have been that the school provides a higher quality of education than the district schools.

Conclusively, while the Center for Economics and Law Charter School provides a higher quality of education, the Mathematics, Civics, and Sciences Charter School of Philadelphia does not.

DETAILED CASE STUDIES
ACADEMIC ACHIEVEMENT ANALYSIS

Academic achievement is measured by three variables: standardized test scores, dropout rates, and post-graduation activities.

Standardized Test Scores

Two test scores are used as basis for comparison: the annual PSSA (Pennsylvania System of School Achievement) test and the SAT I: Reasoning Test administered by the College Board. The PSSA measures math, reading, and writing ability of 11th graders, and the SAT measures the math and reading abilities of college-bound students. Unfortunately, the two charter schools would not provide their average SAT scores and neither would the College Board, the agency that administers that SAT. If data was provided for more than one year, a percent change in test scores is also calculated for the purposes of assessing growth or decline in test scores. Data for the Mathematics, Civics, and Sciences Charter School of Philadelphia is unavailable because its 11th grade was only added in the fall of 2001.

PSSA (Pennsylvania System of School Achievement)

All data, except where noted, is from the 2000-2001 school year test cycle. In summary, Advanced and Proficient are good results, and Basic and Below Basic are unsatisfactory results. For more detailed definitions of results reported in the table, please see the Research Design section.

Mathematics

The data in the following tables is from the 11th grade results of the PSSA.

Table 3.1a[1]
Charter Schools' Math Results (2000-2001)

Charter School	% Advanced Math	% Proficient Math	% Basic Math	% Below Basic Math
Center for Economics and Law	1.7	0.0	22.0	76.3

Table 3.1b[2]
Neighborhood Schools' Weighed Average Math Results (2000-2001)

Charter School	% Advanced Math	% Proficient Math	% Basic Math	% Below Basic Math
Center for Economics and Law	0.2	4.1	14.2	81.5

Table 3.1c[3]
Difference in Percentage Points Between Charter Schools and the Neighborhood Schools' Weighed Average Results (2000-2001)
(Formula: Charter School Result – Neighborhood School Result)

Charter School	% Advanced Math	% Proficient Math	% Basic Math	% Below Basic Math
Center for Economics and Law	1.5	-4.1	7.8	-5.2

Table 3.1d[4]
Difference in Percentage Points Between Charter Schools and the District Schools' Average Results (2000-2001)
(Formula: Charter School Result – District Result)

Charter School	% Advanced Math	% Proficient Math	% Basic Math	% Below Basic Math
Center for Economics and Law	-6.1	-14.1	0.9	19.3

The Center for Economics and Law Charter School scored lower than the neighborhood schools on the math section of the PSSA. Only 1.7% of the students at the charter school had a score of Advanced and Proficient compared to 4.3% of the students at the neighborhood schools. However, the charter school had a higher percentage of students with a score of Advanced and less students with a score of Below Basic than the neighborhood schools. Moreover, when compared to the district as a whole, the charter school had a lower percentage of students with a score of Advanced and higher percentage of students with a score of Below Basic. Because this study emphasizes the comparison of charter schools to neighborhood schools, the above finding will carry less weight in the formulation of the overall conclusion.

However, overall, the charter school performed less academically than the public schools on the math portion of the PSSA.

Reading

Table 3.2a[5]
Charter Schools' Reading Results (2000-2001)

Charter School	% Advanced Reading	% Proficient Reading	% Basic Reading	% Below Basic Reading
Center for Economics and Law	1.7	16.7	38.3	43.3

Table 3.2b[6]
Neighborhood Schools' Weighed Average Reading Results (2000-2001)

Charter School	% Advanced Reading	% Proficient Reading	% Basic Reading	% Below Basic Reading
Center for Economics and Law	0.2	8.7	14.0	77.0

Table 3.2c[7]
Difference in Percentage Points Between Charter Schools and the Neighborhood Schools' Weighed Average Results (2000-2001)
(Formula: Charter School Result – Neighborhood School Result)

Charter School	% Advanced Reading	% Proficient Reading	% Basic Reading	% Below Basic Reading
Center for Economics and Law	1.5	8.0	24.3	-33.7

Table 3.2d[8]
Difference in Percentage Points Between Charter Schools and the District Schools' Average Results (2000-2001)
(Formula: Charter School Result – District Result)

Charter School	% Advanced Reading	% Proficient Reading	% Basic Reading	% Below Basic Reading
Center for Economics and Law	-4.1	-8.6	15.9	-3.1

The Center for Economics and Law Charter School had much higher scores on the reading portion of the PSSA than the neighborhood schools. 18.47% of the students at the charter school had a score of Advanced and Proficient compared to 8.9% of the students at the

neighborhood schools. Moreover, the charter school had a much higher percentage of students with a score of Advanced and less students with a score of Below Basic than the neighborhood schools. However, when compared to the district as a whole, the charter school had a lower percentage of students with a score of Advanced and higher percentage of students with a score of Below Basic. Overall, however, the charter school performed higher academically than the public schools on the reading portion of the PSSA.

Numerical Scores

The PSSA also measures the Math and Reading levels in numerical scores and assigns an average numerical score to each school. Two years of data (1999-2000 and 2000-2001) is available for this data set. Hence, the change in total scores from one year to the next will also be compared between charter and district schools. Detailed definitions of Advanced, Proficient, Basic, and Below Basic are found in the Research Design section.

Explanation of Numerical Scores[9]

	ADVANCED	PROFICIENT	BASIC	BELOW BASIC
MATH	1490 +	1310 – 1489	1180 – 1309	1179 -
READING	1520 +	1290 – 1519	1140 – 1289	1139 -

Table 3.3a[10]
Charter Schools' Math Scores (1999-2000)

Charter School	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Center for Economics and Law	1060	1044	1.6%	1156	-8.3%

Table 3.3b[11]
Charter Schools' Reading Scores (1999-2000)

Charter School	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Center for Economics and Law	1000	1000	0.0%	1119	-10.6%

Table 3.3c[12]
Charter Schools' Math Scores (2000-2001)

Charter School	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Center for Economics and Law	1110	1070	3.7%	1179	-5.9%

Table 3.3d[13]
Charter Schools' Reading Scores (2000-2001)

Charter School	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Center for Economics and Law	1150	1020	12.7%	1168	-1.5%

From the above tables it is clear that for both years, in the math and reading portions of the PSSA, the Center for Economics and Law Charter School outperformed its neighborhood schools. However, the school performed lower than the district as a whole. Because this study is mostly concerned with the comparisons between charter schools and their neighborhood schools, it can be concluded that this charter school scored higher on the PSSA for two years in a row than its neighborhood schools.

Growth in Academic Achievement

Using the 1999-2000 and the 2000-2001 PSSA test scores, it is now possible to compare test scores from these two years.

Table 3.4a[14]
Charter Schools' Math Scores (1999-2000 and 2000-2001)

	1999-2000			2000-2001		
Charter School	Score	Neighborhood Schools Weighed Average	District Weighed Average	Score	Neighborhood Schools Weighed Average	District Weighed Average
Center for Economics and Law	1060	1044	1156	1110	1070	1179

Table 3.4b[15]
% Difference in Math Scores from 1999-2000 to 2000-2001

Charter School	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Center for Economics and Law	4.7%	2.6%	2.1%	2.0%	2.7%

Table 3.4c[16]
Charter Schools' Reading Scores (1999-2000 and 2000-2001)

	1999-2000			2000-2001		
Charter School	Score	Neighborhood Schools Weighed Average	District Weighed Average	Score	Neighborhood Schools Weighed Average	District Weighed Average
Center for Economics and Law	1000	1000	1119	1150	1020	1168

Table 3.4d[17]
% Difference in Reading Scores from 1999-2000 to 2000-2001

Charter School	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Center for Economics and Law	15.0%	2.0%	13.0%	4.4%	10.6%

When it comes to growth in academic achievement, the Center for Economics and Law Charter School had much better growth than its neighborhood schools and the district as a whole. When compared with the neighborhood schools, the percentage point differences in growth for the charter school for math and reading were 2.1% and 13.0%, respectively. Clearly, this charter school has done something different that caused such a high growth in academic achievement when it comes to PSSA test scores. "Cream skimming" can be ruled out as an explanation; teachers' interviews indicated that the academic abilities of students varied widely—the charter school students are not the "crème de la crème" of the district schools.

