Evaluation of the Delaware Charter School Reform

Year 2 Report

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Evaluation of the Delaware Charter School Reform Year 2 Report

Executive Summary

The Delaware charter school reform dates back to 1995 when legislation was initially passed that allowed the creation of charter schools. Two schools opened in 1996, and 13 charter schools are currently operating in the state. They enroll more than 6,500 students, which accounts for nearly 5.5 percent of all public school students. Four additional charter schools are scheduled to open in the autumn of 2006. Thus far, two schools have closed due to financial and other organizational difficulties.

The students enrolled in the charter schools vary extensively in terms of demographics. This is largely due to the location of the schools and the schools' profiles and marketing strategies. In many cases, the demographic characteristics of the charter schools differ greatly from the surrounding communities. While some of the charter schools cater to students performing far below expected performance levels, others recruit and enroll students that are already excelling in school. While some charter schools enroll nearly all minority students, other schools have populations of students that include few minority students. In some cases, the charter schools are enrolling more disadvantaged students than the surrounding districts, while in other cases they are enrolling students who are substantially less disadvantaged. Because of these vast differences among the charter schools and between the charter schools and traditional public schools, one must be cautious in generalizing findings or drawing sweeping conclusions.

The structure of the Year 2 report is similar in many respects to the Year 1 report. While we have not examined oversight issues in this report as we did last year, we have given additional attention to the impact of charter schools and other choice reforms on the enrollment patterns in public and nonpublic schools alike.

Describing Delaware Schools and their Students

In order to gain a better understanding of the impact of charter schools in Delaware, an in-depth analysis of student enrollment patterns was conducted. We looked at overall enrollment patterns for all types of school choice for 2004-05 as well as five-year trends for charter schools, traditional public school districts, and nonpublic schools. Overall, enrollment levels at both traditional public schools and charter schools are steady and comparable to previous years. There are, however, some noteworthy findings, which we present below:

- ❑ The racial/ethnic composition of Delaware students is changing with small increases in Hispanic students, slight increases in African-American and Asian students, and a nearly 5 percent decrease in White students enrolled in public schools.
- ❑ Approximately 11-28 percent of each of the county's traditional public school district residents attend a choice school other than the traditional public school district based on geographic area.
- ❑ Larger school districts are losing a larger proportion of their students to charter schools or nonpublic schools as compared to smaller districts with the exception of Indian River School District is Sussex County.
- ❑ Overall, charter schools as a group enroll more minority students as a percentage of their overall enrollment, although there are large differences among the schools.
- ❑ Traditional public schools have higher percentages of low income students, students with special educational needs, and students who have limited English proficiency.
- ❑ Because individual charter schools enroll students that differ greatly from sending districts, one can argue that many of the charter schools may be accelerating the resegregation of public schools based on race, class, and ability by leaving them more fragmented . However, one must also recognize that other school choice programs (such as interdistrict choice and the neighborhood schools program) are also promoting the acceleration of the resegregation of schools. This is a complicated policy issue that we raise for discussion but it is also an issue that must be understood in the broader context and history of the state.

Delaware Charter School Teachers

In last year's report, considerable attention was given to charter school teachers. Our analysis this year maintains the critical focus on charter school teachers and uses data from three sources. One is from the questionnaires we collected from teachers and staff in the spring of 2004 and the spring of 2005. This survey contained both closed-ended items as well as open-ended items that were carefully sorted and analyzed. A second source of data was the official certification and teacher data collected and reported by Delaware Department of Education. Finally, the third source of data was from interviews of administrators that were conducted during the site visits over the past two years.

Teacher background characteristics. Although demographic characteristics for charter school teachers and traditional public school teachers are somewhat similar, there are some interesting variations. For example, there is a higher proportion of male teachers in the charter schools (although female teachers still outnumber male teachers in charter schools just as they do in traditional public schools), and there is a higher proportion of minority teachers in charter schools, although the composition of the staff varies considerably by school. The age distribution for Delaware charter school teachers indicates that they are younger than teachers in traditional public schools.

Teacher qualifications. Overall, teachers in the charter schools appear to have increasing levels of qualifications and experience. The proportion of teachers reporting that they were certified increased considerably over the past two years. It is also worth mentioning that, on average, teachers in traditional public schools tend to have twice as many years of experience as charter school teachers have. While there are improvements in level of credentials and years of experience of the

charter school teachers, there remains very large differences among the schools with some schools still struggling to recruit and retain the highly credentialed staff they are expected to have.

Reasons for choosing to work at a charter school. On the whole, the responses from the teachers' survey were similar to those from teachers last year. The responses varied noticeably among the schools, however the following reasons for choosing their charter school were most commonly reported: dedicated staff, a strong sense of community, good students, and creativity in programs.

Working conditions and levels of satisfaction. In general, teachers were content with their schools and their general working conditions. Availability of resources and inadequate facilities were frequently noted as concerns from teachers. Most teachers reported that they were autonomous and creative in their classrooms and that the school supported innovative practices. In the questionnaires, the teachers and staff were asked to rate a number of items in terms of their initial expectations before coming to a charter school. In connection with this, the teachers/staff were asked to rate these same items with respect to what they were currently experiencing at the school. While the teachers were generally satisfied, it was apparent that the initial expectations of teachers and staff were still not being met over time. Levels of satisfaction among teachers varied considerably across the charter schools.

Teacher attrition. In our analysis last year, we were surprised to discover that the charter schools had very high attrition rates. This year the attrition rate has dropped substantially, from 32 to 20.6 percent, although two schools continued to struggle with retaining their teachers. Of particular importance, half of the noncertified teachers left in 2004 which certainly helps boost the proportion of certified teachers. From a review at the survey responses from teachers who actually left the school we could discern that teachers that left were significantly less satisfied with (i) the school mission and school quality, (ii) governance and leadership of the school, and (iii) working conditions, particularly salary and the evaluation of teachers' performance. Teachers that left tended to have lower levels of formal education. Also, in the previous year it was clear that teachers without proper credentials were more likely to leave.

Regardless of the reasons for turnover, high turnover can be problematic to morale and to student achievement. High turnover impacts staff, parents, and especially students. On the other hand, it is important to keep in mind that not all attrition is bad. Because charter schools are much freer to remove teachers that do not perform well or who do not match the mission of the school, they should be more able to build focused learning communities. While we have been able to identify the scope and likely reasons for attrition, further study is needed to examine the factors behind teacher attrition as well as the impact of this attrition on the charter schools.

Accomplishment of Mission

Overall, Delaware's charter schools made improvements in the reporting of their accomplishment of goals and objectives. The 2004-05 reports were slightly clearer and more comprehensive than the annual reports from previous years. It was quite apparent that the schools made strides in improving the organization and clarity of their reporting. Having a well laid out report that clearly lists objectives and provides corresponding evidence greatly facilitates comprehension and, as such, makes it much easier to determine if objectives have been met. Additionally, many of the schools

went far beyond the standard academic, behavioral, and market accountability objectives laid out in the performance agreements. These schools developed objectives that were tailored to their individual missions which allowed for a more accurate evaluation of their goals.

Although the schools made substantial gains in the quality and clarity of their reporting, there are still some areas that need improving. In Chapter 4 we highlight three areas in which charter schools can focus their efforts in regards to improving the overall quality and evaluation of their objectives. First, the charter schools need to work on creating appropriate/realistic objectives. Many of the schools had objectives that, while sounding good on paper, were neither appropriate nor attainable. Unfortunately, if a school sets objectives that are too unrealistic they run the risk of not demonstrating success which could cause problems in terms of morale for teachers and administrators. On the other extreme, many schools had objectives that were vague and all too easily attained. Therefore the second suggestion put forth in Chapter 4 is that the schools need to incorporate benchmarks into objectives in order to increase measurability. This will ensure that objectives represent a challenge, or something for schools to work towards attaining. Finally, the schools need to provide evidence as to whether or not the objective has been met. In many cases, the schools merely stated whether or not an objective had been met without providing any substantiating evidence. However, without evidence it is not possible for someone reading the report to corroborate the assertion.

Our synthesis and analysis of the findings across the reports can be summed up as follows:

Progress on Academic Objectives by School

- ❏ Overall, this year's objectives were significantly better than the objectives reviewed in last year's report. It was quite apparent that the school's had invested more time developing and evaluating their objectives.
- ❏ The actual number of academic objectives set by each school varied greatly. While one school had only two academic objectives, another had as many as 18.
- ❏ The quality of objectives varied significantly as well. Unfortunately, many of the schools had objectives that were still vague and difficult to measure; these objectives did not contain benchmarks and, as such, were difficult if not impossible to determine if they were met.
- ❏ Many schools developed objectives that were designed to correspond to their unique missions; these objectives were quite helpful in determining if the school was actually achieving their intended educational mission

Progress on Behavioral Objectives by School

- ❏ There were considerably fewer behavioral objectives than academic objectives. However, there was still considerable variation among the schools in the number of objectives identified.
- ❏ As compared to their academic objectives, schools were much more successful in meeting their behavioral objectives. On the whole, the behavioral objectives were much more specific than the academic objectives and incorporated clear benchmarks.

Progress on Market Accountability Objectives

- ❑ Overall, the schools did a good job developing their market accountability objectives although they tended to use objectives included in the performance agreement as opposed to developing objectives tailored to their individual mission.

Student Performance on the Delaware Student Testing Program

The Delaware Department of Education website provides extensive data on school performance for both charter schools and traditional public schools. Unfortunately, these data do not allow us to calculate accurately the impact of charter schools on student learning because they do not take into consideration the value added by the school over time, nor do they facilitate comparisons with other schools that have similar characteristics. In our analysis, however, we were able to capture and measure the effect of charter schools on student learning. We tracked individual students and measured gains in test scores of these students while enrolled at charter schools relative to the gains made by demographically matched students enrolled in traditional public schools during the same period. The Delaware Department of Education provided us with the extensive student level data necessary to conduct this analysis. Although the data did not contain information by which to identify individual students, they did include a corresponding identification number that made tracking individual students over time possible.

In our year 1 evaluation, we analyzed the results from the Delaware Student Testing Program (DSTP) math, reading, and writing tests, which are administered at grades 3, 5, 8, 10 from 1999-00 to 2003-04. For this year 2 report, we have added an additional year of data and are now able to track groups of students over five years. This dataset includes both students in charter schools and students in traditional public schools. The scope and nature of these data allowed us to use a matched student design to examine the impact that charter schools were having on student learning. The matched student design is a quasi-experimental design in which students in the experimental group (i.e., charter schools) are matched according to all relevant background and demographic indicators with students in the control group (i.e., traditional public schools). Students are followed over time, and we track and compare relative gains.

The goal of our panel definition was to create a random sample of noncharter students who were demographically matched with charter school students that spanned the greatest number of DSTP assessments. Six panels were created and tracked over time in the year 1 report. In year 2, we were able to construct and track 6 more panels of students over time. In order to be included in the panels, students had to have valid test scores for both the pretest and posttest. Development of the panels began with the most current DSTP assessment year (either 2003, 2004, or 2005) and looked back in time to the previous DSTP assessment. Thus, we were able to build panel pairs that examined longitudinal growth from third to fifth grade, fifth to eight grade, and eight to tenth grade. Detailed information on how the panels were constructed can be found in chapter 5.

To address the central reform question, " Is there a difference in achievement (reading and math) between students attending charter schools vs. students attending noncharter schools, an analysis of covariance (ANCOVA) was conducted on the last DSTP assessment with the previous DSTP assessment score as the covariate." Separate ANCOVA analyses were examined for DSTP scaled score and SAT-9 NCE for the reading and math assessments. The use of the previous DSTP as the

covariate acts as a statistical matching procedure where the means on the last DSTP assessment for each group (charter and noncharter) are adjusted to what they would be if the two groups had scored equally on the previous DSTP assessment. Thus, using the previous DSTP assessment is a statistical control for previous achievement level; as such, the evaluative question directly addressed by the ANCOVA is whether enrollment in a charter school is associated with higher DSTP mean assessment scores in math and reading than enrollment in a noncharter school after adjustment for previous DSTP performance?"

The results outlined in detail in chapter 5 largely mirror the results found in the year 1 evaluation. The most notable finding is that charter school students perform substantially better than matched traditional public school students in the upper grades. All of the comparisons at grade 10 favored charter schools and were statistically significant. In other words, the charter school students included in the panels were gaining more on the DSTP between grade 8 and grade 10 than their matched peers in traditional public school. One serious limitation to keep in mind here is that many students in the grade 8 to grade 10 panels did not actually enter a charter school until grade 9. Also many students were dropped from this panel because they did not have a grade 8 DSTP score. This is likely because they were enrolled in private schools. The results at the elementary level suggest that charter schools are similarly or slightly less well when compared with demographically matched students. Between grades 5 and 8 the results have increasingly favored the charter schools, particularly the results for reading.

We also looked at differences over time to see if charter schools were improving relative to their matched peers over time. To do this, we analyzed differences between the 6 panels in the year 1 analysis with the 6 panels we incorporated in year 2. Changes in the nature and scope of improvement over time were distinguishable at the elementary school level where the year 2 panels showed more positive growth by charter schools than for traditional public schools.

Table of Contents

List of Tables, Figures, and Appendices

Tables

Figures

Appendices

Acknowledgments

The process of conducting this evaluation and preparing the year 2 report has been a team effort by numerous staff at The Evaluation Center. The work has benefitted from information and data provided by staff at the Delaware Department of Education and the 13 charter schools that comprise Delaware's charter school reform. Here, on this page of acknowledgments, I wish to recognize the many people who collaborated in the conduct of the evaluation or contributed to the preparation of the final report.

First and foremost, I want to recognize the assistance and collaboration of the charter school directors, teachers, and other staff at the charter schools who made time for us during our site visits, who completed surveys, and who shared documentation with the evaluation team. Representatives from several local school districts also made time to share information and insights with us. Representatives from the Charter School Network and from the Innovative Schools Development Corporation also made time to provide input to the study and to share information and insights regarding the finance of charter schools and the implementation of the reform.

Extensive support and assistance were provided to the evaluation team by staff at the Delaware Department of Education and the members of the charter school accountability committee. We benefitted from receiving very well-organized and comprehensive data from the Delaware Department of Education, whose staff were readily available to provide answers to our numerous questions. While DOE staff who provided assistance are too many to mention, particular recognition needs to be given to Dr. Larry Gabbert, who heads the charter school office. During the planning phase and during data collection, input and information were provided by the Secretary of Education, Ms. Valerie Woodruff; the Deputy Secretary of Education, Dr. Nancy Wilson; and the Associate Secretaries of Education, Ms. Dorcell Spence and Ms. Robin Taylor. In the assessment office, guidance and feedback were provided by Dr. Wendy Roberts. These and other persons at the Department of Education also reviewed and provided comments on the report before it was finalized.

Members of the State Board of Education were involved in providing input and information during the course of the evaluation. In particular, the contributions of Dr. Joseph Pika and Ms. Jean Allen need to be recognized as they met with us on numerous occasions during year 1 and year 2 of the project and provided advice and insights. Ms. Ann Case, who is the policy analyst for the State Board of Education, served as a program officer and liaison person for the evaluation. In addition to contributing to the design and conduct of the study, as well as feedback on the final report, she and her administrative assistant, Ms. Dani Moore, provided extensive assistance in scheduling meetings, identifying information sources, and securing documentation.

At The Evaluation Center, a number of persons assisted with data collection, data entry, and the preparation of the final report. Barbara Wygant coordinated the surveying of teachers and took a lead in preparing chapter 3. In addition to the other co-authors of the year 2 report, we received considerable help with entry and sorting of both the qualitative and quantitative data from Antoinette Brown and Quentin Witkowski.

The evaluation was commissioned and funded by both the Delaware State Board of Education and the Department of Education. Their decision to commission an external evaluation of the charter school reform reflects their genuine interest in improving the implementation and operation of the reform as well as the performance of the charter schools.

Gary Miron
Project Director

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Chapter One
Purpose and Conduct of the Evaluation

This report summarizes findings from the 2004-05 school year and serves as the Year 2 report for the 3-year evaluation of the Delaware charter school reform. This evaluation has been commissioned and financed by the Delaware State Board of Education (SBOE) and the Delaware Department of Education (DDOE). The project was initiated in November 2003 and the Year 1 report was finalized and presented to the SBOE in March 2004.

In this first chapter of the report, we review information regarding the purpose and conduct of the evaluation. The objectives or main evaluation tasks are addressed in the next section, followed by a description of data sources and methods for data collection. Finally, limitations of the study and an overview of the report are contained at the end of this chapter.

1.1 Evaluation Questions

In the first year, the following tasks/topics were covered:

- ❏ Analysis of Delaware's charter law and regulations relative to other states, that highlighted areas of strengths and weaknesses for the charter school applicants, charter holders, and the charter authorizers.
- ❏ Review of the time, effort, and expense devoted to compliance and oversight issues for applicants and authorizers and its impact on the charter schools as well as public education as a whole.
- ❏ Collection and analysis of teacher survey data that included teacher background characteristics, levels of satisfaction, and perceptions of quality and areas for improvement.
- ❏ Review and synthesis of evidence regarding the accomplishment of the mission found in the original charters, charter school annual reports, and other school level documentation for those schools in operation prior to the 2002-03 school year.
- ❏ A comparison of charters granted by individual school districts, by state agencies or other central authorities to determine if there is any evidence that "chartering" closer to the community is more effective.
- ❏ Analysis of longitudinal data on students who remain in a charter school for more than one DSTP tested grade.

During the second year of the evaluation, the following tasks were addressed:

- ❑ Synthesis and descriptive analysis of charter school-level demographic data with comparisons to similar noncharter public schools.
- ❑ Collection and analysis of teacher survey data that included teacher background characteristics, levels of satisfaction, perceptions of quality and areas for improvement, and the extent of — and reasons for—teacher attrition.
- ❑ Review and synthesis of evidence regarding the accomplishment of the mission found in the charter school annual reports for those schools in operation during the 2004-05 school year.
- ❑ Analysis of gain scores on the Delaware Student Testing Program (DSTP) for charter schools and demographically and geographically similar noncharter public schools.

1.2 Methods of Data Collection

The Request for Proposals (RFP) indicated that each charter school would receive at least one site visit annually by the evaluation team for the purpose of interviewing the principal/director and a sample of teachers to gather input for the evaluation questions. Checklists to guide the review of facilities and relevant documentation were also to be used. Interviews with representatives of local school districts and stakeholder groups would be conducted as needed to identify issues of concern and/or support. Based on these guidelines and reflecting the data needs expressed by the evaluation tasks, we used the following methods for collecting information during years 1 and 2 of the evaluation:

1. Individual interviews with charter school directors or principals at each school. When possible we also interviewed other administrators, teachers, board members, and students.
2. Interviews with other key informants and stakeholders outside of the charter schools such as (i) state-level policymakers, (ii) staff from the Department of Education, (iii) representatives of the charter school association and a charter school support and resource organization, and (iv) representatives of the school districts in which the charter schools reside.
3. Site visits to all 13 schools during the spring of 2004 and again in the spring of 2005 which, in addition to interviews and collection of documents, included brief observations of school activities and classroom lessons as well as a tour of the school facilities.
4. Surveying of teachers and staff at all 13 schools plus optional surveys of students and parents in a few of the schools. This was done using charter school questionnaires developed by The Evaluation Center, which include both closed- and open-ended questions.[1]
5. Review of documentation from the schools, the district, state-level organizations, the media, and the larger body of literature and research on charter schools
6. Analysis of test data and available demographic data for the charter schools and relative comparison groups

[1] Separate school level reports were prepared for each school based on the survey data we collected. The results were shared both in hard copy and electronically.

Efforts were made to help ensure that the charter schools were disrupted as little as possible by the data collection. We are aware that charter schools are of considerable public interest and that they are bombarded with requests for information that can drain the resources of the relatively small staffs of charter schools. Therefore, we made efforts to use existing data that may be required for other reports. Also, in the course of our data collection we focused only on those issues that are important and necessary for this study and selected respondents who were considered to be knowledgeable about the issue(s) being addressed and who could contribute to the quality of the information/data that we collected.

Information for answering the key evaluation questions often included a variety of sources and a combination of qualitative and quantitative data/information. For example, we examined the level of satisfaction with the charter schools from the vantage point of teachers and administrators from our own data collection and—when available—we then reviewed satisfaction data collected from parents by the schools themselves. We also used a combination of qualitative (e.g., interviews) and quantitative (e.g., surveys) data to look at particular issues. We considered evidence of academic achievement from test scores as well as from self-reported accomplishments included in the schools' annual reports. Additionally, we asked stakeholders at each school about their school's success in fulfilling its mission and meeting its goals.

Details on the specific methods used in the study are elaborated throughout the report and are presented with their corresponding research findings. For example, in the chapter on charter school teachers and their working conditions the reader will find details regarding the sample, response rates, and the analyses of the data collected from charter school teachers and staff. Specific methodological details with regard to student achievement results are found in Chapters 6 and 7 where we explain how and why we analyzed differences between students in charter school and students in traditional public schools with regard to gains on the state assessment test.

1.3 Limitations to the Evaluation

A number of limitations to this study need to be weighed and considered when interpreting the findings. These limitations are largely the same as the limitations from the year 1 report. Below we describe the major limitations and—where appropriate—we discuss how we have addressed or compensated for the limitations.

Lack of Time on Site

Only one site visit per school was called for in the study and supported by the budget. This posed an important limitation in terms of firsthand knowledge of the schools. To compensate for this, we relied more heavily on the extensive school level documentation and information we collected from both charter schools and from the Department of Education.

Sampling

While the overall response rate for the teacher/staff surveys was high compared with other similar studies (i.e., 79 percent of the teachers and staff returned a completed questionnaire), it is important to point out that the response rate was low in two of the schools.

Informant Bias

Because of vested interests, there is the possibility of misleading information being provided by those we interviewed. Wherever possible, we tried to double-check information; or when references to financial issues or testing results were made, we attempted to confirm such information using the data obtained from the Delaware Department of Education.

Age of the Reform

The charter school reform in Delaware is still relatively young. While two schools now have been operating for close to nine years, nearly half the schools have operated for four or fewer years. Because these schools have been in operation for a relatively short period of time, we have insufficient data to do an in-depth examination of their impact and effectiveness. However, each additional year of data helps us further complete the picture of these schools in terms of their success in establishing their schools and producing outcomes according to the goals they have set. We have become increasingly aware of the growing pains associated with opening a new school and the heavy demands on the personnel who run it. We also recognize that the schools have been in various stages of their start-up phase and that any fair summative evaluation may need to wait a few more years.

Chapter Two
Description of the Schools and Their Students

In this chapter, we provide a general description of Delaware charter schools and student enrollment patterns. We include comparison data from student enrollment numbers in traditional public school districts and nonpublic schools. The first section discusses the growth and development of charter schools in Delaware. Section 2.2 provides an overview of state and county K-12 student enrollment patterns in traditional public school districts, charter schools, inter- and intra-district choice program, and non-public schools. Section 2.3 contains brief descriptions of the 13 charter schools operating in 2004-05 and briefly describes the management and governance of these schools. The final section examines student enrollment characteristics–racial and ethnic composition, LEP, low income, and special education percentages–for charter schools, traditional public school districts, and nonpublic schools.