Writing

The data in the following tables is from the 11th grade results of the PSSA.

Explanation of Numerical Scores[18]

ADVANCED	PROFICIENT	BASIC	BELOW BASIC
1563 +	1236 - 1562	1088 - 1235	1087 -

Table 3.5a[19]
Writing Scores and % Point Differences (2000-2001)

Charter School and Grades Served	Score	Neighborhood Schools' Weighed Average	% Diff.	District Weighed Average	% Diff.
Center for Economics and Law (9-12)	1180	1104	6.9%	1186	-0.5%

From the above tables it is clear that the Center for Economics and Law Charter School outperformed its neighborhood schools and performed slightly worse than the district as a whole.

Dropout Rates

The Pennsylvania Department of Education gives the following definition of a dropout: "a student who, for any reason other than death, leaves school before graduation without transferring to another school/institution."[20] The dropout rate is defined as "an annual or 'event' rate that measures the proportion of students enrolled who dropout during a single school year. The total number of dropouts for the school year is divided by the fall enrollment for the same year."[21]

Table 3.6[22]
Dropout Rates for Grades 7 to 12 (1999-2000)

Charter School and Grades Served	Dropout Rate (%)	Neighborhood Schools' Weighed Average	Diff.	District Weighed Average	Diff.
Center for Economics and Law (9-12)	0.0%	13.4%	-13.4%	11.1%	-11.1%
Mathematics, Civics, and Sciences (1-11)	0.0%	1.0%	-1.0%	11.1%	-11.1%
Total & Averages	**0.0%**	**7.2%**	**-7.2%**	**11.1%**	**-11.1%**

From the above table it is clear that the two charter schools have lower dropout rates than their neighborhood and district schools. This is primarily due to the fact that charter schools can expel students if they do not follow the charter school's rules. Because the students who mostly drop out are those who do not follow school rules and feel frustrated with the school and its academics, it is very easy for charter schools to have dropout rates of 0%. There is a good reason why the above two charter schools have a dropout rate of zero. Because the schools' policies for discipline and expulsion are very stringent, students do have the chance to drop out—they're expelled. This is a significant note because the process of expelling students from a particular district school is a lengthy and a bureaucratic one—students at charter schools do not have the same level of protection.

Post-Graduation Activities

High academic achievement consists of post-graduation activities that include a high percentage of students going to college and a high percentage of students planning to go to college.

Table 3.7b[23]
Percentage of Students Planning to go to College (2000-2001)

Charter School	% in Charter School	Neighborhood Schools' Weighed Average	Difference	District Weighed Average	Difference
Center for Economics and Law	50%	50.5%	-0.5%	65%	-15%

Judging from the above table, it is clear that about the same percentage of students plan to go on to college from the charter school as from the neighborhood schools. However, the percentage is smaller when the comparison is made to the district as a whole. Student and teacher interviews revealed that almost every student in the school is thinking about going to college and is encouraged to go to college.[24] Yet because the tabulated percent is only at 50%, the teacher and student interviews vary due to sampling. At the Mathematics, Civics, and Sciences Charter School of Philadelphia, a majority of students interviewed also plan to go to

college and the teachers encourage them to do so.[25] However, no definitive conclusions can be reached about the charter school.

Overall Summary and Conclusions

The following chart summarizes the above findings in quality of education. The charter school results for each category are arranged as follows: higher/good, lower/bad, and same in comparison to the district schools and the description of characteristics, respectively. The Total line gives the general summary of quality of education.

	Center for Economics and Law Charter School			**Mathematics, Civics, and Sciences Charter School of Philadelphia**		
	Higher / Good	**Lower / Bad**	**Same / Mixed**	**Higher / Good**	**Lower / Bad**	**Same / Mixed**
Standardized Test Scores (40) **PSSA**						
Math Results (2)		2				
Point Differences (2)	2					
Reading Results (2)	2					
Point Differences (2)	2					
Numerical Scores 1999-2000 (2)	2					
2000-2001 (2)	2					
Growth in Achievement Math (5)	5					
Reading (5)	5					
Writing (3)			3			
SAT I: Reasoning Test (15)	NA	NA	NA			
Dropout Rates (25)	25					2.5
Post-Graduation Activity (35) % Going to College (25)	NA	NA	NA			
% Planning on Going to College (10)			10			
Total	**45**	**2**	**13**			**2.5**

Conclusively, the academic achievement is higher at the Center for Economics and Law Charter School. It is impossible measure academic achievement for the Mathematics, Civics, and Sciences Charter School of Philadelphia because so much of the data is missing due to the fact the school only added an 11th grade this academic year. However, judging from the above

table, one can say with much certainty that the academic achievement is higher at the Center for Economics and Law Charter School. Moreover, as seen from the previous two sections, this charter school provides a much higher quality of education than the neighborhood public schools and the school is not characterized by segregation. Finally, this section shows, as many other studies, that a high quality education is correlated with high academic achievement.

CONCLUSION

This thesis set out to test two hypotheses about charter schools. One regarding segregation: charter schools that are located in non-residential areas and do not provide transportation, require parents to participate in school activities, do not recruit in minority neighborhoods, and do not provide food services will be under-enrolled with minority students from low-income families when compared to the demographics of the neighborhood schools. That is, they will be segregated by race and class. The other regarding the quality of education and academic achievement: if the quality of education is higher at a charter high school than at a neighborhood district high school, then the academic achievement of charter school students will be higher than that of public school students. The city of Philadelphia was chosen as a case study to test the two hypotheses. Out of 39 charter schools, only schools that contained at least grades 9, 10, and 11 were included in the study; there are 10 such schools in Philadelphia. Analysis was performed on a district-wide level and on two charter high schools in more detail. The charter schools were the Center for Economics and Law Charter School and the Mathematics, Civics, and Sciences Charter School of Philadelphia. Moreover, unlike previous charter school studies, this study included a comparison of charter high schools to their neighborhood district high schools (located within three miles of the charter school). The conclusions from both analyses supported the two hypotheses.

Based on district-wide analysis no segregation based on race and socio-economic background occurs in Philadelphia charter high schools. However, neighborhood level analysis showed charter schools that require parental involvement and do not provide food services enroll a significantly smaller percentage of minority and low-income students; recruitment strategies had no effect on segregation. As expected, charter schools that target "at-risk" students enroll a higher percentage of such students than the neighborhood schools and the district as a whole. The two charter schools selected for more detailed analysis showed no signs of segregation. Instead, the two charter schools enroll a higher percentage of African-American students than the neighborhood schools and the district as a whole. Interestingly,

even though the Center for Economics and Law Charter School does not provide food services, it enrolls a higher percentage of minority and students from low-income families than the neighborhood schools and the district as a whole. Another interesting finding is that most students at charter schools did not choose to be there. Most students did not want to leave their old schools and transfer to the charter school; the parents, believing that the school would be better, enrolled their children against the children's objections. However, once at the charter school, most students, not all, found that they enjoyed their new schools about the same and, sometimes, better than their old schools.

District-wide analysis of available data showed that the quality of education is lower at charter schools than at the district schools. However, this is not a definitive conclusion as information was not available on professional development, focused course content, the relationship between teachers and administration, and the academic organization in each charter school. Such information was only obtained through interviews in the two charter schools chosen for more detailed study. The only definitive conclusion to be drawn from the district-wide analysis is that the quality of the teachers at charter schools is lower than at the district schools. Detailed analysis for the Center for Economics and Law Charter School reveals that the school provides a higher quality education than the neighborhood and district schools. However, the Mathematics, Civics, and Sciences Charter School of Philadelphia provides a somewhat lower quality education than the neighborhood and district schools. Despite the above conclusions, the two schools share many similarities.

When it comes to teachers and quality of the classroom, both schools provide a higher quality education than the neighborhood and district high schools. First, from observations and teacher and student interviews it was conclusively determined that the two charter schools provide a significantly safer learning environment than the district schools. Second, almost every student interviewed gave high praise for the teachers. Students believed that the teachers cared about them, pushed them to work harder, and inspired them. Third, the class sizes are significantly smaller at charter schools than at the district schools. Importantly, a vast majority of the teachers interviewed claimed that they were able to cover more material in the charter

classroom than during their prior experiences at the district schools. As many proponents argue that innovation will be part of the classroom at a charter school, the reality of these two charter schools does not support the proponents' claims. Teachers attested to the fact that there is no innovation in the classroom and they cited a lack of resources as the primary reason why this is so. At the Mathematics, Civics, and Sciences Charter School of Philadelphia, teachers complained about administrative interference in their teaching methods that were demeaning and insulting to the students at upper-grade levels. Moreover, at this school, innovation meant a "back to basics" curriculum.

The two charter schools chosen for detailed study also have a dark side. All teachers complain about the poor relationship with the administration. The Chief Administrative Officer acted on whims, wielded too much control of the school, and treated teachers, students, and classes unequally. Most teachers were afraid for their jobs as they realized that one day, they might be put on the CAO's "hit list." Given such relationship, all teachers at the two charter schools want a union, but they are too afraid and intimidated by the administration to speak up. While the Center for Economics and Law Charter School has high expectations for students in terms of course and graduation requirements, the educational philosophy at the Mathematics, Civics, and Sciences Charter School of Philadelphia jeopardizes the academic integrity of the school. First, high school students are taught using the "de-coding" technique (breaking words down into syllables), this is insulting and demeaning to the kids. Second, the teachers are not allowed to fail any student in the school because the administration feels that given the high quality of education at the school, this should not be the case. In reality, the teachers just pass the students that deserve to fail. Conclusively, one can never base definitive conclusions about education without interviews and observations at the schools.

Academic achievement appears to be higher at charter schools than at the district schools. District-wide analysis revealed that the standardized test scores of students at charter schools cancel out the scores of the students at district schools; meaning, charter school students scored higher and lower on the same number of sections when compared to the district schools. However, the growth of standardized test scores was higher at the charter schools than

at the district schools. Charter schools also outperformed district schools on the writing portion of the PSSA and the SAT I: Reasoning Test. Additionally, the dropout rates were significantly lower in charter schools than at the district schools. This is mostly due to the fact that students with disruptive behavior (students who tend to drop out) are expelled before they have a chance to drop out. In terms of post-graduation activity, more charter school students were going to college than students from the district schools. Although, this conclusion should be taken with caution as the charter schools had very small graduation classes. It was not possible to determine academic achievement at the Mathematics, Civics, and Sciences Charter School of Philadelphia because it only added its 11th grade this academic year, however, academic achievement at the Center for Economics and Law Charter School was significantly higher when compared to the neighborhood schools. Because the Center for Economics and Law Charter School provided a higher quality education than the neighborhood schools, one can definitively conclude that, in this case, a high quality education is correlated with high academic achievement.

The above findings can be generalized to other districts with charter schools. First, it is no mere coincidence that at both charter schools chosen for more detailed study, teachers feared and were intimidated by the CAO. It stands to reason that this might go on at most charter schools. However, getting teachers to talk about this is difficult—full anonymity must be guaranteed. Second, teachers at both charter schools cited the lack of resources as a major hindrance to innovation. Previous studies have shown that charter schools without proper financial resources fail in their missions to provide a quality education. The above finding can be extended to other charter schools, but, again, such information can only come from teacher interviews.

Unfortunately, much of the data in this study was only available for the 1999-2000 school year. Without a doubt, there have been changes in the numbers. Currently, but after the writing of this thesis, the Pennsylvania Department of Education is in the process of releasing the data for the 2000-2001 and the 2001-2002 school years. The next step is to create new tables, and analyze the updated data and the quantitative changes between the school years.

The largest contribution to research this thesis can make is devising a new methodology to study segregation, quality of education, and academic achievement at charter schools. Previous studies have focused only on statewide and district-wide analysis in evaluating charter schools. This is because charters must be approved by the state legislatures; hence, studies focus on the bigger geographical picture. However, as this study has shown, it is most useful to compare charter schools to their neighborhood schools. In all three categories, some data would not have been revealed had the analysis only been done on a district-wide level. This is especially true in the segregation category. Another reason to perform neighborhood level analysis is the fact that most students do not travel across town to attend a charter school. If charter schools are about choice and competition, an average student chooses from two or more schools (the charter school and the neighborhood public school) that are within proximity to each other and in his/her neighborhood. This is especially significant in large urban cities such as Philadelphia, New York City, and Los Angeles.

This thesis set out to provide definitive answers to questions about segregation, quality of education, and academic achievement. It accomplished most of this. A definite answer was given about segregation in Philadelphia—it does not occur (with the exception of two schools). However, for quality of education and academic achievement, the definitive answers can only come with the addition of visits to charter schools and interviews with teachers, students, and administrators; numerical data is not enough for conclusive determinations. On the surface, charter schools do seem to provide a higher quality of education and produce higher academic achievement. Yet, there are dark undercurrents flowing through charter schools—the uneasy relationship between teachers and the administration and the hidden academic practices. Teachers at charter schools feel that they must have the protection of a union to work without fear and be able to have greater say over the educational practices at the school. Only time will tell whether these currents will erupt in the face of charter schools or the teachers and the administration will settle their differences quietly behind closed doors. Whatever will happen in the future, the above practices and conditions are out of the box. The voice of the Philadelphia School Reform Commission is not the only deciding factor in the fate of charter

schools. To prove themselves worthy of their cause, the fate of charter schools rests in the hands of those who work there.

APPENDIX

Weighed Average

This thesis uses the concept of weighed averages in almost every data table. Because there is confusion about the differences between a weight average and a regular average, this section will hope to make the differences clearer through an example of dropout rates.

The dropout rate for the Community Academy of Philadelphia Charter School is 0.8%. Its neighborhood schools are Kensington H.S. and William Penn H.S. These two schools dropout weighed average is 9.3%. The individual data for the two neighborhood high schools is in the following table.

Public High Schools	Total Enrollment	Drop-Out Rate (%)	Number of Students
Kensington High School	1,329	20.2%	268
William Penn High School	2,094	2.4%	50

The regular average dropout rate for the two schools would be 11.3% [(20.2%+2.4%)/2]. However, William Penn H.S. enrolls about twice as many students as Kensington H.S. and its dropout rate is only about a tenth of Kensington H.S. Clearly, just adding the two numbers and dividing by two will not produce an accurate result.

Taking into account the different enrollments, a weighed average can be calculated. The number of students who dropped out is already calculated in the above table. Hence, the formula would be: [(268+50)/(1,239+2,094)]*100%. This formula gives the much more accurate dropout rate of 9.3%, a difference of 2 percentage points. Since the district dropout rate is 11.1%, this is an error of 18% ([2%/11.1%)*100%].

Philadelphia District High School Data

Below are the raw data for the Philadelphia district public high schools that were used for comparisons in the thesis. The titles and numbers of the tables in the above case study sections,

match the titles and sections of the tables found below. Moreover, the sources of data are not endnotes because they are exactly the same as listed in the case studies sections.