Most of the data used in this chapter are derived from databases maintained by the Delaware Department of Education (DDOE). The DDOE has an outstanding Web site with a wealth of information resources and enrollment data available across a number of years. We encourage readers of this report to check out the site's many features including annual school profile data and GIS maps showing charter schools and student enrollment patterns.

2.1 Growth and Development of the Schools

The Delaware charter school reform continues to grow ever since the first two charter schools in the state opened in September 1996. During the 2004-05 school year, there were 13 charter schools operating with a total enrollment of 6,548 students. Approximately 5.5 percent of Delaware public school students attend charter schools.[1] Figure 2:1 shows the growth rate of total student enrollment for all Delaware charter schools from 1996-2005.[2]

[1] Charter School enrollment figures are from DDOE December 2004 report entitled "Charter School and Across District Choice Statistics and Maps from the September 30th 2004 Unit Count." Table 6, Number and Percent of Students by Charter School and Resident District. Retrieved 1/4/2006 from http://www.doe.k12.de.us/files/pdf/dedoe_unitctstatsmaps2004.pdf.

[2] Figure 2:1 historical enrollment information from DE School Enrollment Reports. (Retrieved 1/4/2006 www.doe.k12.de.us/info/reports/enrollment.shtml)

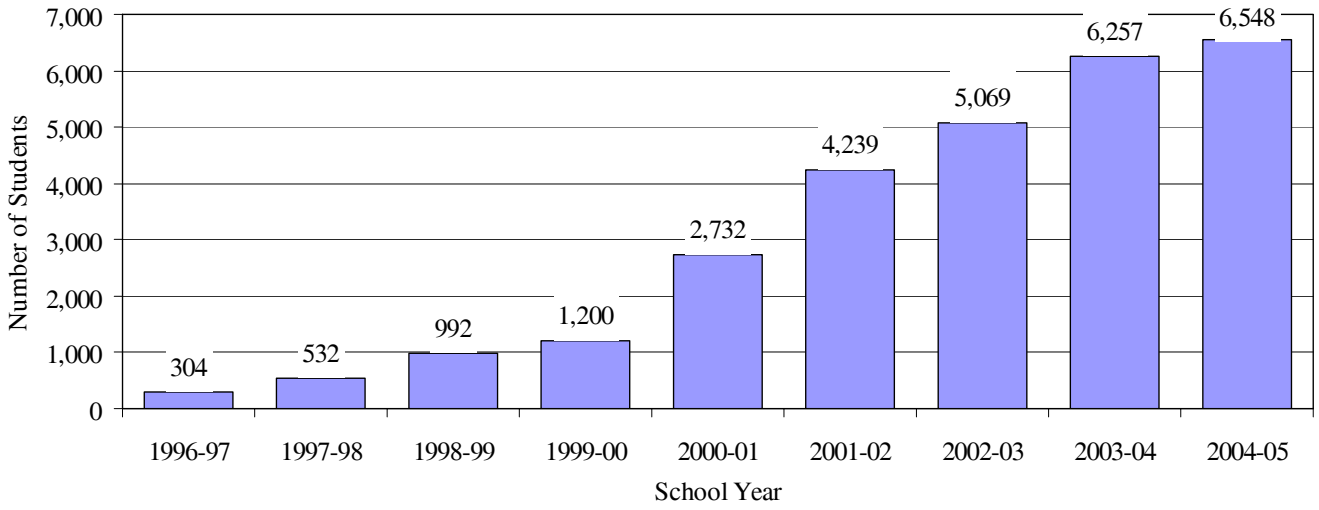

Figure 2:1 Total Students Enrolled in Delaware Charter Schools

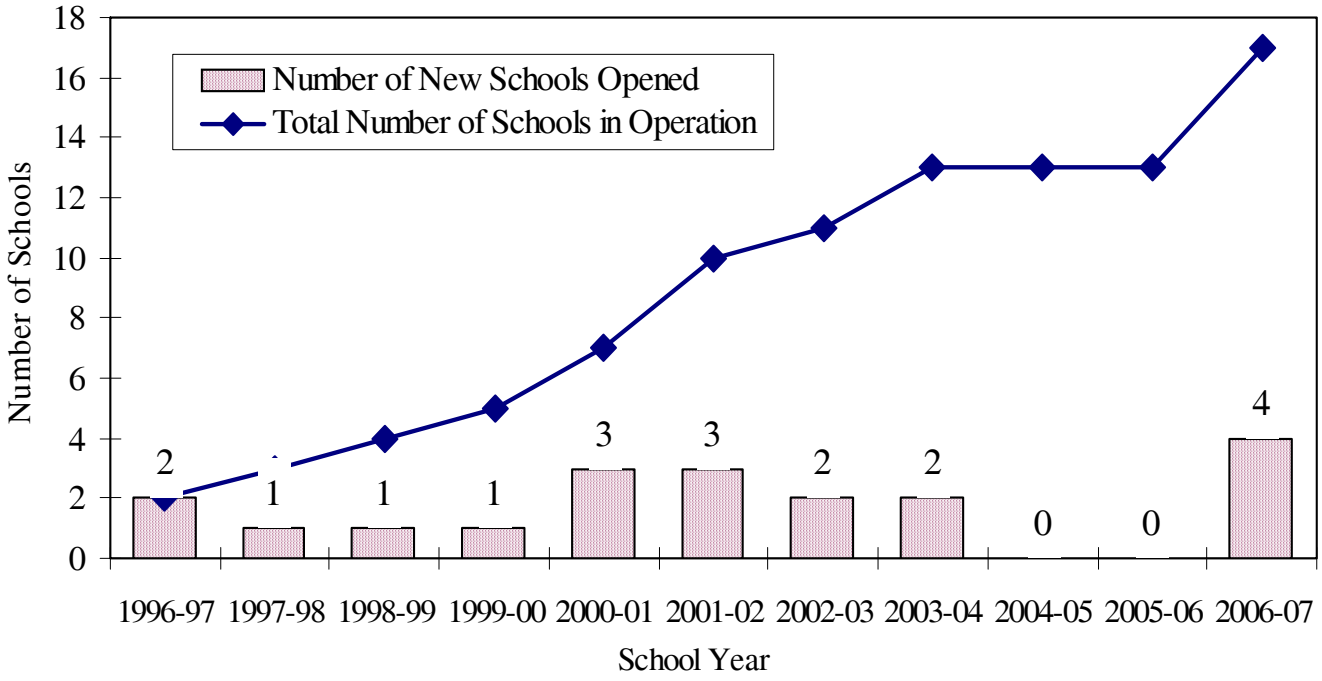

Figure 2:2 Growth of Delaware Charter Schools

Four additional charter schools are reportedly scheduled to open in September 2006. Thus far, two charter schools have closed after one or less year of operation due to financial problems and other difficulties (i.e., Richard Milburn Academy closed in summer 2000 and Georgetown Charter School closed in March 2002). Figure 2:2 shows the number of new charter schools opened annually and the total number of charter schools in operation from 1996-2007.

As of 2004-05, no Delaware charter school has a complete K-12 curriculum. Instead, the 13 charter schools have an average offering of close to seven grades, with a minimum of three grades offered at one school and a maximum of 12 grades available at one school (from Grades 1 to 12 but no K). Figure 2:3 shows the enrollment of Delaware charter school students broken out by grade level.[3] As one can see, the aggregate enrollments are fairly evenly divided across the grades except for 11th and 12th grades.

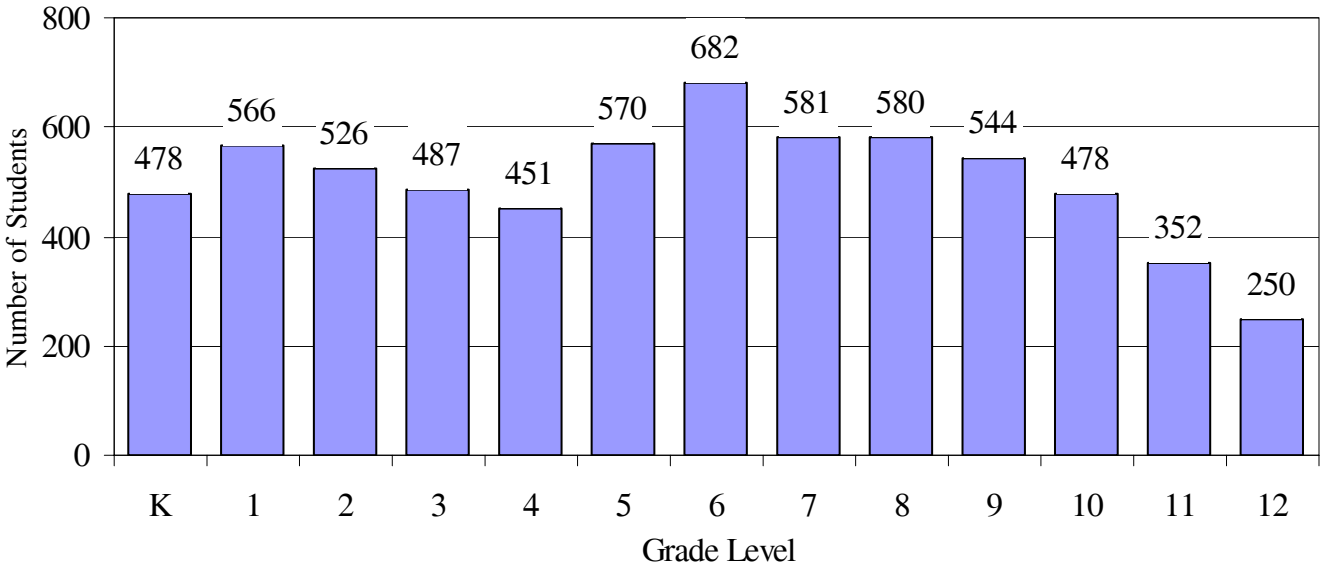

Figure 2:3 Charter School Enrollment by Grade, 2004-05

The size, or enrollment, of charter schools range from 120 students to 936 students. Over 60 percent (8 out of 13) of the charter schools and 68.3 percent of the state's charter school enrollment are located in New Castle County. The 4 new charter schools slated to open in September 2006 will also be located in this region. Kent County in the middle of the state is home to 4 charter schools and 26.8 percent of charter school students. Sussex County in the more rural southern portion of the state has 1 charter school that accounts for 7.7 percent of the total statewide charter school student enrollment. Please see Appendix A for a state map showing the locations of charter schools in the state.[4]

2.2 Delaware School Choice Options and Enrollment Patterns

This section "zooms out" in focus from looking at only state charter schools to a broader overview of statewide student enrollments by school type. Delaware residents have a number of options to choose from when selecting a school for their children. A large percentage of Delaware students still attend a local traditional public school based on geographic area and residency. However, families

[3] Grade level numbers are from DDOE 2004-05 School Profiles. Fall Enrollment.

[4] Map obtained from DDOE website, DE Schools and Districts, Maps. (Retrieved 1/4/2006 from http://www.doe.k12 de.us/Maps/DistrictMaps/StateMap.pdf).

may also choose from nonpublic options (e.g., private and parochial schools as well as homeschooling) or else they can choose other public schools than the one they are initially assigned. Choosing other public schools occurs through intradistrict choice programs (within the resident school district) or interdistrict public school of choice programs (outside of the resident school district). As one can see, charter schools are not the only options for parents when it comes to free and accessible public schools in Delaware. Figure 2:4 shows K-12 enrollment numbers by resident district and type of school. Appendix B contains a supplementary data table with detailed 2004-05 school district enrollment numbers and percentages according to the various choice options noted above.

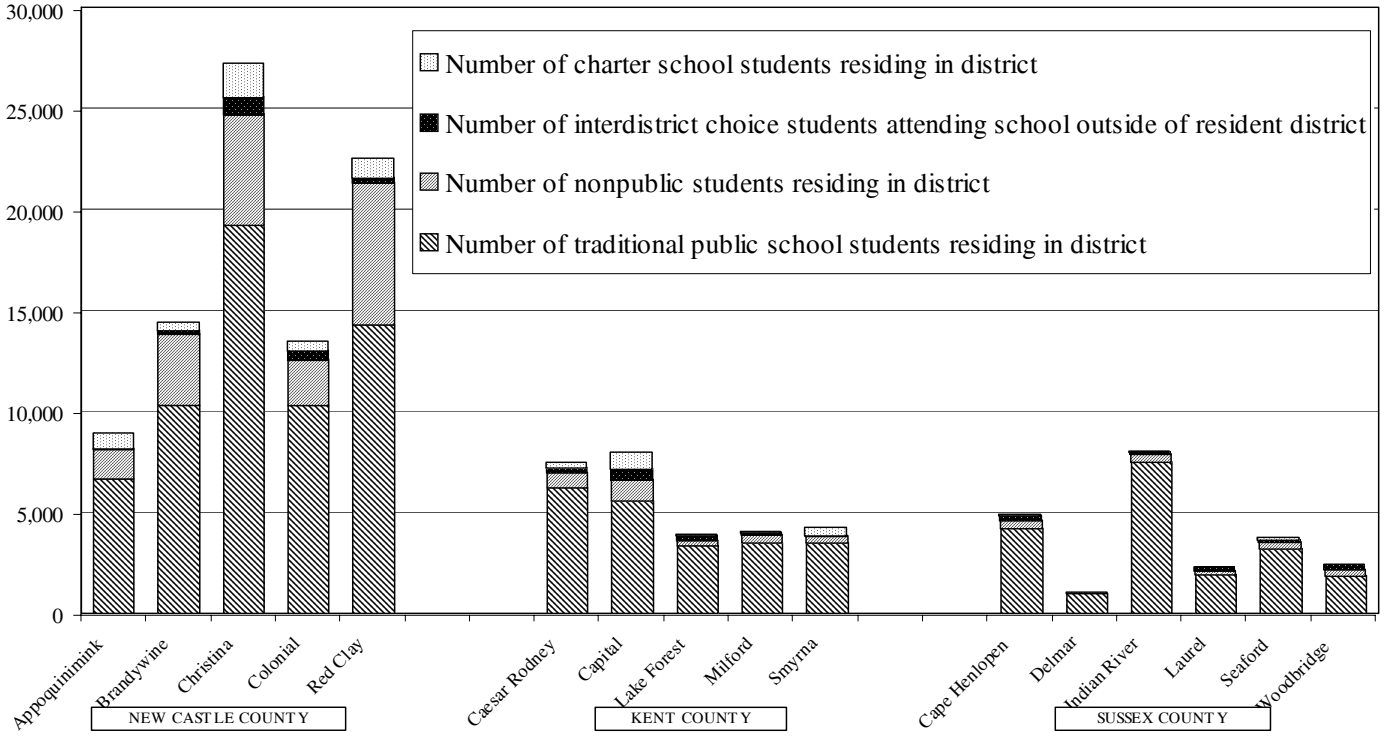

Figure 2:4 Student Numbers by County and Resident District, 2004-05
Note: The figure does not show interdistrict enrollment gained from non-resident students

The expansion of statewide public school choice occurred with the passage of the following laws:

- Delaware Code, Title 14, Chapter 4. School District Enrollment Choice Program. This program began in the 1996-97 school year and requires each local school district to have a policy for specifying schools that are open for "choice" and which schools are not. The district policy must establish criteria for acceptance or rejection of applications and it must spell out priorities for acceptance.[5]

[5] Information regarding the School District Enrollment Choice Program may be found in Delaware Code, Title 14, Section 405 and at www.doe.k12.de.us/info/schools/choice.shtml.

- Delaware Code, Title 14, Chapter 5. Charter Schools. This legislation provides the framework for the establishment of charters schools and was examined in more detail in our year 1 evaluation report. For additional information about this state law, please refer to chapter 2 in the year 1 report.[6]

The traditional public school districts in the state vary widely in their policies for accepting intra- and inter-district choice students. The districts also vary in how their enrollments have been affected by school choice programs. Not all schools accept Choice Program applicants. Choice options within public schools are based on criteria such as capacity at each school, projected seats available, and intra-district residency. New applications for a school choice selection are generally due in January of the preceding school year, and a parent or guardian can list first-, second-, and third-ranked choices. Students may be put on a waiting list for a school assignment selection.

Appendix B contains inter-district Choice Program enrollment numbers by each school district. In 2004-05 Red Clay, Caesar Rodney, and Indian River school districts gained the greatest number of inter-district Choice students. Thus, these districts had significantly higher numbers of nonresident Choice Program students entering the school district versus resident students who chose school enrollment outside of the district. These districts had a net gain of 797, 310, and 207 students, respectively. Christina, Colonial, Capital, and Woodbridge school districts had the largest decreases in enrollment due to the Choice Program. These schools had a net loss of 651, 301, 310, and 167 students, respectively.

Similar to the patterns of the traditional public School District Enrollment Choice Program, charter schools also vary widely in their criteria and policies for student enrollment. Two districts have a leading criteria of residency within a five-mile radius of the school. About half of the schools reported that they had waiting lists for enrollment and one school's wait list included 500 students (ISDN, n.d.). Some schools have open enrollment for most grades if they have not reached full capacity. Waiting lists are most common for entry-level grades.

Private or Nonpublic Options

Nonpublic schools are comprised of Catholic schools, other religious-affiliated schools, and independent schools which also contains the category of homeschooling. When examining non-public school enrollment data over the last 10 years for Delaware residents only, enrollment at nonpublic schools has increased 0.2 to 3.2 percent each year except for 2003 when there was a slight decrease in enrollment. Statewide enrollment trends over a 10-year time span (1994 vs. 2004) for all nonpublic schools by type further show there has been a 1.8 percent decrease in Catholic school enrollment, a 22.5 percent increase in other religious affiliation schools, and a 17.7 percent increase in independent nonpublic schools over a ten-year time span.[7] One of the largest growing school type subcategories is the number of homeschools and homeschool enrollment. In 1995-96 there were

[6] The Year 1 report is available at http://www.doe.k12.de.us/info/reports.

[7] Nonpublic school enrollment data is from the DDOE Enrollment Report Nonpublic Schools in Delaware 2004-05. Table 1 Statewide Enrollment Trends, All Nonpublic Schools by Type 1984-2004. Retrieved 1/4/2006 from http://www.doe.k12.de.us/files/pdf/dedoe_nonpubenroll200405.pdf.

74 total homeschools and a total homeschool enrollment of 1,087 students and in 2004-05 there were 836 homeschools and 2,418 students (a 222 percent increase).[8]

When examining all of the school choice possibilities and student enrollment patterns, one sees a dynamic and fairly complex system, as with any statewide school system. Figure 2:5 shows the enrollment increases and decreases over one-year and five-year time periods for traditional public school districts, charter schools, and non-public schools in each county. Appendix C contains a table with detailed enrollment numbers and percent increases and decreases by county. Overall, some school districts have been more resilient in adapting to and/or being affected by the changing scene and dynamics.

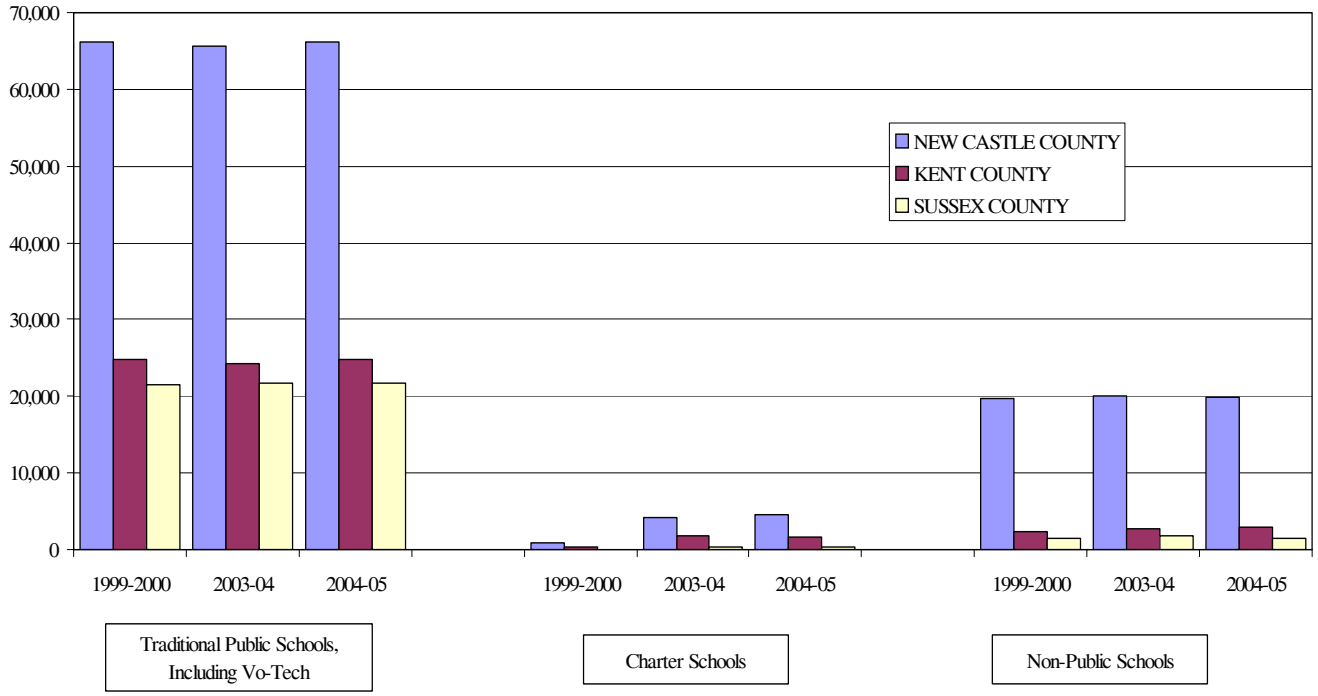

Figure 2:5 Enrollment Increases/Decreases by County Over Previous Five Years

2.3 Description of the Delaware Charter Schools

This section provides brief descriptions, or "snapshots," of each charter school for the 2004-05 school year. Information is based on DDOE School Profiles[9] and charter school lists.[10] After the brief descriptions of the schools a summary of how the charter schools are managed and governed is included.

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[8] Table 7, Statewide Enrollment Trends, All Nonpulic Schools by Type, 1984-2004.

[9] School Profiles are available for all Delaware public schools. Section 2.4 information is based on 2005 School Profile information. Retrieved 11/1/2006 from http://www.doe.k12.de.us/info/schools.

[10] A list of Delaware charter schools and other information about the state charter school system may be found at http://www.doe.k12.de.us/CharterSchools/charter_schools.htm.

Academy of Dover Charter School, Dover, DE
Opened: 2003
Grades: KN-6. Total Enrollment: 426
The school uses Paragon Curriculum, a multidisciplinary program and a Positive Behavior Support Program.

Campus Community School, Dover, DE
Opened: 1998
Grades: 1-12. Total Enrollment: 592
Through a relationship with Wesley College high school juniors and seniors may take courses and receive credit at the college. The first senior class graduated from CCS in June 2005.

Charter School of Wilmington, Wilmington, DE
Opened: 1996
Grades: 9-12. Total Enrollment: 936
The school combines an integrated, innovative, and rigorous math/science curriculum with a solid grounding in traditional subjects.

Delaware Military Academy, Wilmington, DE
Opened: 2003
Grades: 9-11. Total Enrollment: 414
The DMA is the first all Navy JROTC charter in the United States. The school promotes good citizenship and has a science and math emphasis.