Table 1.2
African-American Enrollment in Charter and District High Schools

Public High Schools (Italics: Special Admissions)	**Total Enrollment**	**% African-American**	**Number of Students**
Audenried, Charles Y. High School	1,005	98.0%	985
Bartram, John High School	3,412	86.0%	2,934
Bodine, William HS for International Affairs	472	50.0%	236
Carver, G.W. HS for Engineering and Science	580	82.0%	476
Central High School	2,510	32.0%	803
CAPA (HS for Creative and Performing Arts)	664	45.0%	299
Edison, Thomas/Fareira, John C. High School	2,447	19.0%	465
Fels, Samuel S. High School	1,450	47.0%	682
Frankford High School	2,175	42.0%	914
Franklin, Benjamin High School	1,450	93.0%	1,349
Franklin Learning Center	839	52.0%	436
Furness, Horace Howard High School	1,250	44.0%	550
Germantown High School	1,750	87.0%	1,523
Girard	248	21.0%	52
Philadelphia High School for Girls	1,400	56.0%	784
Gratz, Simon High School	2,140	97.0%	2,076
Kensington High School	1,371	23.0%	315
King, Martin Luther High School	1,630	100.0%	1,630
Lamberton, Robert E.	534	88.0%	470
Lincoln, Abraham High School	1,997	39.0%	779
Masterman, Julia R. Middle/High School	391	25.0%	98
Northeast High School	3,400	26.0%	884
Olney High School	3,132	55.0%	1,723
Overbrook High School	2,123	98.0%	2,081
Parkway Program	1,025	88.0%	902
Roxborough High School	1,300	75.0%	975
South Philadelphia High School	1,088	58.0%	631
Strawberry Mansion Middle/High School	1,600	100.0%	1,600
University City High School	1,830	96.0%	1,757
Washington, George High School	2,774	30.0%	832
West Philadelphia High School	1,846	98.0%	1,809
William Penn High School	1,958	94.0%	1,841
Total	**51,791**	**63.5%**	**32,888**

Table 1.3
White Enrollment in Charter and District High Schools

Public High Schools (Italics: Special Admissions)	**Total Enrollment**	**% White**	**Number of Students**
Audenried, Charles Y. High School	1,005	1.0%	10
Bartram, John High School	3,412	4.0%	136
Bodine, William HS for International Affairs	472	23.0%	109
Carver, G.W. HS for Engineering and Science	580	10.0%	58
Central High School	2,510	39.0%	979
CAPA (HS for Creative and Performing Arts)	664	45.0%	299
Edison, Thomas/Fareira, John C. High School	2,447	3.0%	73
Fels, Samuel S. High School	1,450	21.0%	305
Frankford High School	2,175	31.0%	674
Franklin, Benjamin High School	1,450	2.0%	29
Franklin Learning Center	839	22.0%	185
Furness, Horace Howard High School	1,250	23.0%	288
Germantown High School	1,750	1.0%	18
Girard	248	70.0%	174
Philadelphia High School for Girls	1,400	24.0%	336
Gratz, Simon High School	2,140	0.0%	0
Kensington High School	1,371	26.0%	356
King, Martin Luther High School	1,630	1.0%	16
Lamberton, Robert E.	534	3.0%	16
Lincoln, Abraham High School	1,997	49.0%	979
Masterman, Julia R. Middle/High School	391	58.0%	227
Northeast High School	3,400	53.0%	1,802
Olney High School	3,132	3.0%	94
Overbrook High School	2,123	0.0%	0
Parkway Program	1,025	10.0%	103
Roxborough High School	1,300	23.0%	299
South Philadelphia High School	1,088	18.0%	196
Strawberry Mansion Middle/High School	1,600	1.0%	16
University City High School	1,830	1.0%	18
Washington, George High School	2,774	50.0%	1,387
West Philadelphia High School	1,846	1.0%	18
William Penn High School	1,958	1.0%	20
Total	**51,791**	**17.8%**	**9,218**

Table 1.4
Hispanic Enrollment in Charter and District High Schools

Public High Schools (Italics: Special Admissions)	**Total Enrollment**	**% Hispanic**	**Number of Students**
Audenried, Charles Y. High School	1,005	1.0%	10
Bartram, John High School	3,412	1.0%	34
Bodine, William HS for International Affairs	472	9.0%	42
Carver, G.W. HS for Engineering and Science	580	2.0%	12
Central High School	2,510	5.0%	126
CAPA (HS for Creative and Performing Arts)	664	6.0%	40
Edison, Thomas/Fareira, John C. High School	2,447	78.0%	1,909
Fels, Samuel S. High School	1,450	16.0%	232
Frankford High School	2,175	20.0%	435
Franklin, Benjamin High School	1,450	4.0%	58
Franklin Learning Center	839	9.0%	76
Furness, Horace Howard High School	1,250	6.0%	75
Germantown High School	1,750	1.0%	18
Girard	248	4.0%	10
Philadelphia High School for Girls	1,400	6.0%	84
Gratz, Simon High School	2,140	2.0%	43
Kensington High School	1,371	48.0%	658
King, Martin Luther High School	1,630	1.0%	16
Lamberton, Robert E.	534	1.0%	5
Lincoln, Abraham High School	1,997	9.0%	180
Masterman, Julia R. Middle/High School	391	4.0%	16
Northeast High School	3,400	11.0%	374
Olney High School	3,132	32.0%	1,002
Overbrook High School	2,123	0.0%	0
Parkway Program	1,025	1.0%	10
Roxborough High School	1,300	1.0%	13
South Philadelphia High School	1,088	3.0%	33
Strawberry Mansion Middle/High School	1,600	1.0%	16
University City High School	1,830	1.0%	18
Washington, George High School	2,774	8.0%	222
West Philadelphia High School	1,846	1.0%	18
William Penn High School	1,958	4.0%	78
Total	**51,791**	**11.3%**	**5,862**

Table 1.5
Asian-American Enrollment in Charter and District High Schools

Public High Schools (Italics: Special Admissions)	**Total Enrollment**	**% Asian-American**	**Number of Students**
Audenried, Charles Y. High School	1,005	1.0%	10
Bartram, John High School	3,412	4.0%	136
Bodine, William HS for International Affairs	472	18.0%	85
Carver, G.W. HS for Engineering and Science	580	6.0%	35
Central High School	2,510	23.0%	577
CAPA (HS for Creative and Performing Arts)	664	3.0%	20
Edison, Thomas/Fareira, John C. High School	2,447	1.0%	24
Fels, Samuel S. High School	1,450	15.0%	218
Frankford High School	2,175	2.0%	44
Franklin, Benjamin High School	1,450	1.0%	15
Franklin Learning Center	839	16.0%	134
Furness, Horace Howard High School	1,250	26.0%	325
Germantown High School	1,750	8.0%	140
Girard	248	6.0%	15
Philadelphia High School for Girls	1,400	16.0%	224
Gratz, Simon High School	2,140	0.0%	0
Kensington High School	1,371	3.0%	41
King, Martin Luther High School	1,630	1.0%	16
Lamberton, Robert E.	534	2.0%	11
Lincoln, Abraham High School	1,997	3.0%	60
Masterman, Julia R. Middle/High School	391	14.0%	55
Northeast High School	3,400	10.0%	340
Olney High School	3,132	10.0%	313
Overbrook High School	2,123	0.0%	0
Parkway Program	1,025	2.0%	21
Roxborough High School	1,300	1.0%	13
South Philadelphia High School	1,088	30.0%	326
Strawberry Mansion Middle/High School	1,600	1.0%	16
University City High School	1,830	2.0%	37
Washington, George High School	2,774	12.0%	333
West Philadelphia High School	1,846	1.0%	18
William Penn High School	1,958	1.0%	20
Total	**51,791**	**7.0%**	**3,621**