East Side Charter School, Wilmington, DE
Opened: 1997
Grades KN-6. Total Enrollment: 140
The school focuses on academic excellence using various approaches including Direct Instruction and Core Knowledge. The school offers an extended school day and before-and-after school program.

Kuumba Academy Charter School, Wilmington, DE
Opened: 2001
Grades KN-5. Total Enrollment: 241
The school's philosophy promotes the concept that students have multiple modes of intelligence and can learn in many ways. There is a focus that parents are the primary educators of their children.

Marion T. Academy Charter School, Wilmington, DE
Opened: 2000
Grades: KN-8. Total Enrollment: 631
The school's purpose is to open portals of opportunity for children and adults in the community through excellence in public education.

MOT Charter School, Middletown, DE
Opened: 2002
Grades: KN-8. Enrollment: 675
This is a rural school and parental involvement in an essential part of their culture.

Newark Charter School, Newark, DE
Opened: 2001
Grades 5-8. Enrollment: 648
The school's mission is to provide a rigorous academic curriculum that promotes high levels of student effort and achievement while fostering self-esteem through academic challenges and accomplishments.

Positive Outcomes Charter School, Camden, DE
Opened: 1996
Grades 7-12. Total Enrollment: 120
The school provides educational opportunities for students at risk of failure in a traditional school due to learning disabilities or psychological issues. The school's mission is to provide an opportunity for children to learn in a safe, caring, respectful environment, where their individuality is valued and their individual needs are addressed.

Providence Creek Academy Charter School, Clayton, DE
Opened: 2002
Grades KN-8. Total Enrollment: 620
The school utilizes the latest innovations in teach with rigorous academic content. Instruction includes project based learning and differentiated instruction with a strong emphasis on literacy.

Sussex Academy of Arts & Sciences, Georgetown, DE
Opened: 2000
Grades: 6-8. Enrollment: 317
The school prepares middle school students for the new millennium by providing excellence in education within a small school environment. The school uses Expeditionary Learning Outward Bound core practices and design principles as the framework for the school.

Thomas A. Edison Charter School of Wilmington, Wilmington, DE
Opened: 2000
Grades KN-8. Enrollment: 785
The school offers a progressive learning environment. Their profile states it began the school mission with principles from the Edison design.

Management and Governance of Charter Schools

Delaware Code, Title 14, Chapter 5 was enacted in 1995 and provides the framework for charter schools operating in the state. Section 503 of the code defines the legal status of charter schools and specifies the approving authority (or the "authorizer") can be a public school district or the State

Department of Education (with the concurrence of the State Board of Education). The charter is granted for an initial period of four years of operation and renewable every five school years thereafter by the authorizer. The authorizer that grants the charter for the school is responsible for the oversight and renewal of the school's charter. The charter school is governed and managed by a board of directors, which operates independently of any school board (State of Delaware, 2004, §503).

Eleven of 13 Delaware school charters along with three of the new charter schools opening in 2006-07 were approved by the Delaware Department of Education after recommendation by the State Board of Education. Two school charters (Charter School of Wilmington and Delaware Military Academy) and one new charter (Odyssey Charter School to be opened in 2006-07) were approved by the Red Clay Consolidated School District Board of Education.

Each charter school's governing board of directors is made up of parents, teachers and community members. Many boards also include founding members of the charter school, key business people, and professionals such as lawyers and accountants. A few schools boards have representatives from universities, colleges, public agencies, and political offices. According to charter school annual reports, charter school boards range in size from 6 to 22 people. The board of directors' responsibilities may include determining policy and procedures, approving academic programs, employee hiring, and communicating with the DDOE and other appropriate agencies.

Two charter schools are currently run by for-profit education management organizations (EMOs). The Academy of Dover is operated by Mosaica Education, Inc., a charter school management company. Thomas A. Edison Charter School of Wilmington is operated by Edison Schools, Inc. At least three charter schools in the state have terminated contracts with management companies (Providence Creek Academy, MOT, and Marion T. Academy). Another for-profit company, Richard Milburn Academies, opened one charter school in Delaware but the school closed after its first year of operation.

2.4 Students Enrolled in Delaware Charter Schools

This section examines the following demographic characteristics of students enrolled in the charter schools: race and ethnicity, Limited English Proficiency (LEP), low income (measured by Free and Reduced Price Lunch), and special education. Enrollment information is based on data from DDOE 2004-05 School Profiles and DDOE Enrollment Reports.[11] Student achievement data can be found in Chapters 6 and 7 of this report.

Race and Ethnicity

Figure 2:6 shows the student race/ethnicity percentages for each charter school. Table 2:1 provides a list of the percentages of enrollment at each school by race. As a group, charter schools enroll a slightly higher percentage of minority students than traditional public school districts. As illustrated in Figure 2:6, individual charter schools vary greatly in minority enrollment. The schools range from 10.1 percent to 100 percent minority enrollment.

[11] 2004-05 numbers from DDOE DE School Enrollment Reports, "Detailed Enrollment Reports" Excel file, Retrieved 1/11/2006 from http://www.doe.k12.de.us/info/reports/enrollment.shtml.

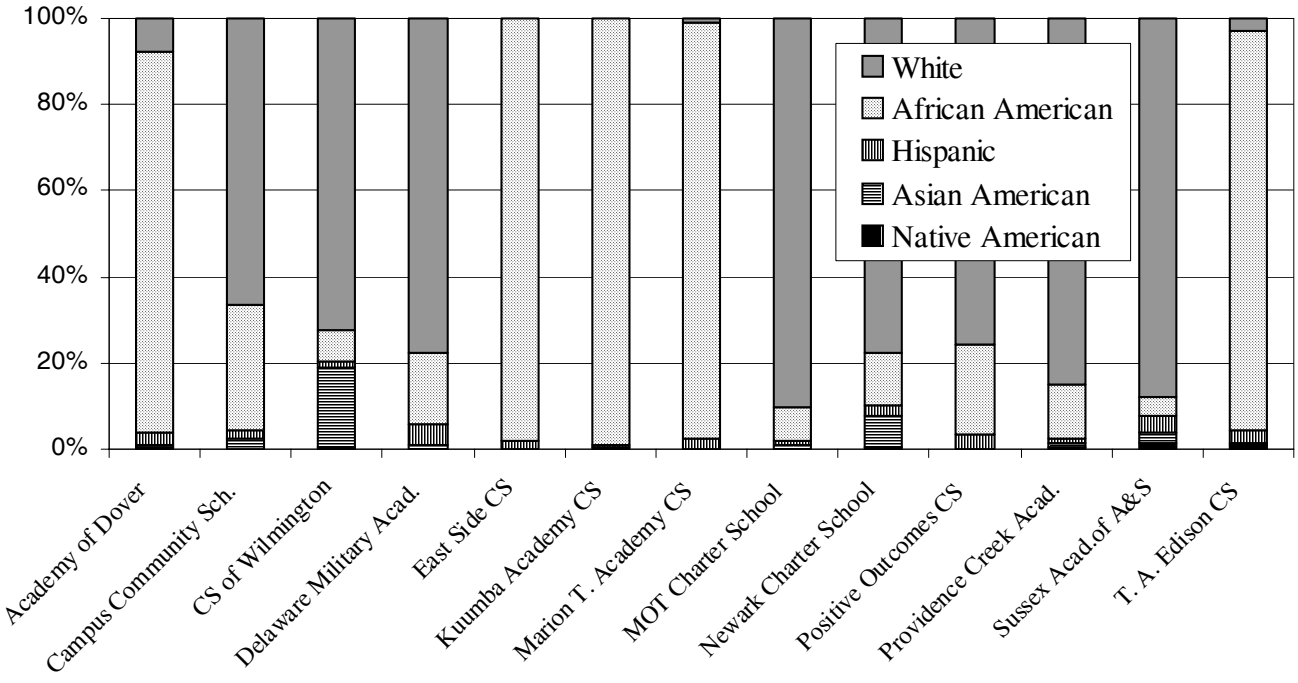

Figure 2.6 Delaware Charter School Student Race/Ethnicity (2004-05)

Table 2:1 Charter School Race/Ethnicity of Total Student Enrollment (2004-05)

Charter School District	*White*	*African-American*	*Hispanic*	*Asian American*	*American Indian*
Academy of Dover	8.0%	88.0%	3.1%	0.5%	0.5%
Campus Community School	66.4%	29.4%	2.0%	2.2%	0.0%
CS of Wilmington	72.2%	7.3%	1.8%	18.3%	0.4%
Delaware Military Academy	77.5%	16.4%	5.1%	1.0%	0.0%
East Side Charter School	0.0%	97.9%	2.1%	0.0%	0.0%
Kuumba Academy CS	0.0%	99.2%	0.4%	0.0%	0.4%
Marion T. Academy CS	0.8%	96.8%	2.2%	0.0%	0.2%
MOT Charter School	90.4%	7.9%	0.9%	0.9%	0.0%
Newark Charter School	77.8%	12.0%	2.6%	6.9%	0.6%
Positive Outcomes CS	75.8%	20.8%	3.3%	0.0%	0.0%
Providence Creek Academy CS	84.8%	12.6%	1.0%	1.0%	0.6%
Sussex Academy of A & S	87.7%	4.7%	3.5%	2.5%	1.6%
T. A. Edison CS of Wilmington	2.8%	92.7%	3.1%	0.6%	0.8%
Total for all Charter Schools	52.6%	40.4%	2.4%	4.0%	0.5%

Table 2:2 shows race/ethnicity percentages for traditional public school districts. Figure 2:7 lists non charter and non vo-tech school district data for districts within a 5-mile radius of any Delaware charter school. The districts within a 5-mile radius were determined using National Center for Education Statistics (NCES) Common Core of Data (CCD) information. The traditional public

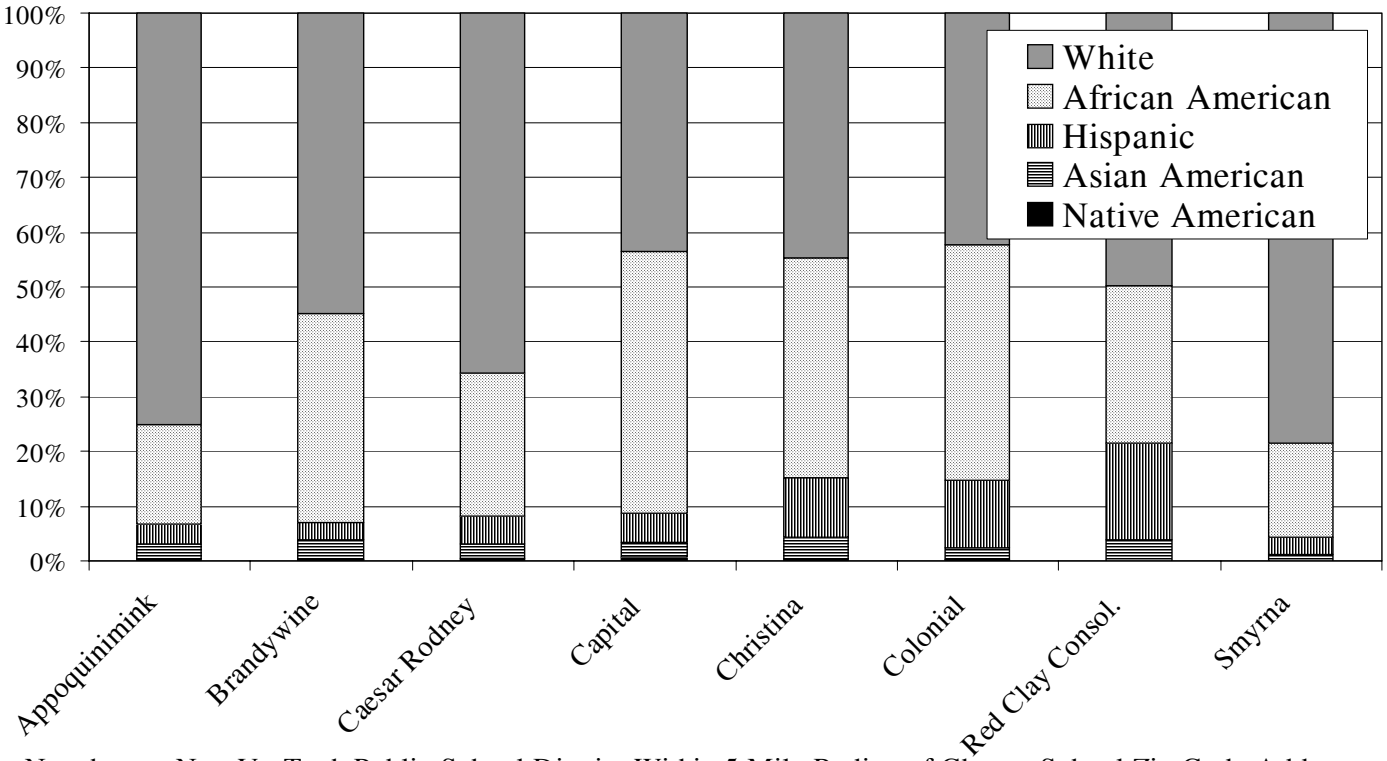

Figure 2:7 Race/Ethnicity of Traditional Public Schools in Proximity to Charter Schools

Table 2:2 Non Charter School, Non Vo-Tech School District Race/Ethnicity (2004-05) (Located Within Five-Mile Radius of Charter School Zip Code)

School District	*White*	*African-American*	*Hispanic*	*Asian-American*	*American Indian*
Appoquinimink	75.0%	18.3%	3.6%	2.8%	0.3%
Brandywine	54.9%	38.2%	3.2%	3.6%	0.2%
Caesar Rodney	65.8%	26.1%	4.9%	2.7%	0.5%
Capital	43.4%	47.8%	5.5%	2.6%	0.7%
Christina	44.8%	40.1%	10.8%	4.2%	0.2%
Colonial	42.2%	43.0%	12.4%	2.2%	0.2%
Red Clay Consolidated	49.7%	28.7%	17.7%	3.7%	0.1%
Smyrna	78.6%	17.0%	3.1%	1.2%	0.1%
Total for all Traditional Schools	55.8%	32.0%	9.1%	2.7%	0.3%

school districts vary from 21.4 percent to nearly 58 percent minority student enrollment. The traditional public school districts generally have a higher Hispanic student enrollment, including certain districts such as Red Clay, Colonial, and Christina, that have Hispanic enrollment numbers totaling over 10 percent of total school enrollment (17.7 percent, 12.4 percent, and 10.8 percent, respectively).

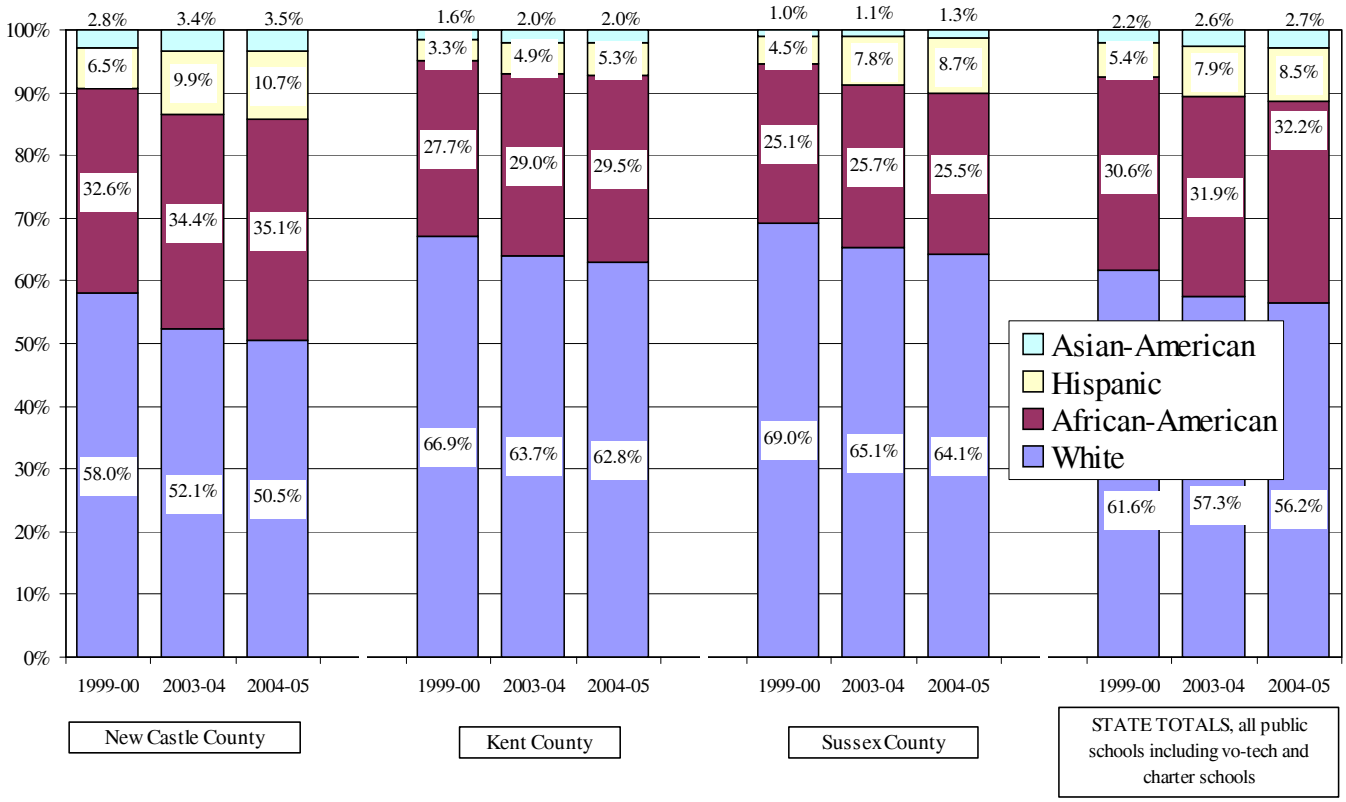

Figure 2:8 Shifts in Ethnic Composition of Students Over the Past Five Years by County

We have also included race/ethnicity percentages for nonpublic schools in Table 2:3. As a group, nonpublic schools have minority enrollments of just over 15 percent. To provide comparison data, we have included Figure 2:8 that shows statewide1-year and 5-year enrollment trends by racial/ethnic group for all public schools (traditional public school districts, vo-tech, and charter schools) and countywide trends for traditional public school districts. Figure 2:8 illustrates a changing complexion in Delaware public school student enrollment over a 5-year time span, with a 4.2 percent growth in Hispanic enrollment, a slight increase in African-American and Asian student populations, and a nearly 5 percent decrease in White students.

Table 2:3 Nonpublic Schools Race/Ethnicity (2004-05)

School District	*White*	*African-American*	*Hispanic*	*Asian-American*	*American Indian*
Private Schools Only	84.4%	8.9%	2.7%	3.0%	0.2%
Homeschools Only	89.2%	6.3%	2.3%	1.2%	0.5%
Total for all Nonpublic Schools	84.9%	8.7%	2.7%	2.8%	0.3%

Other Student Characteristics: LEP, Low Income, Special Education

Figure 2:9 and Table 2:4 show LEP, low income, and special education and the percent of these characteristics compared to total student enrollment at each charter school. As with race/ethnicity,

Delaware charter school districts also vary among other charter school districts and among traditional public school district totals when comparing these other student characteristics.

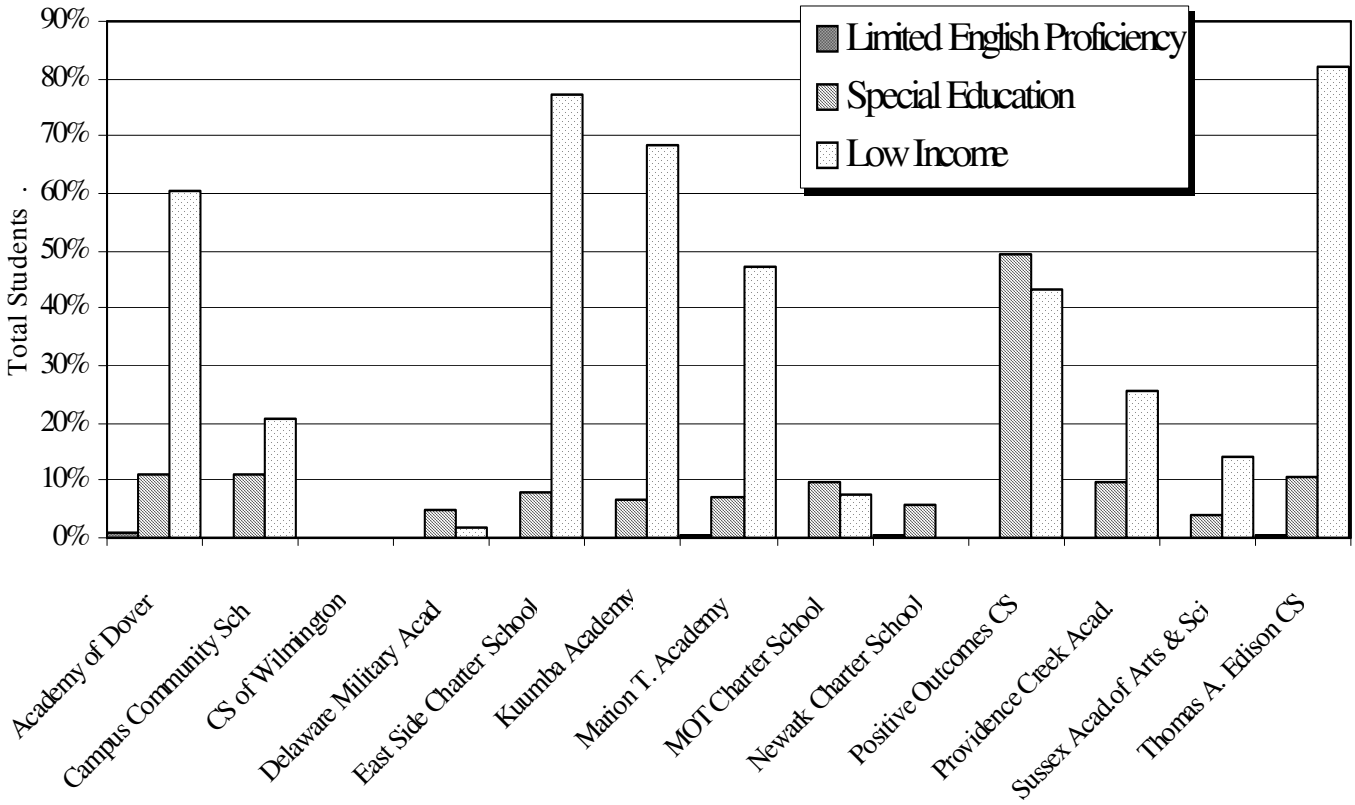

Figure 2:9 Student Enrollment Characteristics for Charter Schools

Some charter schools varied widely in terms of income characteristics. Two schools reported zero percent low income students while two schools reported over 75 percent low income students. All of the special education enrollments at charter schools, except for Positive Outcomes Charter School, are below 12 percent of total enrollment, including 5 schools that enroll less than 6 percent special education students. Overall, total charter school enrollment is comprised of 25.7 percent low income students, 5.8 percent special education students, and less than 1 percent of LEP students.