Table 2.2a
Average Class Size (2001-2002)
Based on the Average 10th Grade English Class Size

Public High Schools (Italics: Special Admissions)	Average Class Size	Total Enrollment	% of Total Enrollment	Number of Classes
Audenried, Charles Y. High School	33	1,005	1.9%	30
Bartram, John High School	32	3,412	6.6%	107
Bodine, William HS for International Affairs	24	472	0.9%	20
Carver, G.W. HS for Engineering and Science	29	580	1.1%	20
Central High School	32	2,510	4.8%	78
CAPA (HS for Creative and Performing Arts)	29	664	1.3%	23
Edison, Thomas/Fareira, John C. High School	30	2,447	4.7%	82
Fels, Samuel S. High School	30	1,450	2.8%	48
Frankford High School	32	2,175	4.2%	68
Franklin, Benjamin High School	33	1,450	2.8%	44
Franklin Learning Center	32	839	1.6%	26
Furness, Horace Howard High School	32	1,250	2.4%	39
Germantown High School	30	1,750	3.4%	58
Girard	30	248	0.5%	8
Philadelphia High School for Girls	32	1,400	2.7%	44
Gratz, Simon High School	33	2,140	4.1%	65
Kensington High School	26	1,371	2.6%	53
King, Martin Luther High School	34	1,630	3.1%	48
Lamberton, Robert E.	28	534	1.0%	19
Lincoln, Abraham High School	28	1,997	3.9%	71
Masterman, Julia R. Middle/High School	26	391	0.8%	15
Northeast High School	35	3,400	6.6%	97
Olney High School	24	3,132	6.0%	131
Overbrook High School	33	2,123	4.1%	64
Parkway Program	30	1,025	2.0%	34
Roxborough High School	32	1,300	2.5%	41
South Philadelphia High School	30	1,088	2.1%	36
Strawberry Mansion Middle/High School	30	1,600	3.1%	53
University City High School	31	1,830	3.5%	59
Washington, George High School	31	2,774	5.4%	89
West Philadelphia High School	33	1,846	3.6%	56
William Penn High School	34	1,958	3.8%	58
Total	**31**	**51,791**		**1,685**

Table 2.2b
Student-Computer Ratio (2000-2001)

Public High Schools (Italics: Special Admissions)	**Total Enrollment**	**Number of Computers**	**Ratio**
Audenried, Charles Y. High School	1,005	152	6.6
Bartram, John High School	3,412	NA	NA
Bodine, William HS for International Affairs	472	NA	NA
Carver, G.W. HS for Engineering and Science	580	200	2.9
Central High School	2,510	325	7.7
CAPA (HS for Creative and Performing Arts)	664	190	3.5
Edison, Thomas/Fareira, John C. High School	2,447	500	4.9
Fels, Samuel S. High School	1,450	250	5.8
Frankford High School	2,175	240	9.1
Franklin, Benjamin High School	1,450	NA	NA
Franklin Learning Center	839	256	3.3
Furness, Horace Howard High School	1,250	226	5.5
Germantown High School	1,750	NA	NA
Girard	248	NA	NA
Philadelphia High School for Girls	1,400	75	18.7
Gratz, Simon High School	2,140	450	4.8
Kensington High School	1,371	NA	NA
King, Martin Luther High School	1,630	NA	NA
Lamberton, Robert E.	534	NA	NA
Lincoln, Abraham High School	1,997	300	6.7
Masterman, Julia R. Middle/High School	391	NA	NA
Northeast High School	3,400	862	3.9
Olney High School	3,132	NA	NA
Overbrook High School	2,123	400	5.3
Parkway Program	1,025	NA	NA
Roxborough High School	1,300	304	4.3
South Philadelphia High School	1,088	200	5.4
Strawberry Mansion Middle/High School	1,600	225	7.1
University City High School	1,830	300	6.1
Washington, George High School	2,774	600	4.6
West Philadelphia High School	1,846	NA	NA
William Penn High School	1,958	NA	NA
Total	**51,791**	**6,055**	**8.6**

Table 2.2c
Student-Computers With Internet Access Ratio (1999-2000)

Public High Schools (Italics: Special Admissions)	Total Enrollment	Number of Computers With Internet Access	Ratio
Audenried, Charles Y. High School	1,005	145	6.9
Bartram, John High School	3,412	NA	NA
Bodine, William HS for International Affairs	472	NA	NA
Carver, G.W. HS for Engineering and Science	580	75	7.7
Central High School	2,510	180	13.9
CAPA (HS for Creative and Performing Arts)	664	175	3.8
Edison, Thomas/Fareira, John C. High School	2,447	400	6.1
Fels, Samuel S. High School	1,450	160	9.1
Frankford High School	2,175	150	14.5
Franklin, Benjamin High School	1,450	NA	NA
Franklin Learning Center	839	2	419.5
Furness, Horace Howard High School	1,250	226	5.5
Germantown High School	1,750	NA	NA
Girard	248	NA	NA
Philadelphia High School for Girls	1,400	13	107.7
Gratz, Simon High School	2,140	450	4.8
Kensington High School	1,371	NA	NA
King, Martin Luther High School	1,630	NA	NA
Lamberton, Robert E.	534	NA	NA
Lincoln, Abraham High School	1,997	300	6.7
Masterman, Julia R. Middle/High School	391	NA	NA
Northeast High School	3,400	862	3.9
Olney High School	3,132	NA	NA
Overbrook High School	2,123	175	12.1
Parkway Program	1,025	NA	NA
Roxborough High School	1,300	105	12.4
South Philadelphia High School	1,088	80	13.6
Strawberry Mansion Middle/High School	1,600	225	7.1
University City High School	1,830	250	7.3
Washington, George High School	2,774	500	5.5
West Philadelphia High School	1,846	NA	NA
William Penn High School	1,958	NA	NA
Total	**51,791**	**4,473**	**11.6**

Table 2.3a
Percentage of Students Suspended During the Year (1999-2000)

Public High Schools (Italics: Special Admissions)	**Total Enrollment**	**Suspension Rate**	**Number of Suspensions**
Audenried, Charles Y. High School	979	14.0%	137
Bartram, John High School	3,147	30.9%	971
Bodine, William HS for International Affairs	545	5.5%	30
Carver, G.W. HS for Engineering and Science	683	21.2%	145
Central High School	2,543	2.8%	70
CAPA (HS for Creative and Performing Arts)	679	0.0%	0
Edison, Thomas/Fareira, John C. High School	2,890	21.9%	633
Fels, Samuel S. High School	1,523	46.7%	712
Frankford High School	2,169	34.6%	751
Franklin, Benjamin High School	1,407	2.1%	29
Franklin Learning Center	856	12.7%	109
Furness, Horace Howard High School	1,180	5.0%	59
Germantown High School	1,829	39.1%	715
Girard	369	NA	NA
Philadelphia High School for Girls	1,404	1.4%	20
Gratz, Simon High School	2,061	41.6%	857
Kensington High School	1,329	29.0%	385
King, Martin Luther High School	1,807	49.5%	895
Lamberton, Robert E.	813	63.5%	516
Lincoln, Abraham High School	2,341	46.2%	1,082
Masterman, Julia R. Middle/High School	797	7.0%	56
Northeast High School	3,345	26.1%	874
Olney High School	2,349	35.0%	821
Overbrook High School	2,278	13.1%	298
Parkway Program	856	19.3%	165
Roxborough High School	1,269	43.7%	555
South Philadelphia High School	1,295	48.9%	633
Strawberry Mansion Middle/High School	1,541	NA	NA
University City High School	2,022	24.3%	491
Washington, George High School	2,748	29.5%	812
West Philadelphia High School	1,567	47.7%	747
William Penn High School	2,094	41.3%	865
Total	**52,715**	**27.4%**	**14,433**