Traditional public school enrollment includes total LEP, low income, and special education percentages that are higher than charter schools as a group. Figure 2:10 and Table 2:5 shows these individual figures for neighboring traditional public school districts and Table 2:5 also includes the totals for all traditional public school district enrollment. The total traditional public school district and charter school district enrollment are compared by each category below:

- Traditional public school district total enrollment includes 38.0 percent low income students versus 25.7 percent low income students at charter schools (a difference of 12.4)
- Traditional public school districts have a total enrollment of 14.0 percent special education students versus 5.8 percent in charter schools (a difference of 8.2 percent)

- Traditional public school districts serve a greater percentage of LEP students, with schools ranging from 1.3 percent to 8.4 percent of total enrollment in neighbor districts.

Table 2:4 Charter School LEP, Low Income, Special Education Percentages (2004-05)

Charter Schools	*LEP*	*Low Income*	*Spec Ed*	*Total Enrollment*
Academy of Dover	0.9%	60.6%	11.0%	426
Campus Community School	0.0%	20.6%	11.1%	592
CS of Wilmington	0.0%	0.1%	0.0%	936
Delaware Military Academy	0.0%	1.7%	4.8%	414
East Side CS	0.0%	77.1%	7.9%	140
Kuumba Academy CS	0.0%	68.5%	6.6%	241
Marion T. Academy CS	0.3%	47.1%	7.1%	631
MOT CS	0.0%	7.7%	9.6%	675
Newark CS	0.5%	0.0%	5.7%	648
Positive Outcomes CS	0.0%	43.3%	49.2%	120
Providence Creek Academy CS	0.0%	25.5%	9.8%	620
Sussex Academy of A& S	0.0%	13.9%	3.8%	317
T. A. Edison CS of Wilmington	0.4%	82.0%	10.8%	785
Total All Charter Schools	N/A	25.7%	5.8%	6,548

Nonpublic LEP, low income, and special education data were not available. Choice Program data in this category is available on the DDOE Website but they were not included in the scope of this report. As with our Year 1 report, the findings in this chapter, particularly those in this final

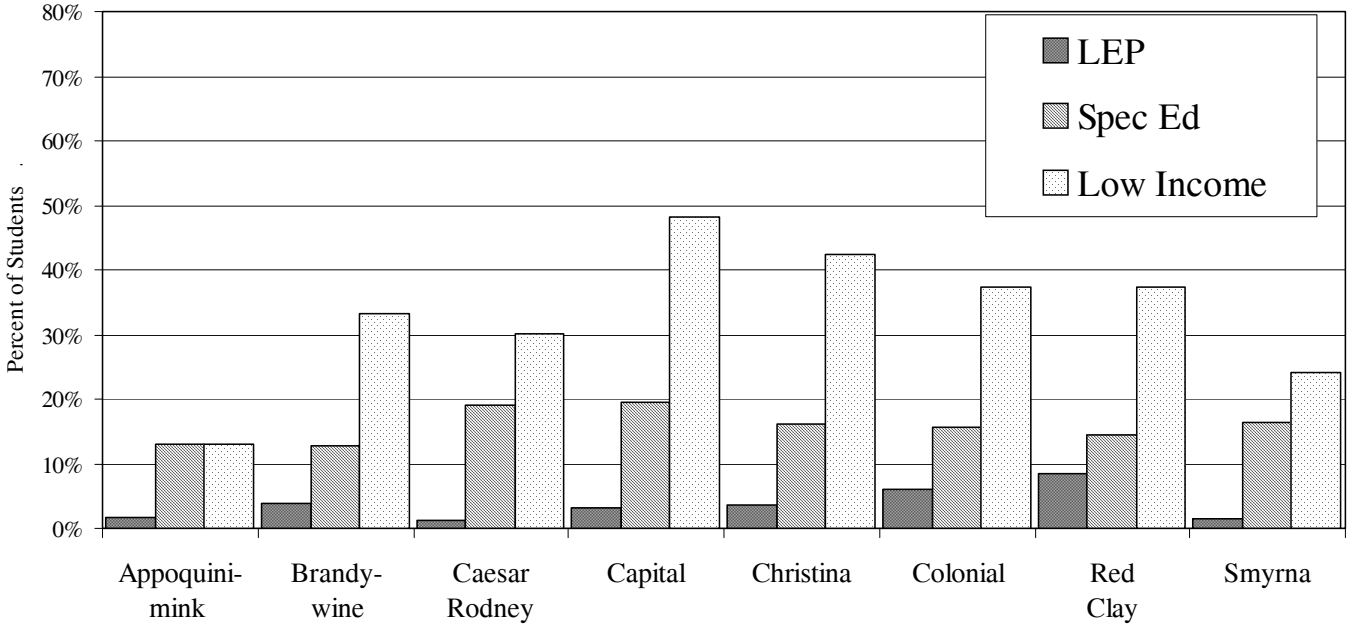

Figure 2:10 Student Enrollment Characteristics for Noncharter Public Schools by District

section, highlight differences among the charter schools and between charter schools and traditional public schools. This year we have included additional data to help capture a wider picture of overall Delaware student enrollment patterns. Hopefully this chapter succeeds in presenting a synthesis of numbers, percentages, and figures to show the dynamic, complex, and changing patterns of population and K-12 education enrollment.

Table 2:5 Non Charter School District LEP, Low Income, Special Education Percentages (2004-05)

Traditional Public School Districts	*LEP*	*Low Income*	*Spec Ed*	*Total Enrollment*
Appoquinimink	1.6%	13.0%	13.1%	6,710
Brandywine	3.9%	33.3%	12.7%	10,645
Caesar Rodney	1.3%	30.1%	19.0%	6,742
Capital	3.1%	48.1%	19.4%	5,864
Christina	3.7%	42.5%	16.2%	19,417
Colonial	6.0%	43.8%	15.6%	10,454
Red Clay Consolidated	8.4%	37.4%	14.4%	15,398
Smyrna	1.5%	24.1%	16.5%	3,645
Total All Traditional Public Schools, including Vo-Tech	--	38.0%	14.0%	112,561

2.5 Summary and Discussion

In this chapter, we examined the impact charter schools are having on student enrollment patterns in Delaware. We also extracted overall enrollment patterns for all types of school choice for 2004-05 as well as five-year trends for charter schools, traditional public school districts, and nonpublic schools. Overall, the aggregate enrollment patterns seem fairly steady with no great decreases in overall enrollment at traditional public schools nor nonpublic schools (see Figure 2:5 and Appendix C). As illustrated in Figure 2:8, total public school enrollment numbers are increasing gradually. As this happens, the racial/ethnic composition of Delaware students is changing with small increases in Hispanic students, slight increases in African-American and Asian students, and a nearly 5 percent decrease in White students enrolled in public schools. Below we highlight some of the other interesting and significant findings.

When disaggregating the enrollment numbers by school district or subcategories of nonpublic schools (Catholic, other religious-affiliated, and independent including homeschool) we observed that there are some districts and types of schools that are clearly gaining more students and some that are losing more students. Homeschools are the largest growing category of nonpublic schools. The traditional public school districts that have the greatest number of resident students who choose to attend a different school are generally losing students to not only charter schools but also to other schools districts as a result of interdistrict choice programs. See Appendix B for further detail on district-by-district enrollment patterns.

Approximately 11-28 percent of each of the county's school-aged residents now attend a school other than the traditional public school they were assigned to based on geographic area. Larger school districts are losing a larger proportion of their students to interdistrict choice, charter schools or nonpublic schools as compared to smaller districts. However, the Indian River district in Sussex County is an exception to this observation. Please see Appendix B for further details.

Overall, charter schools as a group enroll more minority students as a percentage of their overall enrollment than do traditional public schools. However, on a school-by-school basis, we see considerable variation with some schools having high concentrations of minority students and other charter schools with few minority students. This pattern of more highly segregated charter schools based on race is also repeated when we look at segregation by class and ability. Some charter schools serve a high proportion of students that qualify for free or reduced lunches and other schools have few of these students. At one charter school nearly half the students have identified special educational needs, while at most other schools the number of students with special educational needs is surprisingly low. Therefore, when we look at the aggregate of all charter schools, we see that they are not greatly different from the sending districts. However, when we look at individual schools we see a pattern where charter schools are serving more homogeneous populations of students.

Because individual charter schools enroll students that differ greatly from sending districts, one can argue that many of the charter schools may be accelerating the resegregation of public schools based on race, class, and ability by leaving them more fragmented. In the case of Delaware, however, one must also recognize that other school choice programs (such as interdistrict choice and the neighborhood schools program) are also promoting the acceleration of the resegregation of schools. This is a complicated policy issue that we can raise for discussion but it is also an issue that must be understood in the broader context and history of the state.

While there are only 13 charter schools in Delaware, they are able to have a noticeable impact on the sending districts since overall the charter schools enroll nearly 5.5 percent of all the public school students in the state. With the addition of four additional charter schools in September 2006 (all four new schools will open in New Castle County) their impact is likely to grow.

Chapter Three
Description of Charter School Staff and Their Working Conditions

In this chapter, we provide a general profile of charter school teachers and staff and examine their working conditions, professional development, and levels of satisfaction. In the final section of the chapter, we examine the extent of attrition among teachers and other charter school staff. In doing so, we compare the background characteristics of those teachers that stay in the charter schools with teachers who leave. This will shed some further insight into whether or not attrition is affecting the most qualified teachers and it will also suggest likely reasons for attrition.

3.1 Description of Charter School Teachers and Staff

There are three main sources of data for the findings reported in this section. The first data sets are from the questionnaires we collected from teachers and staff in the spring of 2004 and the spring of 2005 (the full set of results from the 2004-05 school year survey are included in Appendix D). This survey contained both closed-ended items as well as open-ended items that were carefully sorted and analyzed. A second source of data was the official certification and teacher data collected and reported by Delaware Department of Education. Finally, the third source of data was from interviews of administrators that were conducted during the site visits over the past two years.

Survey Sampling of Teachers and Staff

In sampling teachers and staff, we included all instructional staff and key administrators at each charter school. In total, 358 teachers and staff from the 13 charter schools completed and returned surveys from the 453 that were targeted. This is equivalent to a 79 percent response rate which is 1 percentage point higher than the response rate for the previous year. There were varying response rates with one school obtaining a response rate under 30 percent; 3 schools with 100 percent response rates; 7 schools with response rates between 80 percent and 99 percent; and the remaining 2 schools had response rates between 50 and 80 percent. Given the number of surveys and the fact that all of the charter schools were sampled, we think the sample provides a representative picture of the teachers and staff at the charter schools in Delaware.

Gender

Based on 2004-05 teacher/staff surveys, 70.4 percent of the charter school teachers, staff, and administrators were female and 29.6 percent were male. Female teachers are still the majority in charter schools, just as they are in other public schools. Among charter school classroom teachers alone, 71 percent were female which changed from 73 percent female in the previous year.

Interestingly, the charter schools appear to be better able to recruit and employ male teachers than the traditional public schools where approximately 75 percent of the classroom teachers are female and 25 percent are male.

Race/Ethnicity

When we aggregate the data across all charter schools, we find that the ethnic composition of teachers in charter schools is not very different from the aggregate of public schools across the state. This, of course, masks large differences that exist among the charter schools and among all public schools. From the charter school survey data we collected (N=255 teachers responding to this question), we determined that 82.4 percent of teachers were white, compared with 87.2 percent from all of the public schools in the state.[1] There were 14.5 percent African-American teachers reported at charter schools, while the state reported 11.1 percent. These figures for the charter schools indicate that over the past two years, the same charter schools have experienced a slight shift in the demographic composition among their classroom teachers with slightly more white teachers and slightly fewer African-American teachers. Of particular note, 4 charter schools had more than 40 percent minority teachers and 7 charter schools had class more teachers and staff of African-American descent, and 7 charter schools had 12 percent fewer minority teachers (see Figure 3:1). Interestingly, one school had no minority teachers at all. These figures reinforce a picture that emerged in chapter 2, namely, some charter schools are very segregated by ethnic background.

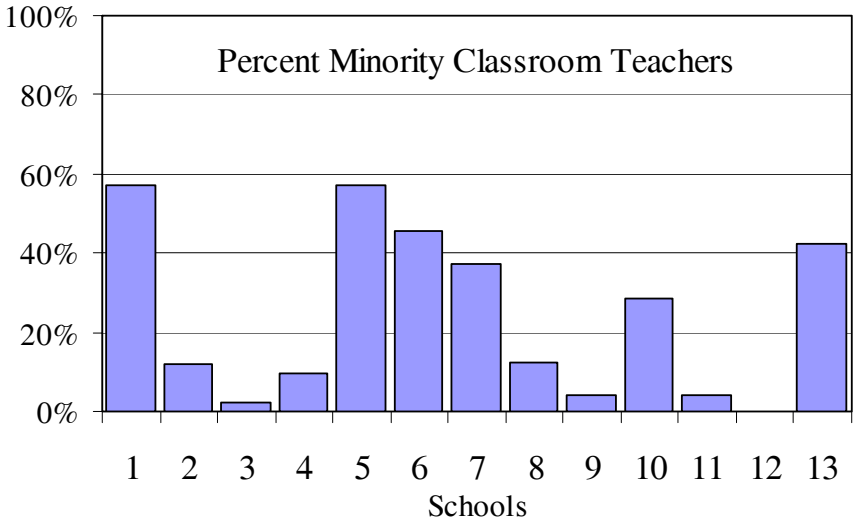

Figure 3:1 Percent Minority Teachers by Charter School

Another comparison of teacher and staff ethnicity can be made from the Delaware School Profile data for 2004-05 and the total public school figures stated above that are for full-time teachers only. While the charter school data in the preceding paragraph are based on survey data broken out by teacher-only data, the 2004-05 School Profile data contains race/ethnicity data for all instructional staff (which is comprised of approximately 93 percent teachers and 7 percent pupil support staff). The compilation of teacher characteristics data from the School Profiles can be found in Appendix E. The race/ethnic background for the 13 charter schools combined shows that 25 percent of the instructional staff were African American and 71 percent were white. The table in the

[1] The 2004-05 ethnicity and gender data for Delaware public school full-time classroom teachers are from the *Delaware Educational Personnel Report*, Table 1: Profile of Full-Time Classroom Teachers. Retrieved December 16, 2005, from http://www.doe.k12.de.us/files/dedoe_staff.xls

Appendix E also shows 4 charter schools had 50 to 70 percent African-American instructional staff, and 6 charter schools had 94 to 100 percent white instructional staff.

Age

The data for charter school teachers' age comes from a survey administered by the evaluation team. From this data, we can see that the age distribution among the Delaware charter school teachers indicates that they are younger than teachers in traditional public schools. Among classroom teachers in 2004-05, 36 percent were in their 20s, 26.6 percent were in their 30s, 17.9 percent were in their 40s, and 19.6 percent were 50 or older. The classroom teachers were the youngest among the various groups of staff, while the charter school principals/directors were noticeably older.

The state of Delaware reported that the typical public school teacher is 41 years of age with 13 years' experience. The typical administrator is 48 years of age with 21 years of educational experience. The profile of the typical public school teacher and administrator indicates that the charter school teachers are significantly younger and less experienced than teachers at the regular public schools in the state. It was hard to find comparison data for traditional public school teachers that matches the age groups designated in our survey, but comparisons with national data indicate that the Delaware charter school teachers are younger than their regular public school counterparts (see Table 3:1).

Table 3:1 Age Distribution of Charter School Teachers Compared With National Distribution

Age Group	*Delaware Charter School Teachers (based on survey data)*		*National Public School Teachers*	*Age Group*	*Delaware Public School Teachers*
	2003-04	*2004-05*	*1996-97 (NCES, 2000)*		*2003-04*[2]
20-29	36.3%	35.9	11.0%	*< 25*	7.3%
30-49	44.7%	44.5	64.2%	*25-44*	42.6%
50 or older	19.0%	19.6	24.8%	*44-54*	33.6%
				55 or older	16.5%

Role and Proportion of Staff Devoted to Instruction

Among the 358 teachers and staff sampled in 2004-05, 74.1 percent indicated that they were teachers, 3.4 percent teaching assistants, and 3.1 percent special education teachers. Approximately 7 percent indicated that they were directors, principals, or other key administrators; and over 12 percent indicated that they had some other title or position.

[2] This information is based on DDOE *Delaware Educational Personnel Report*, Table 1: Profile of Full-Time Classroom Teachers, 1999-00 through 2003-04. The percentages in this report for the "Age" category appear to have some inconsistencies with total teacher numbers for 2001-2004. The percentages in this report for this specific item are calculated using 6,720 teachers reported in the "Age" category of 2003-04 DDOE data.

Distribution of Teachers and Staff by Grade Level

Teachers and staff were asked to indicate which grade they work with most. Teachers appear to vary in distribution by school level (i.e., elementary, middle, or high school), but even larger differences exist by particular grade levels. Other staff members are concentrated in grades K-2 (this is driven by a high number of teaching assistants in these grades). Figure 3:2 illustrates the distribution of all teachers and staff by grade level as well as the distribution of teachers only across the various grade levels.

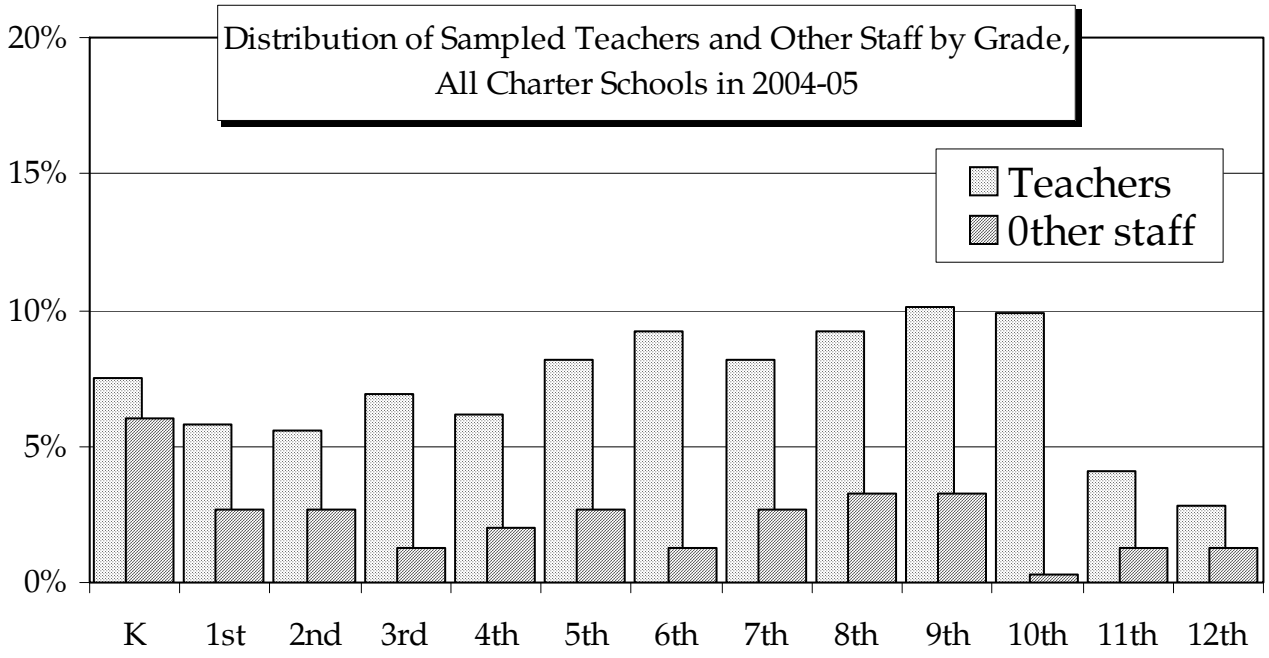

Figure 3:2 Distribution of Sampled Teachers and Other Staff by Grade, 2004-05
Note. 33 teachers and 104 other staff indicated that grade level was not applicable for their position.

Teachers and staff were asked to indicate which grade they work with most. Teachers appear to vary in distribution by school level (i.e., elementary, middle, or high school), but even larger differences exist by particular grade levels. Other staff members are concentrated in grades K-2 (this is driven by a high number of teaching assistants in these grades). Figure 3:2 illustrates the distribution of all teachers and staff by grade level as well as the distribution of teachers only across the various grade levels.

3.2 Educational Background and Years of Experience of Delaware Charter School Teachers and Staff

In this section, details regarding teacher background characteristics as well as years of experience are covered. Data presented are based on our survey of charter school staff. Appendix E contains tables with teacher data based on figures from the Delaware Department of Education.

Certification of Teachers

Of the 272 staff who indicated they were teachers in the 2004-05 sample, 84.9 percent reported that they are currently certified to teach in Delaware. This is a large improvement from last year when only 77 percent of the teachers that responded to the survey indicated that they were currently certified. The percentage of staff who were certified in another state was 2.9 percent. The percentage of teachers who were working to obtain certification was 11 percent in 2003-04, while the percentage of teachers who were not certified and were not working to obtain certification was 1.1 percent. This information should be considered indicative and not conclusive. For example, among the 30 teachers who reported that they are working to obtain certification, many may be working for a second certification. It may also be the case that the "teachers" who are working to obtain certification are, in fact, only teaching assistants and did not answer the question on role in school correctly.

Most teachers reported that they were teaching in a subject area in which they are certified to teach, although approximately 7 percent of the teachers indicated they were not certified in the subjects they taught (this is also an improvement from last year when 8.8 percent of the teachers that completed our survey indicated that they were not certified in the subject they taught). Just under 8 percent of the teachers stated that certification in subject area was not applicable to them.

Educational Background of Charter School Staff

In terms of formal education, the charter school staff appear to be well qualified (see Tables 3:2 and 3:3). Among those respondents who had completed a university degree, 55 percent had a B.A. as their highest college degree (this is down from 58 percent for the previous year), 43 percent had an M.A., and 0.3 percent had a 5-6 year certificate. There were 3 percent with a doctorate. (These figures are very similar to the results from the previous year.) Of 351 teachers, staff, and administrators, more than 29.6 percent were working toward another degree (this is down from 36.5 percent in the previous year that were working toward a new degree); and 81 percent of those working toward another degree were going for an M.A.

Table 3:2 Role and Amount of Formal Education for Charter School Staff, 2004-05

Role	*Did not complete high school*	*Completed high school*	*Less than 4 years of college*	*College graduate BA/BS*	*Graduate courses, no degree*	*Graduate/ professional degree*
Teacher	0.0%	0.8%	1.2%	28.3%	29.1%	40.7%
Special ed. teacher	0.0%	0.0%	0.0%	30.0%	0.0%	70.0%
Teaching assistant	0.0%	25.0%	58.3%	8.3%	8.3%	0.0%
Key administrator	0.0%	4.2%	0.0%	8.3%	12.5%	75.0%
Other	0.0%	18.2%	27.3%	15.9%	0.0%	38.6%
Total (N=348)	0.0%	4.0%	6.3%	24.7%	22.7%	42.2%

Note. Figures based upon data from teacher surveys.

As with the previous year's data, there were large differences among schools in terms of formal education background and degrees received. In one school, 70 percent of the teachers had an MA, and in 4 other schools more than 40 percent of the teachers had an MA. On the other end of the spectrum, 4 schools had fewer than 16 percent of their teachers with a MA degree and in 1 school none of the teachers had more than a BA degree.

Table 3:3 Role and Highest Academic Degree for Charter School Staff, 2004-05

Role	*Bachelor's*	*Master's*	*5- or 6-year cert.*	*Doctorate*
Teacher	59.3%	38.3%	0.0%	2.4%
Special ed. teacher	100.0%	0.0%	0.0%	0.0%
Teaching assistant	36.4%	63.6%	0.0%	0.0%
Principal	21.7%	65.2%	0.0%	13.0%
Other	29.2%	66.7%	4.2%	0.0%
Total (N=313)	53.7%	43.1%	0.3%	2.9%

Note. Figures based upon data from teacher surveys.

The Department of Education's statistics regarding full-time classroom teachers in 2004-05 indicated that 27 percent of the public school teachers had a B.A., 18.7 percent had an M.A. degree, 31.7 percent had an M.A. plus additional graduate work, and 0.8 percent had a doctorate. While the charter schools had slightly more teachers with a doctorate, the teachers in traditional public schools were much more likely to have a graduate degree.

Years of Experience

Most of the previous experience for charter school staff was accrued in public schools. Table 3:4 contains the results by role and school type. On average, the charter school teachers had close to seven and a half years of experience as educators. Overall, the levels of formal education and amount of working experience of the charter school staff is similar to charter school teachers in other states we have studied. The principals and key administrators have, on average, spent more years at their charter schools than the regular education teachers and special education teachers have.

When comparing the charter schools teachers to teachers in traditional public schools we find that teachers in traditional public schools have nearly twice as much experience as measured in years of teaching. This can be explained partially by the fact that the charter schools are relatively new and new organizations are more likely to be staffed by newly certified teachers looking for their first position. Large differences also exist among the charter schools when it comes to the mean years of teaching experience their teachers have had. For example, the classroom teachers in schools such as the Sussex Academy of Arts & Sciences, the Charter School of Wilmington and Newark Charter School had more than 10 year of experience on average, while teachers in the Academy of Dover had 3.4 years of experience and the teachers in MOT Charter School, Marion T, Edison Charter School, and Kuumba, all had around 5 years of experience on average.

Over the past two years, the mean years of experience went up for teachers from 6.4 years in 2003-04 to 7.6 years in 2004-05. Likewise the mean years of teaching experience also showed gradual increases for the other categories except for special education teachers for whom the mean years of experience actually decreased from 7.4 years to 4.5 years. This decrease is likely due to the attrition and replacement of special education teachers or it could partially be explained by the addition of new special education teachers in the charter schools.

Table 3:4 Mean Years of Experience by Role and in Various Types of School, 2004-05

	Private School	*Parochial School*	*Charter School*	*Public School*	*Total Yrs. of Experience**	*Years at Current School*
Teacher	0.55	1.03	2.83	3.21	7.61	2.81
Special education teacher	0.27	0.12	2.15	2.00	4.54	2.15
Teaching assistant	0.30	0.30	2.37	4.00	6.96	2.37
Key administrator	0.60	3.85	3.96	6.92	15.34	3.87
Other staff	0.03	0.56	3.37	3.29	7.26	3.31

* Total years of experience as an educator in the school types/roles listed in the table

In terms of the mean number of years at the current school, we would expect the mean number of years to increase 1 year from the previous year if all the teachers who responded to the survey returned the next year. In any case, we found a small increase in the mean number of years at the current school for regular classroom teachers (i.e., it increased from 2.5 years in 2003-04 to 2.8 years in 2004-05). While the mean years at current school decreased for special education teachers from 2.3 years in 2003-04 to 2.1 years in 2004-05, the other categories of staff also showed gradual increases from .2 to .7 years.

3.3 Reasons to Seek Employment at a Charter School

In our teacher survey forms, a number of possible reasons for teachers and staff to seek employment at a charter school were listed, and the staff were asked to rate each reason on a 5-point scale according to how relevant each reason was in influencing their decision to seek employment at the charter school. Table 3:5 includes the descriptive statistics for the results on these items. The items in the table are rank ordered from top to bottom with the most important reasons for seeking employment in a charter school listed at the top.

The most important factor was "Safety at school." Given the problem of violence in schools, it makes sense that teachers place value on have a safe work environment. Other important factors influencing employment at charter schools were opportunities to work with like-minded educators, committed parents, and the academic reputation (high standards) of the school. The least important factor in seeking employment at the respective schools was "difficulty in finding other positions," with approximately 17 percent of the teachers agreeing or strongly agreeing that this was a factor.

Table 3:5 Reasons for Seeking Employment at This School (Rank Ordered According to Means), 2004-05

	Not important				*Very important*	*Mean*	*STD*
	1	*2*	*3*	*4*	*5*		
Safety at school	2.9%	3.2%	22.9%	28.7%	42.4%	4.05	1.02
Opportunity to work with like-minded educators	3.2%	3.7%	22.7%	36.5%	33.9%	3.94	1.00
Academic reputation (high standards) of this school	7.0%	2.6%	20.5%	31.6%	38.3%	3.92	1.15
Parents are committed	4.0%	6.3%	23.1%	32.3%	34.3%	3.87	1.08
My interest in being involved in an education reform effort	6.6%	9.1 %	26.0%	32.9%	25.4%	3.61	1.15
More emphasis on academics	7.2%	6.9%	31.4%	32.3%	22.2%	3.55	1.12
This school has small class sizes	6.1%	10.1%	35.5%	23.1%	25.1%	3.51	1.15
Promises made by charter school's spokespersons	11.0%	9.2 %	25.1%	32.9%	21.9%	3.46	1.24
Convenient location	16.8%	15.7%	25.1%	21.7%	20.8%	3.14	1.37
Difficult to find other positions	45.2%	18.3%	19.4%	7.5%	9.6%	2.18	1.33

When comparing the results from the previous year we found that the top-ranked reasons for choosing a charter school were relatively less important and the bottom-ranked reasons were slightly more important. Although interesting to see these trends, it is important to note that the differences were not statistically different by year

Overall, respondents to the survey were pleased with the education provided by the schools. While the responses did vary greatly among schools, respondents from nearly all of the school mentioned the following reasons for choosing their charter school: dedicated staff, a strong sense of community, good students, and creativity in programs. In three of the schools, more than 75 percent of respondents reported that the quality of the teaching staff was the driving force behind their decision to teach at their school. In the words of one teacher, "They have a lot of really great teachers with positive attitudes and excellent teaching techniques." Another attribute that received praise from teachers in nearly all schools was collaboration between community members, i.e. parents, students, teachers, and administrators. Specifically, teachers praised "the symbiotic and productive academic atmosphere created by faculty and students," a "strong desire of all three key components: students, parents," and "the sense of community in times of adversity." In the words of one content teacher, "*It seems to me that the greatest difference between the schools I previously taught in and this school is that most students in this school are eager to learn and are willing to rise to the challenges placed before them. It also amazes me that our students are so well rounded; they take academically challenging courses, are active in extracurricular clubs, music, and sports. The students are generous and willing to help their peers. We also receive far more parent support than I have seen in most of other schools in which I worked.*."

Although the majority of responses in the open-ended portion of the survey were positive in nature, there were some comments that suggested that there was room for improvement. Again, there was variation among schools. For example, in one school, 64 percent of respondents indicated that discipline/behavior issues were a major concern. In two schools, 70 percent of respondents reported inadequate physical facilities was the greatest weakness. However, other schools reported that student motivation was their greatest concern. Additional comments on the constraints facing charter schools as articulated by teachers in the survey follow:

- "*The administration fails to communicate expectations regarding outside activities. (i.e. meetings and events after hours. We are expected to attend, participate sometimes at a days notice.)"*
- "*The size of our facility is stifling and cramped. It allows no further expansion of classes or extra curricular activities. There is no funding for property for charter schools and specializing with poor offers us no people of influence to help."*
- *"There is not enough support for the high number of new teachers to be successful and grow in their careers."*

It is important to note, however, that the majority of respondents expressed satisfaction with their charter school. The above comments were merely included to demonstrate the type of concerns teachers have.

3.4 Working Conditions for Teachers and Staff and Levels of Satisfaction

The general working conditions for teachers and staff varied extensively among the charter schools. When referring to working conditions we have relied on data from the teacher survey and interviews that covered facilities and resources for instruction, as well as satisfaction with salary and benefits.

In terms of facilities, we found an even split in the responses from teachers and staff concerning the quality of their school's facilities. Approximately 54 percent of the staff were satisfied or very satisfied with the school buildings and facilities (this is down from 59 percent in the previous year for the same schools). Close to 37 percent of the teachers and staff agreed or strongly agreed that their school has sufficient financial resources which is an increase of 4 percentage points from the previous year.

Interestingly, the open-ended portion of the survey revealed that more than one-third of the schools reported that inadequate facilities were a major constraint. One respondent wrote, "The greatest weakness of our school lies in the fact that we are teaching in very crowded conditions in a rented section of another school. Rooms have been cut in half to accommodate the maximum number of students, still we have a large pool of students that cannot accept because of our size. (What remains amazing is that in spite of this, we are doing a great job!)" Another teacher reported that his/her school's greatest weakness was, "The horrendous facilities-no improvements are made. We need our own building!" Still yet another teacher reported, "The "rental" building situation limits us in so many way. We have no (or very little) control over the physical structure and the athletic fields. Everything is in deplorable, crumbling condition and no money is spent for the upgrades that are LONG over due. We also have no control over the custodial and maintenance staff. So even daily

routine upkeep is often not done. We also need much more inside and outside space!" Appendix D contains further detailed findings regarding the levels of satisfaction among the charter school staff with regard to facilities and resources available for instruction.

Roughly 45 percent of the teachers and staff agreed or strongly agreed that the physical resources available for instruction were good, while the rest were either not satisfied with the resources or were uncertain. This is a big drop from the previous year when 57 percent of the teachers reported that they were thought the physical resources for instruction were good. In one school, 100 percent of respondents reported that insufficient financial resources were the greatest weaknesses of their school. One teacher said, "Staff salaries are too low, this makes retaining dedicated , hardworking staff and teachers difficult." Similarly, another teacher reported that "low teacher salaries attracts mainly entry-level teachers with no or minimal experience." Some teachers reported that their school's charter school status was contributing to its financial problems. As with the previous year, a large number of the responses in the open-ended section of the survey, identified school funding and resources as one of the greatest weaknesses of their school

Just over 60 percent of staff disagreed that class sizes at their schools were too large to meet individual students' needs which is nearly identical to the results from the previous year. Student discipline was cited by many respondents as being essential to providing quality education. Unfortunately, for two schools, lack of discipline was cited as the principal weakness of the school. Teachers in these schools reported that classroom disruptions and disrespectful students were serious hindrances. Conversely, in those schools where discipline was not a problems, teachers reported that students learned more and that their (the teachers) job was easier as a result.

Teacher Autonomy and Opportunities for Developing Innovative Practices

The teacher survey asked teachers about their initial expectations and to compare these with what they are currently experiencing in their schools. They were asked whether their schools support/are supporting innovative practices and whether they will be/are autonomous and creative in their classrooms. As indicated in Table 3:6, there is a 16 percent discrepancy between expectation and current experience in the area of innovations and a 10 percent discrepancy between their expectation and current experience in the areas of autonomy and creativity. These findings are nearly unchanged from the previous year.

Table 3:6 Teacher Expectations and Current Experience With Regard to Innovative Practices and Autonomy

	Initial Expectation					*Current Experience*				
	False	*Partly True*	*True*	*Mean*	*STD*	*False*	*Partly True*	*True*	*Mean*	*STD*
The school will support/is supporting innovative practices	1.2%	16.0%	82.8%	2.82	0.42	4.2%	29.1%	66.7%	2.62	0.57
Teachers will be/are autonomous and creative in their classrooms	0.3%	13.2%	86.5%	2.86	0.35	1.8%	22.3%	76.0%	2.74	0.48

Many teachers reported that they highly valued the creativity that working in a charter school makes possible. Teachers were emphatic in their belief that this creativity facilitated greater learning. Provided below is a sampling of the types of innovative practices highlighted by teacher respondents:

- ❑ Our school profiles ("report cards") include rubric scores for "Habits of Mind", measuring a student's persistence, reflection, self-direction. This helps students to focus on the important aspects of being a good student and learner. It's not all about the grades; we also work on how kids think, organize their time, apply effort, etc.
- ❑ We use our discipline referral data to not only put in place interventions for students, but also to identify teachers in need of support and professional development.
- ❑ Our school promotes an instructional support team that assesses and follows struggling learners in the regular education classroom setting. The school also has a leadership team devised of a representative from each grade level that makes key decisions for the staff as a whole.
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Satisfaction With Salaries and Working Conditions

The Delaware charter schools' average teacher salary in 2004-05 was $43,101, which is noticeably lower than the state average of $51,252. The difference between the average salary for charter school teachers and traditional public school teachers continues to grow smaller each year. Two years earlier the difference was around $10,500 and during 2004-05 this difference decreased to just over $8,000. It is interesting, of course to note the large differences in teachers salaries among the charter schools were Providence Creek has the lowest average salary at $33,351 and Newark Charter School had a high average teacher salary at $56, 336. Two other charter schools can also boast a teachers' salaries that are higher than the state average: Charter School of Wilmington and the Delaware Military Academy.

The difference in average teacher salaries can be explained to a great extent by the large difference in educational background and years of experience of the teachers employed. As noted earlier, teachers in traditional public schools are more likely to have more credentials, higher levels of formal education and more years of experience. Similarly, the charter schools with higher teacher salaries also have teachers with more credentials and more experience than the charter schools with lower average teacher salaries.

The teachers displayed varying levels of satisfaction with their salaries and benefits. Just over 42 percent of the teachers and staff were satisfied or very satisfied with the salaries they received, while 27.3 percent were either dissatisfied or very dissatisfied with their salaries. Nearly one-third of the staff (30 percent) indicated that they were neither satisfied nor dissatisfied with their salaries. Nearly 48 percent were satisfied or very satisfied with their benefits, while 19.7 percent were dissatisfied or very dissatisfied with their benefits. Interestingly, all indicators in Table 3:7, except for availability of computers and technology, actually worsened between 2003-04 and 2004-05. That means that teachers general level of satisfaction with their working conditions is worsening over time

rather than improving. While the decreased levels of satisfaction were generally small, they were found to be large enough to be statistically significant for satisfaction with fringe benefits, with governance and with administrative leadership.

Table 3:7 Levels of Teacher and Staff Satisfaction with Working Conditions

	Not very satisfied				*Very satisfied*	*Mean*	*STD*	*Median*
	1	*2*	*3*	*4*	*5*			
Salary level	9.5%	17.8%	30.2%	28.7%	13.8%	3.20	1.17	3
Fringe benefits	8.1%	11.6%	32.5%	32.2%	15.5%	3.36	1.12	4
School buildings and facilities	11.8%	13.9%	20.2%	26.9%	27.2%	3.44	1.34	4
Resources available for instruction	4.4%	15.2%	20.5%	31.3%	28.7%	3.65	1.17	4
Availability of computers and other technology	2.0%	10.4%	19.6%	31.7%	36.3%	3.90	1.07	4
School governance	6.7%	11.7%	23.1%	32.5%	26%	3.59	1.18	4
Administrative leadership of school	7.5%	10.7%	18.5%	28.9%	34.4%	3.72	1.25	4
Evaluation or assessment of your performance	5.4%	9.1%	18.7%	33.8%	32.9%	3.80	1.15	4

3.5 Initial Expectations and Current Experiences of Teachers and Staff

A number of identical items were used in the surveys to examine and compare the charter school staffs' "initial expectations" as opposed to "current experience" (See Appendix D, Teacher/Staff Results, Question 16). As with the previous year, it is clear that the teachers and other staff were content with their schools and satisfied with the services they provide. It is interesting to note, however, that there were statistically significant differences on all variables between what was initially expected and what the educators were currently experiencing. What the staff were reporting as "current experience" was significantly less positive than their "initial expectations.[3]"

The biggest differences between initial expectations and current experience were on the following items which are rank-ordered from the biggest differences (i.e., greatest disparity between what teachers expected and what they were experiencing) at the top of the list.

1. There will be/*are* new professional opportunities for teachers.

[3]Because these questions are actually nonparametric in nature and the variables are ordinal, the marginal homogeneity test was used to compare the paired distribution of responses. This also found significant reductions in expectations on all items ($p = .001$) except the item "parents will be able to influence the direction of the school."

2. Students will/*are* receiving appropriate special education services, if necessary.
3. The school will have/*has* effective leadership and administration.
4. Teachers will be/*are* able to influence the steering and direction of the school.
5. Students will receive/*receive* sufficient individual attention.
6. Support services (i.e., counseling, health care, etc.) will be/*are* available to students.

This does not imply that teachers and staff were not satisfied with these aspects of their school. Rather, it infers that they had high expectations in these areas that did not correspond with what they were currently experiencing.

As noted in the Year 1 report, it is important to consider the educational significance of these findings. Likewise, it is important to consider likely explanations for these findings. Given the feedback we received from teachers and staff, it seems that teachers simply expected too much. A large portion of the teachers were seeking jobs at schools that were relatively new or were not yet in operation. Given such a situation, expectations are understandably high. Unfortunately, we do not have comparable data from regular public schools.

Although there are differences between teachers/staff's initial expectations and current experience, teachers/staff generally are still positive about their schools. Nonetheless, the gap between teachers' expectations and their current experiences is a warning sign for charter schools. And, as we shall see in the findings in the next section, teachers levels of satisfaction are closely linked to teacher attrition.

3.6 Scope and Reasons for Attrition of Teachers and Staff

In the section we will describe the scope and nature of attrition among charter school teachers and staff. We will also examine the likely reasons for why teachers are leaving the charter schools. We were able to calculate attrition rates from documentation and data files provided to us by the Delaware Department of Education

One surprising finding from the first year of the evaluation was the very high level of attrition among teachers and staff. We were pleased to find that in year 2, the level of attrition—especially for certified teachers—dropped considerably (i.e., from 32 percent to 20.6 percent). While this is a big improvement, it is important to note that attrition rates in two of the schools are still very high (i.e., Marion T with 72 percent and Providence Creek with 61 percent attrition of certified teacher). High levels of attrition can undermine the success of charter schools as they continue to develop and implement their unique visions and plans.

While one-third of all charter school personnel (i.e., the teachers, aides, clerical/administrative/custodial staff, and administrators) left during or immediately following the 2002-03 school year, this figure dropped to 22.7 percent in 2003-04. Table 3:8 outlines the attrition data by school and for staffing type.

Classroom teachers are considered the most important staff members in providing instruction, so attrition within this group is very critical. Our analysis separated out certified and noncertified

Table 3:8 Attrition Rates Among Charter School Staff from 2003-04 to 2004-05

	Certified Teachers				*Noncertified Teachers*				*Administrators*				*All Staff*			
	Total in 2003-04	*Returned in 2004-05*	*Percent Attrition from 03-04*	*Percent Attrition from 02-03*	*Total in 2003-04*	*Returned in 2004-05*	*Percent Attrition from 03-04*	*Percent Attrition from 02-03*	*Total in 2003-04*	*Returned in 2004-05*	*Percent Attrition from 03-04*	*Percent Attrition from 02-03*	*Total in 2003-04*	*Returned in 2004-05*	*Percent Attrition from 03-04*	*Percent Attrition from 02-03*
Campus Community	37	32	13.5%	14.3%	2	2	0.0%	71.4%	2	2	0.0%	0.0%	50	42	16.0%	23.4%
CS of Wilmington	39	38	2.6%	13.3%	4	4	0.0%	—	5	5	0.0%	0.0%	63	55	12.7%	17.7%
East Side CS	7	3	57.1%	33.3%	2	2	0.0%	—	2	2	0.0%	0.0%	17	10	41.2%	33.3%
Kuumba Academy	15	13	13.3%	12.5%	1	1	0.0%	40%	3	3	0.0%	0.0%	22	20	9.1%	14.3%
Marion T. Academy	19	10	47.4%	72.0%	6	6	0.0%	—	3	2	33.3%	50.0%	44	26	40.9%	66.7%
MOT Charter School	31	15	51.6%	40.0%	2	2	0.0%	—	3	3	0.0%	100.0%	48	29	39.6%	59.0%
Newark Charter School	33	25	24.2%	15.0%	1	1	0.0%	42.9%	3	3	0.0%	50.0%	41	32	22.0%	22.2%
Positive Outcomes	8	5	37.5%	20.0%	2	2	0.0%	33.0%	3	3	0.0%	0.0%	15	12	20.0%	26.7%
Providence Creek	38	28	26.3%	60.7%	1	1	0.0%	—	4	3	25.0%	100.0%	49	35	28.6%	61.8%
Sussex Academy	19	16	15.8%	20.0%	—	—	—	—	2	2	0.0%	0.0%	23	20	13.0%	17.9%
Thomas A. Edison	37	31	16.2%	34.3%	5	5	0.0%	46.7%	3	2	33.3%	0.0%	57	47	17.5%	34.7%
Del Military Acad	16	15	6.3%	—	—	—	—	—	3	3	0.0%	—	21	20	4.8%	—
Academy of Dover	17	14	17.7%	—	4	4	0.0%	—	1	1	0.0%	—	39	30	23.1%	—
Total	345	274	20.6%	31.9%	30	30	0.0%	48.6%	37	34	8.1%	23.1%	488	377	22.7%	35.7%

Notes. Teachers whose certification was pending or under review were included as noncertified.

The "all staff" category in the right-hand column includes teachers, administrators, clerical, paraprofessionals, and classroom aides.

teachers. Of the 345 certified teachers, 274 returned and 71 did not; this is equivalent to a 20.6 percent attrition rate. Last year, fully 48 percent of non-certified teachers did not return to the school at which they taught. However, all the noncertified teachers returned in 2004-05. There was, however, a large drop in the total number of uncertified teachers in 2004-05. In 2002-03 there were 37 uncertified teachers across 5 schools and close to half of them did not return in 2003-04. The total number of uncertified teachers dropped to 30 in 2003-04 but all of them appear to have returned in 2004-05. This is a surprising finding since one expect to find higher attrition among the noncertified teachers.

The attrition among administrators dropped dramatically from 23 percent in 2003-04 to 8 percent in 2004-05. Unfortunately, the little attrition that did exist among administrators was concentrated in the schools that were already hard hit by attrition in the previous year.

Our data also included information on other staff in the school. Besides teachers and administrators, there were data for three other categories of staff: clerical, paraprofessionals, and classroom aides. The average attrition rate for other staff (staff not including teachers and administrators) was 35 percent in 2004-05 which was also a decrease from 44 percent in the previous year (see table 3:8 for the results by school and category of staff).

Teacher attrition in charter schools is expected to be higher because the teachers are on one-year contracts and they are not part of collective bargaining units. The principal is most often responsible for hiring and firing, with the board of directors' agreement. Teachers that do not match the mission of the school or teachers that are deemed less effective can be removed easily. In cases such as this, the attrition is what we would refer to as "functional attrition." The high rates of attrition, however, suggest that the schools likely are also losing effective or promising teachers due to dissatisfaction with working conditions, salary, or other reasons. Other factors that may affect attrition rates include the urbanicity of a school's location, the racial and economic makeup of the district, and the relative years of experience of the teachers.