Table 2.3b
Student-Guidance Ratio (2001-2002)

Public High Schools (Italics: Special Admissions)	**Ratio**
Audenried, Charles Y. High School	503
Bartram, John High School	853
Bodine, William HS for International Affairs	236
Carver, G.W. HS for Engineering and Science	387
Central High School	314
CAPA (HS for Creative and Performing Arts)	332
Edison, Thomas/Fareira, John C. High School	489
Fels, Samuel S. High School	483
Frankford High School	544
Franklin, Benjamin High School	725
Franklin Learning Center	420
Furness, Horace Howard High School	625
Germantown High School	583
Girard	248
Philadelphia High School for Girls	350
Gratz, Simon High School	535
Kensington High School	457
King, Martin Luther High School	408
Lamberton, Robert E.	534
Lincoln, Abraham High School	399
Masterman, Julia R. Middle/High School	196
Northeast High School	680
Olney High School	447
Overbrook High School	531
Parkway Program	513
Roxborough High School	433
South Philadelphia High School	544
Strawberry Mansion Middle/High School	400
University City High School	458
Washington, George High School	462
West Philadelphia High School	615
William Penn High School	392
Total	**472**

Table 3.1a
Charter Schools' Math Results (2000-2001)

Public High Schools (Italics: Special Admissions)	Number of Students Scored	% Advanced Math	% Proficient Math	% Basic Math	% Below Basic Math
Audenried, Charles Y. High School	NA	NA	NA	NA	NA
Bartram, John High School	425	1.6	9.6	23.3	65.4
Bodine, William HS for International Affairs	112	15.2	43.8	32.1	8.9
Carver, G.W. HS for Engineering and Science	148	18.2	45.9	26.4	9.5
Central High School	582	55.0	37.1	7.2	0.7
CAPA (HS for Creative and Performing Arts)	182	6.6	26.9	39.0	27.5
Edison, Thomas/Fareira, John C. High School	196	0.0	2.0	13.3	84.7
Fels, Samuel S. High School	194	1.5	7.2	20.6	70.6
Frankford High School	269	2.2	13.8	23.4	60.6
Franklin, Benjamin High School	147	0.0	0.7	9.5	89.8
Franklin Learning Center	175	1.7	13.1	38.9	46.3
Furness, Horace Howard High School	160	3.1	13.1	20.0	63.8
Germantown High School	127	0.8	2.4	15.0	81.9
Girard	33	3.0	21.2	51.5	24.2
Philadelphia High School for Girls	343	16.0	39.4	34.7	9.9
Gratz, Simon High School	171	0.0	2.3	10.5	87.1
Kensington High School	128	0.0	7.8	13.3	78.9
King, Martin Luther High School	173	0.0	7.5	13.3	79.2
Lamberton, Robert E.	79	1.3	8.9	30.4	59.5
Lincoln, Abraham High School	265	2.3	17.0	21.5	59.2
Masterman, Julia R. Middle/High School	89	84.3	15.7	0.0	0.0
Northeast High School	596	7.2	23.3	31.5	37.9
Olney High School	209	0.0	3.3	9.1	87.6
Overbrook High School	295	0.7	2.7	11.2	85.4
Parkway Program	197	2.0	16.8	39.1	42.1
Roxborough High School	221	2.7	10.9	26.2	60.2
South Philadelphia High School	112	7.1	8.9	21.4	62.5
Strawberry Mansion Middle/High School	105	0.0	1.9	6.7	91.4
University City High School	284	0.0	4.9	17.3	77.8
Washington, George High School	450	9.3	23.1	26.9	40.7
West Philadelphia High School	176	0.6	2.8	9.1	87.5
William Penn High School	273	0.4	1.8	12.8	85.0
Total	**6,916**	**7.8**	**14.1**	**21.1**	**57.0**

Table 3.2a
Charter Schools' Reading Results (2000-2001)

Public High Schools (Italics: Special Admissions)	Number of Students Scored	% Advanced Reading	% Proficient Reading	% Basic Reading	% Below Basic Reading
Audenried, Charles Y. High School	NA	NA	NA	NA	NA
Bartram, John High School	407	1.2	16.5	19.4	62.9
Bodine, William HS for International Affairs	112	8.9	61.6	26.8	2.7
Carver, G.W. HS for Engineering and Science	146	15.8	56.2	24.0	4.1
Central High School	580	36.0	59.0	4.7	0.3
CAPA (HS for Creative and Performing Arts)	171	12.9	48.5	26.3	12.3
Edison, Thomas/Fareira, John C. High School	172	0.0	7.0	22.7	70.3
Fels, Samuel S. High School	191	0.0	22.5	30.4	47.1
Frankford High School	258	0.4	21.7	27.1	50.8
Franklin, Benjamin High School	112	0.0	7.1	17.0	75.9
Franklin Learning Center	173	4.0	46.8	30.6	18.5
Furness, Horace Howard High School	153	0.7	12.4	24.2	62.7
Germantown High School	119	0.0	10.1	29.4	60.5
Girard	32	6.3	37.5	28.1	28.1
Philadelphia High School for Girls	341	12.9	63.0	19.4	4.7
Gratz, Simon High School	219	0.0	9.6	18.7	71.7
Kensington High School	115	0.9	7.0	15.7	76.5
King, Martin Luther High School	161	0.0	13.0	21.1	65.8
Lamberton, Robert E.	70	0.0	17.1	28.6	54.3
Lincoln, Abraham High School	259	2.7	23.6	35.1	38.6
Masterman, Julia R. Middle/High School	89	57.3	39.3	3.4	0.0
Northeast High School	580	7.2	41.0	26.9	24.8
Olney High School	206	0.0	6.3	11.2	82.5
Overbrook High School	274	0.4	6.6	20.1	73.0
Parkway Program	191	3.7	48.2	32.5	15.7
Roxborough High School	221	1.8	21.7	30.3	46.2
South Philadelphia High School	105	1.0	12.4	26.7	60.0
Strawberry Mansion Middle/High School	101	0.0	9.9	12.9	77.2
University City High School	225	0.4	6.7	12.0	80.9
Washington, George High School	435	6.4	32.6	28.5	32.4
West Philadelphia High School	154	0.0	11.7	16.9	71.4
William Penn High School	235	0.0	8.1	24.7	67.2
Total	**6,607**	**5.8**	**25.3**	**22.4**	**46.4**

Table 3.3a: Charter Schools' Math Scores (1999-2000)
Table 3.3b: Charter Schools' Reading Scores (1999-2000)

Public High Schools (Italics: Special Admissions)	**Num. of Students**	**Math Particip. Rate %**	**Math Score**	**Reading Particp. Rate %**	**Reading Score**
Audenried, Charles Y. High School	250	61.6	1020	42.0	1020
Bartram, John High School	407	87.4	1130	84.9	1080
Bodine, William HS for International Affairs	112	97.4	1340	97.4	1320
Carver, G.W. HS for Engineering and Science	146	92.7	1340	90.3	1270
Central High School	580	95.1	1480	94.3	1420
CAPA (HS for Creative and Performing Arts)	171	92.5	1200	78.2	1230
Edison, Thomas/Fareira, John C. High School	172	73.0	1060	62.2	1010
Fels, Samuel S. High School	191	69.4	1110	71.0	1050
Frankford High School	258	83.2	1100	73.7	1060
Franklin, Benjamin High School	112	77.4	1020	75.4	970
Franklin Learning Center	173	96.2	1200	97.5	1210
Furness, Horace Howard High School	153	61.4	1130	60.7	1070
Germantown High School	119	56.4	1090	57.1	1050
Girard	32	100.0	1330	100.0	1370
Philadelphia High School for Girls	341	95.3	1350	95.0	1330
Gratz, Simon High School	219	89.7	1070	74.1	1000
Kensington High School	115	77.2	1060	72.4	1010
King, Martin Luther High School	161	83.5	1070	81.7	1030
Lamberton, Robert E.	70	81.6	1100	82.5	1020
Lincoln, Abraham High School	259	86.6	1120	84.3	1110
Masterman, Julia R. Middle/High School	89	100.0	1590	99.1	1510
Northeast High School	580	85.5	1190	80.6	1180
Olney High School	206	67.2	1060	56.2	960
Overbrook High School	274	88.2	1070	77.4	1040
Parkway Program	191	92.8	1150	89.8	1130
Roxborough High School	221	98.0	1130	95.6	1120
South Philadelphia High School	105	60.6	1130	62.4	1050
Strawberry Mansion Middle/High School	101	78.3	1020	72.0	990
University City High School	225	85.3	1040	81.0	1000
Washington, George High School	435	87.9	1190	82.2	1150
West Philadelphia High School	154	68.2	1050	42.4	1020
William Penn High School	235	82.1	1040	71.6	1030
Total	**6,607**	**82.9**	**1156**	**77.7**	**1119**