In the previous year, the 4 charter schools with the highest staff turnover rate in 2002-03 were those run by EMOs, including 2 schools that opened in September 2002 and terminated their management agreements with the out-of-state corporations they had originally contracted to manage the schools. Only two of the schools still have contracts with out of state operators and the attrition rate has gone down considerably for these schools in 2004-05.

Reasons for Teacher Attrition

Our re-analysis of teacher survey data from 2003-04 allowed us some insights into why teachers were leaving the charter schools. To do this analysis, we first identified staff who left the school in 2004-05 and compared the 2003-04 survey responses for teachers and staff who stayed with those who left the school. We also relied on information garnered in interviews with school administrators. Not surprisingly, we found that classroom teachers that left charter schools were dissatisfied with various aspects of the school.

Large differences in survey responses could be measured between classroom teachers who stayed compared to those that left. All of the items listed below were found to be statistically significant (0.05). [Items with an asterisk refer to statistically significant differences at 0.01.]

School Mission and School Quality

Teachers who left were more likely to be dissatisfied with the following:
- ❑ School mission and the ability of the school to fulfill its mission*
- ❑ Innovation in the charter school
- ❑ Curriculum used at the school*

Teachers who left were more likely to have the following perceptions:
- ❑ The quality of instruction not high
- ❑ Teachers and staff are not committed to the school mission
- ❑ The school does not maintain high standards and expectations for students*

Governance/Leadership

Teachers who left were more likely to be dissatisfied with the following:
- ❑ Leadership of the school*
- ❑ Governance at the school*
- ❑ Communication between school and students' homes
- ❑ Support services for students *
- ❑ Ability to influence direction of the school*

Working Conditions

Teachers that left the school were dissatisfied with the following:
- ❑ Salary*
- ❑ Resources available for instruction
- ❑ Perceived safety for students at the school*
- ❑ Perceived job security for teachers
- ❑ Evaluation and assessment of their performance*

Background Characteristics of Teachers

Not surprisingly, we did not find some noticeable differences in the qualifications, particularly in terms of the amount of formal education they had received (i.e., teachers that left had less formal education). Tables 3:9 and 3:10 outline the relationship between teacher attrition, ethnic background and certification status.

Table 3:9 Teacher Attrition by Race/Ethnicity

N=277	*White*	*Black*	*Hispanic*	*Asian or Pacific Islander*	*Native American Indian*	*Total*
Returned	190 (84.1%)	32 (86.5%	5 (62.5%)	2 (40.0%)	1 (100%)	230 (83.0%)
Left school	36 (15.9%)	5 (13.5%)	3 (37.5%)	3 (60.0%)	0 (0.0%)	47 (17.0%)

Attrition refers to classroom teachers who left between the spring of 2004 and the spring of 2005

As one can see, there were lower levels of attrition for white and African American teachers although other minority teachers had higher levels of attrition. Also, teacher attrition was noticeably lower for certified teachers in 2003-04 (see Table 3:10) and highest for teachers not certified and not perusing certification.

Table 3:10 Teacher Attrition by Certification Status

N=284	*Currently certified to teach in Delaware*	*Currently certified to teach in other state*	*Working to obtain certification*	*Not certified and not working to obtain certification*	*Total*
Returned	186 (84.5%)	11(78.6%)	38 (79.2%)	2 (100%)	237 (83.5%)
Left school	34 (15.5%)	3 (21.4%)	10 (20.8%)	0 (0.0%)	47 (16.5%)

Regardless of the reasons for turnover, it is clear that high turnover can be problematic to morale and to student achievement. High turnover impacts a great number of staff, parents, and especially students. On the other hand, it is important to keep in mind that not all attrition is bad. Because charter schools are much freer to remove teachers that do not perform well or who do not match the mission of the school, they should be more able to build focused learning communities. While we have been able to identify the scope and likely reasons for attrition, further study is needed to examine the factors behind teacher attrition as well as the impact of this attrition on the charter schools.

Chapter Four
Accomplishment of Mission and Performance Accountability

Charter schools were originally established in order to meet a perceived gap the offerings provided by traditional public schools. As such, charter schools have unique missions and corresponding educational approaches. Therefore, in addition to meeting state level performance standards, it is imperative that charter schools meet the objectives that they have established for themselves. If charter schools simply meet standard state performance standards but not the objectives they have established for themselves, they can not be considered as offering a different sort of education than traditional public schools. On the other hand, if charter schools can demonstrate that they not only meet achievement levels targeted by the state but also their own mission-related objectives, then they can be seen as providing a unique quality education that at least meets and, in many cases, exceeds traditional schools.

In this chapter, we provide a review of the charter schools' goals and objectives and seek to determine whether or not they have been met. The chapter begins with a summary of findings from last year's report. Following this, we share findings from our own evaluation of the extent to which the charter schools are meeting their academic, behavioral, and market accountability objectives were met. Next, a summary of findings across schools is presented and—finally—the chapter concludes with suggestions for improving the annual reports and strengthening their use as a tool for accountability.

4.1 Review of 2004-05 Findings

In our Year 1 evaluation report, we analyzed findings from 11 charter schools that had prepared annual reports for the 2002-03 school year (Academy of Dover and Delaware Military School were not included because were newly approved but did not have any annual reports on file). These annual reports prepared by schools were audited by the DDOE and combined into a single annual report. In addition to analyzing the charter schools' annual reports, we also examined the schools' performance agreements and results from self-administered parent satisfaction surveys. We provided an overview of the different missions and goals for the schools. (Note: As these missions should not have changed greatly from one year to the next, we are not including them in this year's report. If there is interest in reviewing specific school missions, please refer to our descriptions of the schools in Chapter 2 or contact the individual school.

Highlights of findings from Year 1 report which analyzed and synthesized annual reports for the 2002-03 school year:

- The use of standardized tests facilitates clearly measurable goals. They also have the advantage of being comparable across all the schools that use them. Some may argue that school-to-school comparisons are not appropriate for charter schools, some of which serve large proportions of students who are at risk of failure. This is why charter schools may define their own benchmarks for success
- The goals and objectives specified in the charter schools' performance agreements with the Department of Education are unique from most other states in that they also include indicators of market accountability. Typically, the charter contracts or performance agreements only cover objectives related to performance accountability and perhaps regulatory accountability. Market accountability works on its own, out in the marketplace. In other words, parents who don't like a charter school leave and charter schools without customers close. The use of market indicators in the Delaware performance agreement for schools sponsored by DDOE can help provide early warnings regarding a failing charter school. Early warnings mean that steps can be taken to assist schools at risk of closure, or steps can be taken to buffer the impact on districts from the closure of a charter school.
- There is a paradox in the charter school concept that provides greater autonomy for schools in exchange for great accountability. By requiring rigid and concrete forms of accountability, the schools actually have their accountability constrained. While charter schools are given greater freedom in the organization of their school and the delivery of instruction, the curriculum is prescriptive since it is based on the state standards and—more importantly—the state assessment test, which is used for accountability purposes.

4.2 Findings Regarding Performance Accountability

In this section, we detail the three main goals that are stated in the performance agreements and describe how well the schools are reporting their progress on each of these goals in their indicators of success.

Academic Achievement

Table 4:1 displays the progress on the academic objectives for each school that listed such goals in its performance agreement. Overall, this year's objectives were significantly better than the objectives reviewed in last year's report. It was quite apparent that the school's had invested more time developing and evaluating their objectives. An in depth analysis of individual schools' objectives and how they evaluated their objectives is included in the next section. However, there are a few general points that merit mention here.

The actual number of academic objectives set by each school varied greatly. While East Side had only two academic objectives, Providence Creek Academy had 18. Similarly, the quality of objectives varied significantly as well. Unfortunately, many of the schools had objectives that were still vague and difficult to measure. These objectives did not contain benchmarks and, as such, were

difficult if not impossible to determine if they were met. Another frequently observed problem is that a number of the charter schools did not include evidence that each of their objectives were met.

Many schools did not limit themselves to the standard academic objectives in the performance agreements. Instead, these schools developed objectives that were designed to correspond to their unique missions. These objectives were quite helpful in determining if the school was actually achieving their intended educational mission. Although the standard objectives included in the performance agreements are beneficial to determine accomplishment of objectives across schools, individually tailored objectives are key to determining if a school has met the objectives it has set for itself.

Table 4:1 Progress on Academic Objectives by School

School	*Performance Rating*	*Academic Objectives*											
		1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Academy of Dover	Commendable	Met	NE**	NE**	NE**	Met							
Campus Comm CS	Commendable	Met*	Met*	Met*	Met*	Met*	Met*						
CS of Wilmington	Superior	Met*	Met	NE	NE	NE							
Delaware Military Acad.	Commendable	NE*	Met	NE	NE	NE							
East Side Charter Sch'l	Commendable	Met	DNM										
Kuumba Academy CS	Commendable	DNM	DNM										
Marion T. Academy CS	Acad. Progress	DNM	NE	NE	NE	NE	NE	NE	NE	NE			
MOT Charter School	Superior	MM	Met	Met*	Met	Met	Met*	Met	Met				
Newark Charter School	Superior	Met	Met										
Positive Outcomes CS	Acad. Review	DNM	Met	Met	PM	DNM	Met	Met*	Met*	DNM	Met	NE	
Providence Creek***	Superior	Met	Met	NE	Met	NE	DNM	PM	Met*	NE*	NE	NE	NE
Sussex Academy	Superior	Met	NE	Met									
Thomas A. Edison CS	Superior	DNM	Met	Met	Met	Met							

Notes: Achievement of each objective is rated as "No Evidence" (NE), "Did Not Meet" (DNM), "Partially Met" (PM), Mostly Met" (MM) and "Met"

* Indicates that objective is vague

** Indicates that objective is for future activities and thus cannot be evaluated at present time

*** This school had 6 additional objectives with a No Evidence (NE) ratings

Behavior

There were considerably fewer behavioral objectives than academic objectives. However, there was still considerable variation among the schools in the number of objectives identified. For the most part, the objectives were limited to attendance and the number of reportable behavioral offenses. However, some schools included behavioral and attitudinal objectives. Table 4:2 shows the progress of schools in accomplishing their behavioral objectives. As compared to their academic objectives,

schools were much more successful in meeting their behavioral objectives. Moreover, there were only a few schools that did not provide evidence of their behavioral objectives. On the whole, the behavioral objectives were much more specific than the academic objectives and incorporated clear benchmarks.

Table 4:2 Progress on Behavioral Objectives by School

School	*Behavioral Objectives*					
	1	*2*	*3*	*4*	*5*	*6*
Academy of Dover	Met	NE				
Campus Community School	Met*					
CS of Wilmington	MM					
Delaware Military Academy	Met	NE				
East Side Charter School	Met	Met	Met	Met		
Kuumba Academy CS	NE	NE				
Marion T. Academy CS	Met	NE	Met	Met	DNM	
MOT Charter School	Met*	Met*	NE*			
Newark Charter School	Met	Met	Met			
Positive Outcomes CS	Met	Met	Met	Met	MM	
Providence Creek Academy CS	Met	NE	Met*	NE	NE	NE
Sussex Academy	Met	NE				
Thomas A. Edison CS						

Notes: Achievement of each objective is rated as "No Evidence" (NE), "Did Not Meet" (DNM), "Partially Met" (PM), Mostly Met" (MM) and "Met"

* Indicates that objective is vague

** Indicates that objective is for future activities and thus cannot be evaluated at present time

Market Accountability

Adequate funding is essential to the fiscal survival of a charter school. Indeed, market laws of supply and demand are a cornerstone of the charter school program theory. Therefore, it is appropriate that the annual reports explored several indicators of market accountability: level of enrollment, attrition throughout the year, and year-to-year attrition. Table 4:3 shows charter schools' progress on the accomplishment of their market accountability objectives. Overall, the schools did a good job developing their market accountability objectives. An example of a typical objective is, "each year of school operation, the school will have enough students seek admission to have at least 95 percent of the maximum number of students allowed by the charter enrolled in the first week of the school year." For the most part, the market accountability objectives used by the schools were the objectives included in the performance agreement. In the future, charter schools should include a specific benchmark. For example, instead of stating an objective that "the school will have a waiting list of

students seeking admission," the schools should include a specific number in their objective. Finally, it is interesting to note that only a third of the charter schools included an objective that pertained to parent satisfaction. In previous years, many of the charter schools were administering and collecting surveys of parents to determine their degree of satisfaction.

Table 4:3 Progress on Market Accountability Objectives

School	*Market Accountability Objectives*					
	1	*2*	*3*	*4*	*5*	*6*
Academy of Dover	Met	MM	PM	Met		
Campus Community School						
CS of Wilmington						
Delaware Military Academy	NE*	Met*	NE	Met	NE	
East Side Charter School	Met	Met	NE	Met		
Kuumba Academy CS	Met	Met	Met	Met	NE	Met
Marion T. Academy CS	Met	MM	Met			
MOT Charter School	Met*	Met*	Met*			
Newark Charter School	Met	Met	Met	Met	Met	
Positive Outcomes CS	NE	Met*	NE			
Providence Creek Academy CS	Met	Met	Met	Met	Met	
Sussex Academy	Met	Met	Met	Met	Met	
Thomas A. Edison CS						

Notes: Achievement of each objective is rated as "No Evidence" (NE), "Did Not Meet" (DNM), "Partially Met" (PM), Mostly Met" (MM) and "Met"
* Indicates that objective is vague
** Indicates that objective is for future activities and thus cannot be evaluated at present time

4.3 Areas for Improving the Annual Reports Prepared by Charter Schools

In this section, a short description of areas for improving each school's annual report is included.

Academy of Dover. On the whole, the Academy of Dover's discussion of accomplishment of goals and objectives is good, if somewhat limited. Rather than including additional objectives, the school has only included standard objectives included in the performance agreement. For future years, it would be better if the school would include objectives that included objectives to its unique mission and activities. However, evidence for the objectives that are included is clearly presented. It should be noted that there was insufficient evidence to determine whether three of the academic activities had been attained as they pertained to future activities.

Campus Community Charter School. Campus Community took a different approach from the other charter schools in the development of their objectives. In fact, the school included only one of the standard performance agreement objectives. Instead, their objectives were much more tailored to their mission and unique profile. While, in theory, this approach should provide more insight into whether the school actually achieved their individual objectives, the schools' objectives were difficult to measure. For example, it is difficult to measure the following objective, "to provide students with strong academic preparation in language and fine arts, science, mathematics, and social studies" as it doesn't include a benchmark. A more fitting objective would be "students' mastery of language and fine arts, science, mathematics, and social studies increases as demonstrated by a 10 percent increase in DSTP scores from the previous year." Most of the objectives identified by Campus Community could best be described as broad goals, or, long term desired outcomes rather than objectives. The school's annual report does provide a narrative detailing what activities had been undertaken for the stated goal. However, it is highly recommended that, in the future, Campus Community creates objectives that are more specific and measurable and linked to evidence of current performance.

Charter School of Wilmington. Overall, their report is very clear and well laid out. Goals are clearly stated as well as data sources and methods for how goals will be evaluated. It is obvious that the school is performing well, however, in certain cases evidence demonstrating whether objectives were met was not provided. For example, one of the measurable objectives listed under goal #2 "to enhance the professional development of all teachers, particularly those in math, science, and technology" is that at least 50 percent of the teachers will utilize skills learned through professional development activities. Unfortunately, no evidence is provided to help determine whether this objective has been met.

Delaware Military Academy. Overall, the school's academic, behavioral, and market accountability objectives need considerable review. Many of the objectives are not clearly defined. For example, of the six academic objectives listed in the annual report, there is only sufficient evidence to evaluate *one* of these objectives. Moreover, the objectives do very little to capture the mission of the school. Delaware Military Academy is a very unique school offering a very different education program and its objectives should reflect their unique program. These objectives are also very vague and do little to capture overall academic performance. There is also insufficient evidence to evaluate many of the behavioral and market accountability objectives. Additionally, the report's analysis of the accomplishment of goals and objectives is very cursory. It is also poorly organized and difficult to match objectives with supporting evidence. It is highly recommended that Delaware Military Academy revisit this section of their report to (1) create more relevant, measurable objectives; (2) provide evidence demonstrating whether objectives were met; and (3) organize the presentation of the information in a manner that facilitates comprehension by readers.

East Side Charter School. Overall, the school's report is very clear and well organized. Determining whether objectives have been met is facilitated by the straightforward presentation of evidence. The objectives are also very clear and tangible. The school did not meet one of its academic goals: "by the end of the charter period the school average will be equal to or greater than 95 percent of the state's mean score on the DSTP." This was only achieved in one of the six subject areas. Also, it is

important to note that it was not possible to determine whether the third market objective was met, "each year of the school's operation, at least 85 percent of the parents of students attending the school will indicate satisfaction with the school's administration and educational program," as parent surveys were discontinued in the previous year. In the future, it would be beneficial if East Side were to include additional objectives that were tailored to its individual mission .

Kuumba Academy. Overall, Kuumba Academy's analysis of accomplishments of goals and objectives is very clear and well organized. However, it appears as if the evidence for two of the behavioral objectives, "each year, average daily attendance will be at least at state average" and "each year, the school will have fewer reportable incidents pursuant to Delaware code..." was inadvertently left out. Also, it is not possible to evaluate another behavioral objective, "of all the students attending the school at any grade, at least 70 percent will continue at the school through the end of grade five" because data was not available. While all of the market accountability objectives were met, only two of the three academic objectives were met. For one of these objectives, although the school indicated that performance would be at the state level, it was below. For the other objective, the school did not provide evidence indicating whether the objective was in fact met.

Marion T. Academy. It would appear as if the objectives laid out in Marion T Academy's annual report were too ambitious and not appropriate for the school. While the narrative in the report indicates that the school did not meet or exceed the statewide averages on the DSTP, it did indicate that the school was making progress. Unfortunately, their was often insufficient evidence to know if progress was being made or how much progress was being made over time. Unfortunately, many of the academic objectives appear to be too ambitious and not tailored to the individual school. Moreover, the school does not provide evidence for why a particular objective has or has not been met. For example, one of the academic objectives is to "enable all students to meet the Delaware State Content Standards and to improve school-wide scores on the DSTP Writing by 5 NCEs." The report goes on to state, "the Marion T. Academy did not meet the sixty-five percent goal established in goal #3. The school was able to make significant progress towards meeting this goal." It would have been better if the school had reported the number and proportion of students that met the content standards. When stating whether or not an objective has been met, it is always necessary to include what evidence is being used in determining so. Another example is that the second academic objective states, "for each grade, school average performance on the Stanford 9 will demonstrate an increase of at least one grade level (12 months growth) in each subject area each year. Scores will be reported in NCEs." However, scores are not reported in NCEs; rather, they are presented in quartile groupings. Although the report indicate that students are making progress, the results are not presented in a manner that makes evaluating the objective possible.

MOT Charter School. Although MOT appears to be successful given its "Superior"academic performance rating, although the school's annual report did not contain the evidence to support this. As it turns out, many of its objectives were vague and hard to measurable. In fact some of the apparent objectives appeared as topic labels rather than measurable objective, e.g., "parent satisfaction " or "average daily attendance." A simple improvement would be to state, "for each year of the school's operation, at least 90 percent of the parents of students attending the school will indicate satisfaction with the school's administration and educational program" or "for each year of

school operation, average daily attendance will exceed 90 percent of the average daily enrollment." Other objectives were more clear in that it was easy to determine what the school meant, but they were still very vague and did not include benchmark. For example, the objective "improve science instruction" could easily be improved by the following wording: each cohort of students will increase their sores on the DSTP in science by 10 percent over the previous year."

Newark Charter School. Overall, Newark's report was very well organized and clear. More importantly, all of the objectives were clear, tangible, and realistic. Objectives included benchmarks and were very easily measurable. Moreover, the school provided evidence clearly demonstrating that objectives had been met. Newark's report could be used a model for other schools looking to improve the objectives they set for their schools and the manner in which they report evidence of success in their annual reports.

Positive Outcomes. The report was also very well organized and easy to understand. The school included the standard objectives included in the performance agreements as well as objectives tailored to their mission. In some cases, objectives were a little too vague and/or difficult to measure. For example, "all staff members will continue to seek all channels towards becoming, or continuing as highly qualified teachers." This objective is difficult to measure and could be improved by the following wording, "in the 2004-05 school year, an additional 10 percent of teachers will attain highly qualified status."

Providence Creek. Given its unusually long list of objectives, it is apparent that Providence Creek has spent a great deal of time developing its school's objectives. However, it appears that the school may need to focus on fewer objectives but make a greater effort to ensure that they are realistic, properly formulated, and linked to actual evidence. For example, there were twelve academic objectives for which no evidence was provided with which to evaluate whether they had been met. Similarly, there were four behavioral objectives that could not be evaluated due to insufficient evidence. It should be noted, however, that sufficient evidence was provided for the market accountability objectives although these objectives seemed inappropriate in that they were too general or process-oriented rather than outcome-oriented.

Sussex Academy. This school's discussion of the accomplishment of goals and objectives was very clear and well organized. As the objectives were all variations of the standard objectives laid out in the performance agreements, they were clear and easily measurable. However, there was not sufficient evidence to evaluate one of its two behavioral objectives, i.e., "for each year of operation, the school will have fewer reportable incidents of student misconduct than the average for all schools with similar grade configurations in the state." Although Sussex Academy provides evidence of incidents for its school, they do not indicate the state average, thereby making this objective difficult for readers to evaluate.

Thomas Edison Charter School. Thomas Edison was rated as "Superior" for the 2004-05 school year. As such, they are meeting the state expectations for academic performance or at least improvements in achievement. Unfortunately, evaluating whether the school met its own unique objectives was not so easy. The annual report could have been better organized and in many sections

the text was difficult to follow. Moreover, objectives for behavior and market accountability are never articulated and, as such, cannot be considered in our review. Overall, the school met its academic objectives with one notable exception: "the school's average student performance on the DSTP assessment in each content area will meet or exceed the statewide average student performance of students in the same grades for each year of test administration." With the exception of Grade 8 Reading and Grade 8 Math, state averages remained noticeably higher than Edison's. It is recommended that the school consider developing behavioral and market accountability objectives as other charter schools have done.

4.4 Discussion of Findings

It is clear that Delaware's charter schools have made substantial improvements in reporting on their accomplishment of accomplishment of mission and objectives. This year's reports were markedly improved over last year's and all signs indicate that the reports submitted next year will be better still. The importance of having a clear, well laid out report should not be underestimated. As part of the charter schools' "autonomy in exchange for accountability" agreement, the schools must effectively demonstrate progress towards accomplishing these unique missions. Therefore, having a well organized report that clearly details the school's mission and objectives and to what extent they have been met is imperative.

While as a whole the schools have made definite gains in developing and evaluating objectives, there are still improvements that can be made. There are three areas in which charter schools can focus their efforts in regards to improving the overall quality and evaluation of their objectives: (i) creating appropriate/realistic objectives, (ii) incorporating benchmarks into objectives, and (iii) providing evidence as to whether or not the objective has been met. In the following section, we discuss how specifically the charter schools can address these three issues.