Table 3.3c: Charter Schools' Math Scores (2000-2001)
Table 3.3d: Charter Schools' Reading Scores (2000-2001)

Public High Schools (Italics: Special Admissions)	Num. of Students	Math Particip. Rate %	Math Score	Reading Particp. Rate %	Reading Score
Audenried, Charles Y. High School	NA	NA	NA	NA	NA
Bartram, John High School	407	90.0	1140	86.2	1100
Bodine, William HS for International Affairs	112	94.9	1340	94.9	1340
Carver, G.W. HS for Engineering and Science	146	97.4	1370	96.1	1370
Central High School	580	97.5	1530	97.2	1480
CAPA (HS for Creative and Performing Arts)	171	96.8	1270	91.0	1340
Edison, Thomas/Fareira, John C. High School	172	80.0	1070	70.2	1040
Fels, Samuel S. High School	191	94.6	1120	93.2	1130
Frankford High School	258	87.9	1150	84.3	1130
Franklin, Benjamin High School	112	75.0	1040	57.1	1040
Franklin Learning Center	173	93.6	1190	92.5	1270
Furness, Horace Howard High School	153	86.5	1100	82.7	1100
Germantown High School	119	51.4	1090	48.2	1080
Girard	32	100.0	1260	97.0	1230
Philadelphia High School for Girls	341	97.4	1350	96.9	1370
Gratz, Simon High School	219	62.6	1060	80.2	1060
Kensington High School	115	94.1	1090	84.6	1030
King, Martin Luther High School	161	84.8	1090	78.9	1070
Lamberton, Robert E.	70	94.0	1150	83.3	1110
Lincoln, Abraham High School	259	93.0	1170	90.9	1190
Masterman, Julia R. Middle/High School	89	100.0	1630	100.0	1530
Northeast High School	580	96.3	1240	93.7	1260
Olney High School	206	92.1	1040	90.7	980
Overbrook High School	274	84.5	1050	78.5	1030
Parkway Program	191	95.6	1210	92.7	1280
Roxborough High School	221	99.5	1150	99.5	1160
South Philadelphia High School	105	75.7	1160	70.9	1110
Strawberry Mansion Middle/High School	101	91.3	1060	87.8	1030
University City High School	225	92.2	1080	73.1	1020
Washington, George High School	435	90.7	1240	87.7	1220
West Philadelphia High School	154	62.9	1050	55.0	1050
William Penn High School	235	92.9	1070	79.9	1060
Total	**6,607**	**88.6**	**1179**	**84.4**	**1168**

Raw Data for Tables 3.4a to 3.4d

	1999-2000		2000-2001	
Public High Schools (Italics: Special Admissions)	**Math**	**Reading**	**Math**	**Reading**
Audenried, Charles Y. High School	1020	1020	NA	NA
Bartram, John High School	1130	1080	1140	1100
Bodine, William HS for International Affairs	1340	1320	1340	1340
Carver, G.W. HS for Engineering and Science	1340	1270	1370	1370
Central High School	1480	1420	1530	1480
CAPA (HS for Creative and Performing Arts)	1200	1230	1270	1340
Edison, Thomas/Fareira, John C. High School	1060	1010	1070	1040
Fels, Samuel S. High School	1110	1050	1120	1130
Frankford High School	1100	1060	1150	1130
Franklin, Benjamin High School	1020	970	1040	1040
Franklin Learning Center	1200	1210	1190	1270
Furness, Horace Howard High School	1130	1070	1100	1100
Germantown High School	1090	1050	1090	1080
Girard	1330	1370	1260	1230
Philadelphia High School for Girls	1350	1330	1350	1370
Gratz, Simon High School	1070	1000	1060	1060
Kensington High School	1060	1010	1090	1030
King, Martin Luther High School	1070	1030	1090	1070
Lamberton, Robert E.	1100	1020	1150	1110
Lincoln, Abraham High School	1120	1110	1170	1190
Masterman, Julia R. Middle/High School	1590	1510	1630	1530
Northeast High School	1190	1180	1240	1260
Olney High School	1060	960	1040	980
Overbrook High School	1070	1040	1050	1030
Parkway Program	1150	1130	1210	1280
Roxborough High School	1130	1120	1150	1160
South Philadelphia High School	1130	1050	1160	1110
Strawberry Mansion Middle/High School	1020	990	1060	1030
University City High School	1040	1000	1080	1020
Washington, George High School	1190	1150	1240	1220
West Philadelphia High School	1050	1020	1050	1050
William Penn High School	1040	1030	1070	1060
Total	**1156**	**1119**	**1179**	**1168**

Table 3.5a
Writing Scores and % Point Differences (2000-2001)

Public High Schools (Italics: Special Admissions)	**Num. of Students**	**Particip. Rate %**	**Score**
Audenried, Charles Y. High School	250	45.0	1050
Bartram, John High School	407	99.5	1210
Bodine, William HS for International Affairs	112	94.9	1350
Carver, G.W. HS for Engineering and Science	146	98.0	1350
Central High School	580	97.4	1420
CAPA (HS for Creative and Performing Arts)	171	100.0	1420
Edison, Thomas/Fareira, John C. High School	172	78.1	1010
Fels, Samuel S. High School	191	76.4	1150
Frankford High School	258	87.9	1150
Franklin, Benjamin High School	112	74.2	1040
Franklin Learning Center	173	94.8	1260
Furness, Horace Howard High School	153	68.2	1100
Germantown High School	119	41.2	1040
Girard	32	100.0	1310
Philadelphia High School for Girls	341	96.6	1450
Gratz, Simon High School	219	74.9	1120
Kensington High School	115	100.0	1080
King, Martin Luther High School	161	99.5	1090
Lamberton, Robert E.	70	92.2	1090
Lincoln, Abraham High School	259	86.5	1240
Masterman, Julia R. Middle/High School	89	98.9	1500
Northeast High School	580	96.4	1250
Olney High School	206	98.8	1010
Overbrook High School	274	89.9	1120
Parkway Program	191	93.0	1310
Roxborough High School	221	99.6	1180
South Philadelphia High School	105	69.9	1120
Strawberry Mansion Middle/High School	101	100.0	1070
University City High School	225	63.2	1120
Washington, George High School	435	91.9	1240
West Philadelphia High School	154	62.0	1080
William Penn High School	235	79.5	1030
Total	**6,607**	**85.9**	**1186**

Table 3.6a: SAT I: Verbal Scores (2000-2001)
Table 3.6b: SAT I: Math Scores (2000-2001)
Table 3.6c: SAT I: Total Scores (2000-2001)