Creating appropriate/realistic objectives. In reviewing the charter school's annual reports, it quickly became clear that some of the schools had developed objectives that, while impressive on paper, were not appropriate for their school. The consequences of having an unrealistic objective can make it more difficult for a school to demonstrate success. Consequently, if a school consistently fails to meet its performance objectives, it could run the risk being put on probation. Perhaps even more troubling, the school would run the risk of diminishing morale for teachers and administrators. Teachers, as do most professionals, like to feel as if they are making progress. If objectives are too unrealistic and thus unattainable, the failure of meeting may overshadow the fact that real progress is being made. This should not be interpreted as encouraging schools to set easily attainable goals and objectives. Rather the schools should develop their objectives after carefully determining current performance levels and analyzing what is attainable in the future.

Incorporating benchmarks into objectives. On the other extreme, many of the charter schools developed objectives that were too vague and, as such, were all to easily attained. For example, a number of schools merely stated, "improve student achievement levels." Worded as such, the objective would be considered as met by just one student scoring one point higher on a DSTP

assessment. Therefore, it is also important that schools develop objectives that are specific and measurable. The objective described in the previous example could easily be improved by changing the wording to, "for each subject assessed at each grade level on the DSTP, the school's average performance will meet or exceed the state average each year." In the latter case, the objective has a clear benchmark, exceeding the state average. Benchmarks do not have to be strictly tied to state levels. A perfectly acceptable benchmark would be, "student performance on the DSTP will increase by 5 NCE each year until the school meets state standards." In this example, the benchmark is 5 NCEs and it is clearly measurable.

Another curious practice of some schools was to list a general area such as "enrollment target" and then state something along the lines of "90 percent of the non-graduating body returned." "Enrollment target" is clearly not an objective nor is it an achievement target. In cases like this, no evaluation was possible because, as it was not clear what the objective was, it wasn't possible to determine whether the objective was met.

Providing evidence as to whether or not the objective has been met. In many cases, the schools did not provide evidence as to whether or not an objective had been met. For example, an objective would be stated such as, "each year, at least 75 percent of the non-graduating student body will return to the school the following September, excluding students who move" and then the school would simply say, "this objective was met." It is not acceptable to merely state that an objective has been met or not met. Rather, it is important that the school describe what evidence is being used to determine whether the objective has been met. Without this information, someone reading the school's annual report will have no way of corroborating the school's assertion. Therefore, it is imperative that all evidence used to evaluate the objective be clearly presented.

It is also important to note that in some of the schools' reports, objectives were listed but not mentioned again. For example, a school would list an objective such as, "each year of school operation, the school will have a waiting list of students seeking admission" but then not say whether the objective was met. It was not clear if the school had forgotten to provide evidence or if there wasn't evidence. In either case, schools need to make sure that they are clear and consistent throughout the entire report.

Our experience from providing technical assistance to charters schools in other states is that—when given the time and opportunity—charter schools tend to learn more from one another than they do from the feedback from outside reviewers. With this mind, we encourage the charter schools to review and compare each other's annual reports. As we noted earlier, Newark Charter School had a very well organized and clear report and it contained clear, measurable, and realistic objectives. This report could serve as a good model or example for other schools seeking to improve their annual reports.

Additional work and improvements on the annual reports will help to ensure that they remain a viable tool for accountability. The annual reports help promote charter schools as mission-driven organizations and they allow the charter schools a vehicle for demonstrating success according to their unique missions and profiles.

Chapter Five
Student Performance on Delaware Student Testing Program: Cross-Year Analysis Using a Matched Student Design

Charter school performance can be measured in two principal ways. The first is the extent to which a school can achieve the measurable objectives that reflect its mission (see Chapter 4). The second is the performance of charter school students on standardized tests. In this chapter we will examine the performance of charter school students on standardized tests by tracking the impact of charter schools on the performance of students over time.

We will use a quasi-experimental design to measure change in student performance over time, we will not focus on the general performance of the schools. Such information on each school's general performance levels and the proportion of their students that meet state expectations are available from the Delaware Department of Education. This readily available data from the DDOE includes extensive group level data that allow cross-sectional looks at how schools are performing. However, these data do not take into consideration the value added by the school over time. Nor does it facilitate comparisons with other schools with similar demographic characteristics.[1] Oftentimes, the charter schools have fewer than 15 test takers in a particular group so the data are not publicly reported to help protect their confidentiality. While these data facilitate a snapshot of current performance, they are not able to attribute impact of the school on student learning. While the Department of Education provides extensive information and test data to the public, we have sought to measure the impact of the charter school on students over time.

In addition to its extensive warehousing of school level data, the Delaware Department of Education has an advanced performance data system that yields and tracks data for all students in the state. Last year, a data set was provided to us by the Department of Education with test data in two subject areas from the past 7 years. We ended up analyzing only data from 1999-00 to 2003-04 in our Year 1 report. For this Year 2 report, we have added an additional year of data and will now be able to track groups of students over five years. This dataset includes both students in charter schools and students in traditional public schools. Identifying information was removed and replaced with unique identifier codes that allowed us to link students from year to year. The scope and nature of these data allowed us to use a matched student design to examine the impact that charter schools were having on student learning. The matched student design is a quasi-experimental design in which students in the experimental group (i.e., charter schools) are matched according to

[1] The data do, however, break out performance data by such categories as ethnic background and free and reduced lunch status, which can facilitate some comparisons at the same point in time with the state average or with other schools.

all relevant background and demographic indicators with students in the control group (i.e., traditional public schools). Students are followed over time, and we track and compare relative gains.

More on the specific methods used in our analyses is included in the following section. Following the methodology section, we first present the results for all charter school students and then the results are broken out by school. Finally, we close this chapter by discussing limitations in the analyses as well as additional analyses for the future.

While reading this chapter and interpreting its findings, it is important to keep in mind that although we are using a rigorous design, there are still significant limitations in the study. In fact, there are still a few alternative explanations for the results that we cannot yet rule out. For the third and final year of the project, we will be able to add an additional year of results and—more importantly—we will be able to include off-grade test results that will allow us to track students more closely. This matter will be discussed futher in the final section of this chapter. Finally, in addition to this precautionary statement, and in light of the limitations spelled out later in the chapter, readers should be careful in generalizing the findings across other charter schools within or outside of Delaware.

5.1 Methodology

In this section, a thorough description of the methodology used for our analyses is included. Note that the methodology is largely the same for Year 2 as for Year 1. The only difference is that we were able to add a second group of panels to the study. This section is—admittedly—very technical. The findings in Sections 5.2 and 5.3 are sufficiently explained so that readers can choose to go directly to the results. Readers that wish more technical details on how the study was conducted can wade through the details in the remainder of this section.

About the Assessment Instrument

Data for the analyses are from the Delaware Student Testing Program (DSTP), which is the statewide assessment program. The DSTP is used to measure how well students are prepared relative to the Delaware Content Standards in English language arts, mathematics, science, and social studies. The state's standards have been carefully drawn up and have garnered praise as exemplary standards. These standards are thoroughly disseminated so that schools and teachers know what to expect in terms of the state assessment system.

The DSTP in reading, mathematics, and writing began in Spring 1998 in grades 3, 5, 8, and 10. Science and social studies began in Spring 1999 in grades 8 and 11 and in Fall 1999 in grades 4 and 6. We have obtained student level results only for reading, mathematics, and writing. Science and social studies will be included in future analyses. Table 5:1 illustrates the number of charter school students that took the DSTP test by school, year, and grade. Before 2001, the number of students was very limited. The enrollment grew after 2001 because of the addition of new charter schools as well as the growth of existing schools. As can be seen in the data, two schools have test data for only two school years and therefore have to be excluded from any longitudinal analyses since there are at least 2 years between any test events (i.e., following a panel of students from grades 3 to 5 requires 3 years of data).

Table 5:1 Total Number of Charter School Students Taking the DSTP by School, Grade, and Year

School Name	*Year* / *Grade*	*1997-98*				*1998-99*				*1999-00*				*2000-01*				*2001-02*				*2002-03*				*2003-04*				*2004-05*			
		3	*5*	*8*	*10*	*3*	*5*	*8*	*10*	*3*	*5*	*8*	*10*	*3*	*5*	*8*	*10*	*3*	*5*	*8*	*10*	*3*	*5*	*8*	*10*	*3*	*5*	*8*	*10*	*3*	*5*	*8*	*10*
Charter Sch of Wilmington					135				152				180				246				248				225				228				234
Positive Outcomes Charter School				11	9			11	12			12	15			14	10			13	12			12	16			18	16			22	12
East Side Charter School		10				15				7				31				14				16	31			18	15			16	9		
Campus Community School						32	53	8		38	30	30		61	28	23		24	35	50		40	49	82	26	34	27	109	44	40	42	87	46
Thomas A. Edison Charter School														98	84			110	96	68		100	88	50		96	86	51		66	72	42	
Sussex Acad.of Arts & Sci.																24				57				105				83				98	
Kuumba Academy																		23				34	18			32	25			38	21		
Marion T. Academy														70	25			78	68			73	67			84	69	25		69	53	36	
Newark Charter School																			161				109	130			160	133			160	159	
MOT Charter School																						73	75			73	75			72	72		
Providence Creek Academy																						66	69			93	84			74	69	38	
Delaware Military Academy																												11	77			68	160
Academy of Dover																										65	68			62	39		
Total		10	0	11	144	47	53	19	164	45	30	42	195	260	137	61	256	249	360	188	260	402	506	379	267	495	609	430	365	437	537	550	452
Total all grades by year		165				283				312				714				1,057				1,554				1,899				1,976			

Results from the test are reported at various levels, including the state, district, school, and individual student. Individual student data are carefully protected by the state, and obtaining access to these data involved a lengthy application and permission process. The data obtained for our analyses were stripped of all information that identifies students. Unique identifiers were included, however, which allowed us to track and link student data from year to year.

The results are reported by grade and subject area and the measures used include both scaled score results on the DSTP and the normal curve equivalent (NCE) scores[2] on the SAT-9. A number of items from the SAT-9 are incorporated in the DSTP math and reading tests (not the writing component) so that equivalent scores can be calculated for the SAT-9.[3] The measures used on the writing component is a raw score which is based on prompts that vary from year to year. For this reason, it was not possible to accurately trace change scores using the writing test. For this reason, our analyses in year 2 do not cover the writing results.[4] The data sets we obtained also included such measures as the cut scores with regard to state performance levels. These were not used, however, because they were less sensitive to change by students.

Panel Definition

The goal of our panel definition was to create a random sample of noncharter students who were demographically matched with charter school students that spanned the greatest number of DSTP assessments. Multiple panel designs were considered. Our aim was to use a panel design with three data points; however, this resulted in too few students with valid test scores at all three data points. We believe this was due to student mobility and the fact that many charter schools did not exist or had limited grade range in the early years of the reform. The panel design outlined in Table 5:2 is a compromise that limits the longitudinal perspective of our analyses, but allows sufficient samples for matching demographic characteristics of students. Development of the six panels (A - F) began with the most current DSTP assessment year (either 2003, 2004, or 2005) and looked back in time to the previous DSTP assessment. Thus, we were able to build panel pairs that examined longitudinal growth from third to fifth grade, fifth to eight grade, and eight to tenth grade.

Six panels were defined for the Year 1 report (i.e., A1 through F1) and with the addition of the 2004-05 results we were able to construct 6 more panels (i.e., A2 through F2). The steps we took to construct these panels are outlined below. The Delaware Department of Education supplied annual data files that were preprocessed in a spreadsheet program by standardizing variable names and missing data identifiers. Following this, we converted the data files to SAS[5] data sets for further

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[2] We used NCEs instead of National Percentile Ranks because the NCE scores are a preferred measure when comparing change scores over time. The distance between NCE units is equivalent, which is not true for the difference between percentile group units because they are ordinal in nature. An NCE score has a minimum of 1, a maximum of 99, a mean of 50, and a standard deviation of 21.06. The standardization inherent in NCE scores makes comparisons between different assessments possible.

[3] The test company that works with the Department of Education is Harcourt Brace Educational Measurement. This company also has the Stanford Achievement Test (SAT-9) in its portfolio of assessments, which makes it possible to include SAT-9 items in the state test.

[4] In the appendix of the year 1 report our findings from the analysis of writing results were included with the additional limitations of this data clearly spelled out.

[5] For the analysis of the data, SAS version 9 was used. This a statistical software package.

analysis. After merging the resulting annual SAS data sets by identification number, all demographic-related variables were stripped and saved for later processing. The remaining data then were written to two data files: reading and math. This process resulted in five primary data sets.

A panel was created by merging one DSTP subject area (reading or math) with the demographic data and selecting subjects who had valid test data in the two years selected for the panel[6] and who were in the target grade in the last panel year, e.g., grade 5 in 2004 in Panel A1. Once the appropriate population of students were selected, e.g., the above condition, the matching and random selection processes were undertaken.

Table 5:2 Description of the Panels from Years 1 and 2 of the Study

	Year of DSTP Data With Test Grades Highlighted in Bold					
Panel	*1999-2000*	*2000-01*	*2001-02*	*2002-03*	*2003-04*	*2004-05*
A1			**3rd**	4th	**5th**	
A2				**3rd**	4th	**5th**
B1		**3**th	4th	**5th**	6th	
B2			**3**th	4th	**5th**	6th
C1	4th	**5th**	6th	7th	**8th**	
C2		4th	**5th**	6th	7th	**8th**
D1	**5th**	6th	7th	**8th**	9th	
D2		**5th**	6th	7th	**8th**	9th
E1	6th	7th	**8th**	9th	**10th**	
E2		6th	7th	**8th**	9th	**10th**
F1	7th	**8th**	9th	**10th**		
F2		7th	**8th**	9th	**10th**	

Charter students were matched with noncharter students on four demographic characteristics: gender, ethnicity, Title I status, and FRL status. It is important to note that charter school status defined by where a student was enrolled in the final DSPT assessment for that panel. According to the codebook supplied by DOE, there were five coding levels for ethnicity and two each for gender,

[6] For example, in panel A1, ReadAF04="Y" and ReadAF02="Y")

Title I, and FRL. Thus, there were 40 different demographic strata for matching.[7] We also considered matching on special education status (two levels) and limited English proficiency (two levels), but this resulted in 160 possible demographic combinations. There was almost no variability in these last two demographic variables, so they were not considered further.

After the 40 demographic strata were defined, the total panel population was broken down among the 40 strata for charter schools and noncharter schools. Table 5:3 contains an illustrative example of the numbers of students in the charter school within each strata as well as the total number of students from the traditional public schools from which we could randomly draw a matching student. This process resulted in several of the strata not containing any students, so the actual number of observed demographic strata was less than 40. Additionally, since there were fewer students in the charter schools than in the noncharter schools, there may have been demographic strata expressed in the noncharter schools that were not present in the charter schools and therefore the charter school students remained unmatched. After the panel population was stratified, demographically matched samples could be drawn from each strata. For example, in strata 8, there were 104 students enrolled in the charter schools and 1,309 students enrolled in the noncharter schools. A randomly selected comparison sample of 104 noncharter students was drawn from the population of 1,309 noncharter students. Thus, a comparison sample was randomly drawn from noncharter school students that was proportional to the number of charter school students across four demographic characteristics.

Table 5:3 Population Strata for Panel D1

	Demographic Group																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Public	7	242	43	384	121	40	34	1,309	275	1	.	245	48	369	97	47	38	65	1,273	227	64
Charter	1	7	7	6	16	4	2	104	7	1	1	5	4	3	10	5	2	1	100	7	2

Note. *Public* refers to traditional public schools and c*harter* refers to public charter schools.

Analytical Strategy

To address the central reform question, Is there a difference in achievement (reading and math) between students attending charter schools vs. students attending noncharter schools, an analysis of covariance (ANCOVA) was conducted on the last DSTP assessment with the previous DSTP assessment score as the covariate. Separate ANCOVA analyses were examined for DSTP scaled score and SAT-9 NCE for the reading and math assessments.

The use of the previous DSTP as the covariate acts as a statistical matching procedure where the means on the last DSTP assessment for each group (charter and noncharter) are adjusted to what they would be if the two groups had scored equally on the previous DSTP assessment. Thus, using the previous DSTP assessment is a statistical control for previous achievement level; as such, the evaluative question directly addressed by the ANCOVA is "Is enrollment in a charter school

[7] We came up with 40 demographic strata based by multiplying the number of values in each demographic variable: 2*2*2*5=40 possible demographic combinations.

associated with higher DSTP mean assessment scores in math and reading than enrollment in a noncharter school after adjustment for previous DSTP assessment performance?" ANCOVA in this use is not a proxy for determining causality; for that, random assignment of students to schools would be necessary. As such, we cannot draw causal conclusions regarding the effect of being enrolled in a charter school and gains (or losses) in achievement. Moreover, the ANCOVA does not adequately control for enrollment in a charter school at the time of the first DSTP data point.

5.2 Findings Across All Charter Schools

Table 5:4 contains the results from our analysis that combine the findings from the panels from year 1 (Panels A1 to F1) and the panels from year 2 (Panels A2 to F2). This pooled set of results provides us the best and most comprehensive picture of the performance of charter schools. Appendix G contains the findings from only the panels that were included in the Year 1 report. Appendix H contains the findings from the new set of panels that we could calculate with the addition of 2004-05 test result.

There are two panels and two subjects (i.e., reading and mathematics) for each grade, which means that there will be four analyses at each grade level. We have not aggregated the results by grade or subject. Instead, we have reported the results from each analysis separately. In our description and discussion of the findings, we will draw conclusions by grade and subject.

Before discussing the results in Table 5:4, we should review and explain the statistics and column headings in the table. The results are reported by grade and subject area and include both scaled score results on the DSTP and the normal curve equivalent (NCE) scores on the SAT-9. As noted earlier, a number of items from the SAT-9 are incorporated in the DSTP test so that equivalent scores can be calculated for the SAT-9. Therefore, while the scaled score results reflect total scores on the DSTP, the NCEs reflect performance on a subset of questions. This can explain differences in relative performance levels that exist between the two sets of scores.

The *covariate mean* is the mean score for all students in the group in the prior DSTP assessment. Therefore, the covariate mean for students in grade 5 would be their scores two years earlier in grade 3. The *adjusted mean* is the focus of the ANCOVA analysis, the second DSTP assessment. This is not the observed mean score (weighted mean) for the group; rather, it is a mean score adjusted for students' performance on the prior assessment. The ANCOVA provided two statistical tests: one for the covariate (slope of the relationship between the prior assessment and the target assessment is non zero) and one for the adjusted means (the hypothesis of interest). If the covariate is found to be statistically significant, then the ANCOVA will allow a more powerful test of the adjusted means, which is the second hypothesis considered in the model. Evaluation of the covariate should always be considered and in all analyses was statistically significant. This data is not presented in 5:4. Thus, the use of the ANCOVA was justified in that there was a statistically significant relationship between the prior DSTP assessment and the target DSTP assessment. In Table 5:4 the F-value and associated p-value reported correspond to the hypothesis of no difference between the adjusted (target) DSTP means (charter vs non charter). If the F-value is large and the corresponding p-value small it is common practice to reject the hypothesis of no difference in favor of the alternative hypothesis, there exists a difference in the adjusted DSTP means between charter and non charter schools.

Table 5:4 Performance on DSTP for Charter School Students and Comparison Students by Subject Area and Grade Using Pooled Data from both the 2004 and 2005

Grade and Subject Area	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std Err	F-value	P-value
Grade 5 Reading Panels A1 & A2 (N=1,888)										
Charter school	445.01	485.14	0.73	0.15	0.6982	60.00	61.72	0.45	0.50	0.4801
Control group	447.04	485.54	0.73			61.00	61.27	0.45		
Grade 5 Math Panels A1 & A2 (N=1,995)										
Charter school	436.75	474.36	0.75	5.89	**0.0153**	62.15	63.13	0.46	4.42	**0.0357**
Control group	436.29	476.95	0.75			63.07	61.77	0.46		
Grade 5 Reading Panels B1 & B2 (N=1,803)										
Charter school	439.36	482.84	0.79	0.03	0.8697	57.95	56.87	0.46	4.89	**0.0272**
Control group	443.33	482.66	0.79			59.49	55.44	0.46		
Grade 5 Math Panels B1 & B2 (N=1,848)										
Charter school	432.33	468.60	0.78	4.24	**0.0396**	60.37	61.08	0.52	1.52	0.2182
Control group	432.11	470.81	0.79			61.34	60.16	0.53		
Grade 8 Reading Panels C1 & C2 (N=1,528)										
Charter school	492.98	537.57	0.79	3.90	**0.0485**	61.77	66.69	0.48	13.65	**0.0002**
Control group	485.49	535.35	0.79			59.47	64.20	0.48		
Grade 8 Math Panels C1 & C2 (N=1,580)										
Charter school	482.73	514.33	0.87	1.16	0.2810	66.65	65.91	0.49	13.70	**0.0002**
Control group	471.99	512.99	0.88			61.55	63.31	0.50		
Grade 8 Reading Panels D1 & D2 (N=1,216)										
Charter school	485.37	532.36	0.86	5.52	**0.0190**	59.37	63.12	0.56	4.76	**0.0293**
Control group	479.05	529.50	0.86			57.55	61.38	0.57		
Grade 8 Math Panels D1 & D2 (N=1,240)										
Charter school	475.74	510.96	0.91	0.44	0.5076	63.80	62.92	0.56	9.81	**0.0018**
Control group	468.72	510.10	0.92			60.71	60.41	0.57		
Grade 10 Reading Panels E1 & E2 (N=972)										
Charter school	548.58	541.75	1.03	36.29	**<.0001**	71.39	67.19	0.66	36.67	**<.0001**
Control group	531.28	532.84	1.03			61.67	61.45	0.66		
Grade 10 Math Panels E1 & E2 (N=1,010)										
Charter school	537.65	562.97	1.20	26.90	**<.0001**	73.87	70.97	0.63	11.09	**0.0009**
Control group	509.98	553.99	1.20			61.76	67.98	0.63		
Grade 10 Reading Panels F1 & F2 (N=780)										
Charter school	550.51	542.72	1.15	8.89	**0.0030**	73.17	62.32	0.69	39.37	**<.0001**
Control group	531.25	537.76	1.15			63.85	56.11	0.69		
Grade 10 Math Panels F1 & F2 (N=802)										
Charter school	537.33	563.82	1.37	22.52	**<.0001**	74.86	68.94	0.78	4.11	**0.0431**
Control group	508.26	554.40	1.37			60.64	66.65	0.78		

Table 5:4 presents DSTP panel data by grade and subject. These analyses parallel what was presented in Appendices G and H. The results in Table 5:4 indicate that the charter school students often perform better than matched traditional public school students in the upper grades. There were small differences between the charter school students and comparison students between grades 3 and 5. Only four differences were statistically significant; two of these differences favored traditional public schools, and the other two differences favored charter schools. At grade 8, the reading results for both panels C and D favored charter schools and were statistically significant.

The largest differences between charter school students and matched students in traditional public schools were at grade 10. Here all of the comparisons favored charter schools and were statistically significant. In other words, the charter school students included in the panels were gaining more on the DSTP between grade 8 and grade 10 than traditional public school students. The differences that
were significant at grades 8 and 10 typically were larger and remained statistically significant even after we generated additional randomly selected comparison groups. One serious limitation to keep in mind here is that many students in the grade 8 to grade 10 panels did not actually enter a charter school until grade 9. Also many students were dropped from this panel because they did not have a grade 8 DSTP score. This is likely because they were enrolled in private schools or possibly were coming from out of state.