Public High Schools (Italics: Special Admissions)	**% Taking SATs**	**Average Verbal Score**	**Average Math Score**	**Average Total Score**
Audenried, Charles Y. High School	NA	NA	NA	NA
Bartram, John High School	40%	338	339	677
Bodine, William HS for International Affairs	94%	450	474	924
Carver, G.W. HS for Engineering and Science	98%	488	495	983
Central High School	100%	530	548	1,078
CAPA (HS for Creative and Performing Arts)	100%	559	487	1,046
Edison, Thomas/Fareira, John C. High School	42%	348	369	717
Fels, Samuel S. High School	60%	367	381	748
Frankford High School	30%	420	440	860
Franklin, Benjamin High School	30%	340	250	590
Franklin Learning Center	66%	405	409	814
Furness, Horace Howard High School	59%	351	401	752
Germantown High School	50%	380	369	749
Girard	100%	459	484	943
Philadelphia High School for Girls	100%	501	500	1,001
Gratz, Simon High School	35%	333	337	670
Kensington High School	34%	325	352	677
King, Martin Luther High School	55%	400	375	775
Lamberton, Robert E.	80%	385	367	752
Lincoln, Abraham High School	48%	403	409	812
Masterman, Julia R. Middle/High School	100%	649	638	1,287
Northeast High School	67%	436	433	869
Olney High School	75%	400	400	800
Overbrook High School	79%	370	360	730
Parkway Program	5%	402	394	796
Roxborough High School	70%	NA	NA	NA
South Philadelphia High School	42%	326	401	727
Strawberry Mansion Middle/High School	63%	324	322	646
University City High School	0%	355	349	704
Washington, George High School	80%	425	450	875
West Philadelphia High School	49%	361	344	705
William Penn High School	67%	346	345	691
Total	**62%**	**406**	**407**	**813**

Table 3.7
Dropout Rates for Grades 7 to 12 (1999-2000)

Public High Schools (Italics: Special Admissions)	Total Enrollment	Drop-Out Rate (%)	Number of Students
Audenried, Charles Y. High School	979	14.3%	140
Bartram, John High School	3,147	18.0%	566
Bodine, William HS for International Affairs	545	0.9%	5
Carver, G.W. HS for Engineering and Science	683	0.7%	5
Central High School	2,543	0.1%	3
CAPA (HS for Creative and Performing Arts)	679	0.3%	2
Edison, Thomas/Fareira, John C. High School	2,890	27.3%	789
Fels, Samuel S. High School	1,523	7.6%	116
Frankford High School	2,169	14.2%	308
Franklin, Benjamin High School	1,407	12.9%	182
Franklin Learning Center	856	3.5%	30
Furness, Horace Howard High School	1,180	15.7%	185
Germantown High School	1,829	19.4%	355
Girard	369	0.0%	0
Philadelphia High School for Girls	1,404	0.0%	0
Gratz, Simon High School	2,061	15.7%	324
Kensington High School	1,329	20.2%	268
King, Martin Luther High School	1,807	30.3%	548
Lamberton, Robert E.	813	0.4%	3
Lincoln, Abraham High School	2,341	9.1%	213
Masterman, Julia R. Middle/High School	797	0.1%	1
Northeast High School	3,345	8.2%	274
Olney High School	2,349	5.1%	120
Overbrook High School	2,278	4.7%	107
Parkway Program	856	1.3%	11
Roxborough High School	1,269	6.9%	88
South Philadelphia High School	1,295	20.9%	271
Strawberry Mansion Middle/High School	1,541	14.3%	220
University City High School	2,022	12.0%	243
Washington, George High School	2,748	7.3%	201
West Philadelphia High School	1,567	15.3%	240
William Penn High School	2,094	2.4%	50
Total	**52,715**	**11.1%**	**5,866**

Table 3.8a
Percentage of Graduates Going to a PA Community College, PA Private 2-Year College, PA Private 4-Year College, or a Non-PA 4-Year College (1999-2000)

Public High Schools (Italics: Special Admissions)	**Total Number of Graduates**	**Number Going to College**	**PA Non-Degree Inst.**
Audenried, Charles Y. High School	85	81	4
Bartram, John High School	497	249	47
Bodine, William HS for International Affairs	163	124	0
Carver, G.W. HS for Engineering and Science	170	150	0
Central High School	531	517	0
CAPA (HS for Creative and Performing Arts)	155	142	0
Edison, Thomas/Fareira, John C. High School	339	228	0
Fels, Samuel S. High School	231	139	0
Frankford High School	430	294	0
Franklin, Benjamin High School	230	51	0
Franklin Learning Center	161	129	10
Furness, Horace Howard High School	199	150	20
Germantown High School	287	180	15
Girard	59	49	4
Philadelphia High School for Girls	296	285	5
Gratz, Simon High School	352	196	31
Kensington High School	224	77	12
King, Martin Luther High School	355	204	30
Lamberton, Robert E.	90	49	2
Lincoln, Abraham High School	407	258	24
Masterman, Julia R. Middle/High School	97	88	1
Northeast High School	611	438	3
Olney High School	370	257	0
Overbrook High School	438	380	11
Parkway Program	145	106	5
Roxborough High School	211	131	12
South Philadelphia High School	205	111	13
Strawberry Mansion Middle/High School	178	117	3
University City High School	330	188	27
Washington, George High School	542	393	10
West Philadelphia High School	264	103	20
William Penn High School	242	164	1
Total	**8,894**	**6,028**	**310**

Table 3.8b
Percentage of Students Planning to go to College (2000-2001)

Public High Schools (Italics: Special Admisssions)	**Total Enrollment**	**Total Number to College**	**Total % Going to College**
Audenried, Charles Y. High School	1,005	NA	NA
Bartram, John High School	3,412	1,570	46%
Bodine, William HS for International Affairs	472	415	88%
Carver, G.W. HS for Engineering and Science	580	568	98%
Central High School	2,510	2,435	97%
CAPA (HS for Creative and Performing Arts)	664	664	100%
Edison, Thomas/Fareira, John C. High School	2,447	1,199	49%
Fels, Samuel S. High School	1,450	1,088	75%
Frankford High School	2,175	1,523	70%
Franklin, Benjamin High School	1,450	319	22%
Franklin Learning Center	839	755	90%
Furness, Horace Howard High School	1,250	700	56%
Germantown High School	1,750	1,383	79%
Girard	248	248	100%
Philadelphia High School for Girls	1,400	1,372	98%
Gratz, Simon High School	2,140	1,070	50%
Kensington High School	1,371	480	35%
King, Martin Luther High School	1,630	1,141	70%
Lamberton, Robert E.	534	401	75%
Lincoln, Abraham High School	1,997	1,538	77%
Masterman, Julia R. Middle/High School	391	391	100%
Northeast High School	3,400	2,788	82%
Olney High School	3,132	2,506	80%
Overbrook High School	2,123	2,017	95%
Parkway Program	1,025	974	95%
Roxborough High School	1,300	780	60%
South Philadelphia High School	1,088	892	82%
Strawberry Mansion Middle/High School	1,600	816	51%
University City High School	1,830	0	0%
Washington, George High School	2,774	2,025	73%
West Philadelphia High School	1,846	738	40%
William Penn High School	1,958	1,273	65%
Total	**51,791**	**34,066**	**66%**

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ENDNOTES

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[15] For examples of such studies, see the Literature Review section of this thesis
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Overview of the Two Charter Schools

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Detailed Case Studies Segregation Analysis

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[23] CAO interview at MCSCS
[24] Interview with Ms. Joyner and direct observation
[25] CAO interview at MCSCS
[26] Annual Report to School Board
[27] Student Interview at MCSCS
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[3] Interview with Ms. Joyner at MCSCS
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[70] Charter Schools' Memoranda and telephone inquiries
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[72] School Memorandum on Graduation Requirements
[73] Speech by Dr. Andrews at the Open House
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