In Section 5.3, we use the same approach to examine the performance of individual charter schools. This may shed further insight into the relative performance levels of charter schools according to the number of years they have been in operation.

The data in Table 5:4 illustrate important information about the types of students attracted to charter schools. While many charter schools establish curricular profiles and marketing materials that make them most attractive to students failing in traditional public schools, some charter schools also have profiles and marketing practices that help them attract high performing students. The covariate means in Table 5:4 represent the pretest scores of the students that are matched by race, free and reduced lunch status, English Language Proficiency status, and Title I status. When the covariate mean for the charter school group and control group is similar, this means that the charter school has students who are performing similarly to their demographically matched peers. When the charter school group has a higher covariate mean than the control group, this indicates that the enrolled charter school students already have higher performance levels at the time of pretest.

A comparison of the covariate means at Grade 4 illustrates that the charter school students and demographically similar students in the control group have similar pretest performance levels. At grade 8, the charter schools are clearly attracting and enrolling higher performing students. This difference is further exacerbated in grade 10, where the charter school students have substantially higher pretest scores than their demographically similar peers. These comparisons suggest that while the charter schools on the whole are not "creaming" or attracting the best performing students in lower elementary grades, they clearly are doing so in the lower and upper secondary levels.

The data in 5:4 are aggregated across all the schools, which masks large differences between the schools, both in terms of the students they enroll and in terms of the growth in test scores they can affect. The next section includes a breakout of the data by school, which uncovers the fact that the types of students attracted to the schools (in terms of academic performance) differ greatly just as the overall impact of individual schools differs.

Table 5:5 present summary data for our analysis of cohort or time effects. In these analyses, pooled data for each cohort (i.e., 2004 and 2005) are coded for endpoint. The construction of the two groups of panels yielded non-overlapping cohorts of students. Thus, we tested for the following hypotheses or group differences: (i) charter vs. noncharter, (ii) 2004 panels vs. 2005 panels, and (iii) the interactions between these groups. Parallel between subject factorial ANCOVA was used to examine these groups and the differences among them. Separate analyses were conducted for both the scaled scores and the NCS scores.

The data and analyses presented in Table 5:5 test for possible changes over time between the first group of panels (A1 to F1) and the second group of panels (A2 to F2) the cohort across the two panel end point assessments (2004 and 2005) presented in Appendices G and H. Parallel between subject factorial ANCOVAs were examined for math and reading scaled score (SS) and SAT-9 normal curve equivalents (NCEs) that tested for a charter school effect, a cohort effect and an interaction. As was described previously, each analysis used the previous DSTP assessment as a covariate. Moreover, the construction of the two panels, also described previously, yielded non-overlapping cohorts of students. Assuming the general population of students from which a charter schools draw is stable a comparison of the two cohorts will provide a test of the continued progress of the charter schools over time.[8]

As can be seen in Table 5:5, there are results for reading and math by panel and by test/score (i.e., the scaled scores on the DSTP and the normal curve equivalent scores for SAT-9). Recall that 6 panel types were defined that corresponded to students' academic progression from 3rd to 5th grade (panels A & B), from 5th to 8th grade (panels C & D), and from 8th to 10th grade (panels E & F). Thus 24 analyses were conducted, i.e., 6 panels, 2 subject tests, and 2 outcome measures (6*2*2). Each analyses presents ANCOVA summary information and the adjusted means. As an interpretational aid arrows have been added to illustrate the location and direction of statistically significant differences. Arrows on the outside of each 2*2 (school * cohort) design matrix depict statistically significant main effects while arrows inside the 2*2 design matrix depict statistically significant simple effects, which are presented only if the interaction was statistically significant.

Reading Results Over Time

Explanation of the these results can be facilitated by grouping the analyses by panel type, A & B, C & D, and E & F. Examination of the reading results panels A & B suggests there was an inconsistent main effect for school, the only statistically significant finding was for the SAT-9 in panel B. There was a more stable cohort effect that emerged in panel A for both outcome variables that showed academic gain in the adjusted means. There was only one statistically significant interaction, panel A, SAT-9. Simple effect analysis indicated that while both charter and non-charter schools evidenced positive gain in SAT-9 reading scores, the gain was more pronounced for the non-charter schools.

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[8] It is important to also bear in mind that during the construction of the matched non-charter comparison group a random sample of students was drawn from the population of non-charter students that matched the strata present in the charter schools. Thus there are thousands of randomly drawn comparison groups, the analyses present in Table 5:4 represent only one. Unlike the results presented in Appendices G and H, we have not investigated the stability of these findings by examining the results repeated randomly drawn non-charter groups.

Table 5:5 Cohort Changes Across Two DSTP Assessment End Points (2003-04 and 2004-05)

Reading

Panel Type A — DSTP Standard Score

		F	P
	CS	0.16	0.6901
	Cohort	3.94	0.0472*
	IA	0.05	0.8226

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	445.01	484.26 (1.02)	486.08 (1.06)	485.17
Non Charter School	447.03	484.44 (1.02)	486.73 (1.06)	485.58
		484.35 →	486.41	

Panel Type A — SAT-9 NCE

		F	P
	CS	0.4	0.529
	Cohort	223.45	<0.0001*
	IA	7.2	0.0074*

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	60.00	58.2 (.59) →	65.52 (.61)	61.86
Non Charter School	61.00	56.21 (.59) →	66.75 (.61)	61.48
		57.2 →	66.14	

Panel Type B — DSTP Standard Score

		F	P
	CS	0.05	0.829
	Cohort	12.41	0.0004*
	IA	0.15	0.7018

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	439.36	485.22 (1.16)	480.86 (1.06)	483.04
Non Charter School	443.33	484.56 (1.16)	481.05 (1.06)	482.80
		484.89 ←	480.96	

Panel Type B — SAT-9 NCE

		F	P
	CS	4.41	0.0359*
	Cohort	0.09	0.7663
	IA	1.39	0.2386

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	57.95	56.56 (.68)	57.14 (.62)	56.85 ↓
Non Charter School	59.49	55.96 (.68)	55.00 (.62)	55.48
		56.26	56.07	

Panel Type C — DSTP Standard Score

		F	P
	CS	3.88	0.049*
	Cohort	0.62	0.4284
	IA	0.01	0.9304

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	492.98	537.10 (1.23)	537.91 (1.04)	537.51 ↑
Non Charter School	485.49	534.76 (1.23)	535.77 (1.03)	535.26
		535.93	536.84	

Panel Type C — SAT-9 NCE

		F	P
	CS	14.05	0.0002*
	Cohort	16.76	<0.0001*
	IA	0.22	0.6396

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	61.77	65.25 (.74)	67.72 (.62)	66.49 ↑
Non Charter School	59.47	62.39 (.73)	65.49 (.62)	63.94
		63.82 →	66.61	

Math

Panel Type A — DSTP Standard Score

		F	P
	CS	5.65	0.0176*
	Cohort	7.87	0.0051*
	IA	2.82	0.0932*

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	436.75	472.06 (1.04) →	476.82 (1.08)	474.44 ↓
Non Charter School	436.29	476.37 (1.05)	477.56 (1.08	476.96
		474.21 →	477.19	

Panel Type A — SAT-9 NCE

		F	P
	CS	4.39	0.0362*
	Cohort	1.66	0.1974
	IA	0.03	0.8654

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	62.15	63.59 (.64)	62.64 (.66)	63.12 ↑
Non Charter School	63.07	62.12 (.64)	61.40 (.66)	61.76
		62.86	62.02	

Panel Type B — DSTP Standard Score

		F	P
	CS	4.04	0.0445*
	Cohort	5.29	0.0216*
	IA	1.47	0.2249

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	432.33	467.94 (1.16	469.17 (1.05)	468.54 ↓
Non Charter School	432.11	468.82 (1.15)	472.74 (1.09)	470.78
		468.39 →	470.94	

Panel Type B — SAT-9 NCE

		F	P
	CS	1.2	0.27
	Cohort	8.4	0.0038*
	IA	1.2	0.2742

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	60.37	59.45 (.77)	62.44 (.71)	60.95
Non Charter School	61.34	59.45 (.77)	60.80 (.73)	60.13
		59.45 →	61.62	

Panel Type C — DSTP Standard Score

		F	P
	CS	1.88	0.1704
	Cohort	5.4	0.0203*
	IA	4.28	0.0388*

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	482.73	517.52 (1.40) ←	512.02 (1.15)	514.77
Non Charter School	471.99	513.21 (1.36)	512.88 (1.14)	513.05
		515.37 ←	512.45	

Panel Type C — SAT-9 NCE

		F	P
	CS	13.07	0.0003*
	Cohort	1.14	0.2852
	IA	0.06	0.8023

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	66.65	65.36 (.77)	66.30 (.65)	65.83 ↑
Non Charter School	61.55	62.96 (.77)	63.55 (.65)	63.26
		64.16	64.92	

Reading

Panel Type D — DSTP Standard Score

		F	P
	CS	5.44	0.0198*
	Cohort	0.17	0.6788
	IA	0.11	0.7441

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	485.37	531.89 (1.24)	532.80 (1.19	532.34 ↑
Non Charter School	479.05	529.44 (1.24)	529.55 (1.20)	529.50
		530.67	531.17	

Panel Type D — SAT-9 NCE

		F	P
	CS	4.49	0.0342*
	Cohort	1.12	0.2907
	IA	2.41	0.1211

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	59.37	62.04 (.81)	64.12 (.78)	63.08 ↓
Non Charter School	57.55	61.58 (.81)	61.19 (.78)	61.38
		61.81	62.66	

Panel Type E — DSTP Standard Score

		F	P
	CS	37.43	<0.0001*
	Cohort	1.33	0.2488
	IA	1.04	0.3084

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	548.58	543.54 (1.55)	540.40 (1.35)	541.97 ↑
Non Charter School	531.28	532.94 (1.54)	532.75 (1.36)	532.85
		538.24	536.58	

Panel Type E — SAT-9 NCE

		F	P
	CS	44.58	<0.0001*
	Cohort	188.2	<0.0001*
	IA	7.42	0.0066*

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	71.39	61.81 (.91) →	71.12 (.79) ↑	66.46 ↑
Non Charter School	61.67	53.69 (.90) →	67.61 (.80)	60.65
		57.75 →	69.36	

Panel Type F — DSTP Standard Score

		F	P
	CS	8.41	0.0038*
	Cohort	2.56	0.1101
	IA	0.92	0.3376

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	550.51	540.5 (1.68)	537.2 (1.69)	542.55 ↑
Non Charter School	531.25	544.6 (1.55)	538.23 (1.54)	537.72
		538.85	541.41	

Panel Type F — SAT-9 NCE

		F	P
	CS	39.22	<0.0001*
	Cohort	0.91	0.34
	IA	0.08	0.779

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	73.17	61.96 (1.01)	62.61 (0.93)	62.29 ↑
Non Charter School	63.85	55.47 (1.01)	56.66 (.93)	56.06
		58.72	59.64	

Math

Panel Type D — DSTP Standard Score

		F	P
	CS	0.31	0.5807
	Cohort	3.02	0.0827*
	IA	4.13	0.0422*

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	475.74	508.39 (1.32 →	513.26 (1.25)	510.83
Non Charter School	468.72	510.30 (1.33)	509.92 (1.27)	510.11
		509.34 →	511.59	

Panel Type D — SAT-9 NCE

		F	P
	CS	9.52	0.0021*
	Cohort	6.45	0.0112*
	IA	0.7	0.4042

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	63.80	61.50 (.82)	64.20 (.78)	62.85 ↓
Non Charter School	60.71	59.70 (.82)	61.06 (.78)	60.38
		60.6 →	62.63	

Panel Type E — DSTP Standard Score

		F	P
	CS	25.97	<0.0001
	Cohort	0.6	<0.0001
	IA	0.18	0.6744

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	537.65	563.31 (1.79)	562.71 (1.57	563.01 ↑
Non Charter School	509.98	555.10 (1.78)	553.11 (1.58)	554.11
		559.2	557.91	

Panel Type E — SAT-9 NCE

		F	P
	CS	10.82	0.001*
	Cohort	10.65	0.0011*
	IA	0	0.9557

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	73.87	69.35 (.93)	72.22 (.82)	70.79 ↑
Non Charter School	61.76	66.43 (.92)	69.20 (.82)	67.82
		67.89 →	70.71	

Panel Type F — DSTP Standard Score

		F	P
	CS	23.63	<0.0001*
	Cohort	0	0.9806
	IA	2.02	0.1558

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	537.33	565.27 (2.00)	562.63 (1.83)	563.95 ↑
Non Charter School	508.26	552.89 (2.02)	555.62 (1.81)	554.26
		559.08	559.13	

Panel Type F — SAT-9 NCE

		F	P
	CS	4.95	0.0264*
	Cohort	4.64	0.0315*
	IA	3.63	0.0572

		Cohort 1 2003-04	*Cohort 2 2004-05*	
Charter School	74.86	68.80 (1.14) →	69.07 (1.03)	68.93 ↑
Non Charter School	60.64	64.25 (1.14) →	68.59 (1.03)	66.42
		66.52 →	68.83	

Note: Graphic Arrows Depict Direction of Statistically Significant Difference

Examination of the reading results for panels C and D suggests there was a consistent main effect for school favoring the charter schools in all analyses. However, there was almost no cohort effect, the only statistically significant finding that emerged was in panel C SAT-9. Surprisingly, there was no statistically significant interactions. Thus, in the middle grades, students in charter schools are outperforming students in non-charter schools although there is really no gain in scores over time beyond grade level expectations.

Examination of the reading results for panels E & F suggests there was a consistent main effect for school favoring the charter schools in all analyses, similar to panels C & D. However, there was almost no cohort effect, the only statistically significant finding that emerged was in panel E SAT-9. Simple effect analysis revealed that students in the charter schools evidenced a greater gain on SAT-9 over the two cohorts than students in noncharter schools.

Math Results Over Time

Examination of the Math results for panels A & B suggests there were inconsistent effects. There was one statistically significant interaction, panel A DSTP scaled score where simple effect analysis revealed students in charter schools evidenced a gain over the two cohorts while students from non-charter school did not. Two analyses revealed statistically significant main effects for school, such that in panel A SAT-9 NCE scores favor students from charter schools but in panel B the DSTP scale scores students from non-charter schools are favored. Two analyses revealed statistically significant main effects for cohort (panel B both outcomes). Similar to the DSTP Reading finding, there is no compelling evidence that students from charter schools are out performing students from non-charter schools on the DSTP in the early grades.

Examination of the Math results for panels C & D again suggests relatively parallel trends for both students in charter and non-charter schools, only one analysis revealed a statistically significant interaction in panel C for math SS. Surprisingly simple effect analyses revealed a backward trend in achievement with students from cohort 1 outperforming students from cohort 2 in the charter schools where as there was no statistically significant change in performance of the non-charter students. Beyond this interaction, there was a statistically significant main effect for school on SAT-9 in panel C favoring students from charter schools. There was a statistically significant cohort effect in panel D for DSTP revealing moderate increases in achievement while both main effects were statistically significant in panel D for SAT-9 NCE scores. Thus, in the middle grades, students in charter schools are performing at comparable levels to the students in non-charter schools but there is really no gain in scores over time beyond grade level expectations.

Examination of the math results for panels E & F suggests there was a consistent main effect for school favoring the charter schools in all analyses. However, there was a mixed cohort effect and no statistically significant interactions. Main effect analysis of the cohort effects indicated that no consistent pattern exists. Thus, at the high school level, students in charter schools scored higher and gained more on the DTSP than matched students in non-charter schools. However, this difference is not growing further over time and may be slowly decreasing due to little change or a decrease in performance between the cohorts.

5.3 Findings by School

We have compiled separate analyses for 11 of the 13 schools. We still could not include the Delaware Military Academy or the Academy of Dover in our design because they do not have a sufficient number of years of test data. The order of the schools presented in this section is based on the number of years they have been in operation. Therefore, we will start with the two oldest schools and cover the newest schools at the end of the section.

Each school has a separate table outlining the results for that school alone. The methods used were identical to those used for the aggregate of all charter schools, which was covered in the previous section. In the tables, P-values highlighted in bold indicate that there are statistically significant findings. P-values that are also underlined indicate that the matched students in the traditional public schools outperformed the charter school students.

Charter School of Wilmington (Grades 9-12, Opened in 1996)

Analysis of student achievement test results revealed that The Charter School of Wilmington students are outperforming their counterparts at similarly matched traditional public schools in both reading and math. Similar to the findings from the previous year, the school still enrolls a very homogeneous and exceptionally high performing group of students (see covariate means where the charter school students have a much higher mean score than the control group). At the eighth grade level these students already had test scores on the SAT-9 that were higher than 80 percent of their peers. Table 5:6 contains the findings from our analyses for this school for reading and mathematics.

Table 5:6 Performance on DSTP for Students from the Charter School of Wilmington and Comparison Students by Grade and Subject Area

Grade and Subject Area (N=291)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 10 Reading, Panels E										
Charter school	564.35	554.13	1.39	33.99	**0.0001**	79.68	72.31	0.88	38.95	**0.0001**
Control group	531.96	541.95	1.39			62.48	64.10	0.88		
Grade 10 Math, Panels E										
Charter school	565.31	586.85	1.73	41.28	**0.001**	86.28	80.42	0.77	35.78	**0.0001**
Control group	512.74	569.58	1.74			62.00	73.28	0.77		

The Charter School of Wilmington is controversial in many ways, and the existence and practices of this school also raise a number of important policy issues. Theoretically, charter schools are supposed to outperform traditional public schools since they can establish more focused learning communities. This school is a good example of one that has created a very focused learning community, in part by using an entrance test to screen and place students. On the grade 10 DSTP

test, the students are all at similar performance levels,[9] which are—by the way—the highest in the state for public schools. The school is better able to serve and provide instruction to this group since they are similar in so many respects. This focused learning community, in turn, can help explain why the school was able to advance the learning of their students at a faster rate than demographically similar students in traditional public schools, where the population of students is more diverse in terms of ability and family background characteristics.

One important limitation relative to this school is that a portion of the instruction the students received between the grade 8 test and the grade 10 test was provided by another school, since the charter school serves grades 9-12. Nevertheless, since the grade 8 DSTP is administered in the spring, the time spent in another school between the pre- and posttest is likely to be minimal. Another critical limitation is that more than 40 percent of the students were dropped from the analysis since they did not have a valid pretest score. Presumably, most of these students were coming from private schools, which are not required to take the DSTP. Because this population of students is likely to be different than the students retained in the sample (i.e., those coming from public schools), we are concerned that this may represent a sampling bias.

Positive Outcomes Charter School (Grades 7-12, opened in 1996)

Analysis of the pre-test scores of students before enrollment in the school reveals lower performance than their demographically matched peers. Unfortunately, at the time of the posttest, the students showed gains that were more or less similar to their demographically matched peers. While last years' results showed a small but statistically significant advantage for the charter school students in reading, this years' results show that noncharter students are gaining more in reading between grades 8 and 10. On the whole, the gains in math made by the charter school students are similar to the gains made by the control group, since no statistically significant differences appeared. Table 5:7 contains a complete set of the findings.

There are a few important limitations in the findings for this school. First of all, since the school only serves students in grades 7-12, at least a third of the instruction the 8th grade test takers received between the pretest in grade 5 and the posttest at grade 8 was received at a different school. The second limitation is that the number of students upon which the findings are based is very small since a larger proportion of the students with special needs were excluded from the study (note that all student with identified disabilities or with limited English proficiency were dropped from our analysis since it was difficult to accurately match these students with noncharter peers).

[9] As with the previous year, the students enrolled in this school are very homogeneous in terms of performance levels. When we looked at the standard deviations on the scaled scores in reading and math, we found that 10th grade students in this school performed substantially higher than the state average, yet they had a standard deviation which was noticeably smaller.

Table 5:7 Performance on DSTP for Students from Positive Outcomes Charter School and Comparison Students by Grade and Subject Area

Grade and Subject Area (N=19)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 8 Reading, Panel C										
Charter school	461.63	519.60	6.64	1.69	0.2012	49.58	62.47	3.74	1.35	0.2530
Control group	480.15	507.38	6.47			55.29	56.37	3.65		
Grade 8 Math, Panel C										
Charter school	451.68	497.22	5.49	0.08	0.7844	52.25	57.82	3.02	0.17	0.6859
Control group	475.59	499.42	5.49			60.00	56.07	3.02		
Grade 10 Reading, Panel E										
Charter school	509.00	493.67	5.57	6.41	**0.0180**	53.59	50.44	3.30	1.09	0.3054
Control group	529.86	514.11	5.57			59.67	56.25	3.30		
Grade 10 Math, Panel E										
Charter school	476.54	506.10	6..34	1.89	0.1762	50.45	51.98	3.74	0.04	0.8343
Control group	502.83	518.86	6.34			57.21	53.10	3.74		

East Side Charter School (Grades K-6, opened in 1997)

Analysis of performance at East Side Charter School yields troubling findings. As compared with students with similar demographic characteristics, this school attracted and enrolled students that were performing higher than their matched peers in noncharter public schools at the time of the pretest (i.e., grade 3). However, between grades 3 and 5, the students enrolled in this school gained less than their matched peers in reading and math at statistically significant levels. This finding is particularly troubling as it seems to indicate a reduction in performance levels from students from the previous year. The findings for this school need to be interpreted carefully since they are based on only 23 students. More years of data and, hopefully, larger numbers of test takers are needed to draw more conclusive findings regarding the performance of this school (see Table 5:8 for complete findings).

Table 5:8 Performance on DSTP for Students from East Side Charter School and Comparison Students by Grade and Subject Area

Grade and Subject Area (N=23)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 5 Reading, Panel A										
Charter school	434.17	454.29	6.05	3.34	**0.0746**	54.37	49.85	2.90	0.63	0.4309
Control group	421.48	470.06	6.05			53.43	53.11	2.90		
Grade 5 Math, Panel A										
Charter school	436.13	444.78	4.97	10.49	**0.0023**	61.90	50.07	2.89	3.61	**0.0637**
Control group	418.46	467.97	4.97			56.20	57.91	2.89		

Campus Community School (Grades 1-12, opened in 1998)

Our analysis revealed definite gains in performance levels of students at Campus Community Charter School. As compared to the previous year where Campus Community students were outperformed in Math by their demographically matched peers in traditional public schools, this year students from Campus Community had slightly higher math scores at grade 5 but still statistically significantly lower gains at grade 8 in math. In terms of reading, the charter school students had statistically higher gains between grades 5 and 8. Otherwise, the results were rather similar to the control group.

While many of the charter school serve students who are either far behind or far ahead of their peers when they enter the charter school, this school is unique in that it appear to attract students who perform at levels very similar to their demographically matched peers. Table 5:9 below contains the complete set of findings for this school.

Table 5:9 Performance on DSTP for Students from Campus Community School and Comparison Students by Grade and Subject Area

Grade and Subject Area (N=59)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 5 Reading, Panel A										
Charter school	460.85	499.04	3.42	0.03	0.8557	66.10	71.30	2.17	0.09	0.7697
Control group	449.54	499.93	3.42			61.15	70.39	2.17		
Grade 5 Math, Panel A										
Charter school	442.63	486.72	3.75	2.05	0.1561	62.46	62.83	2.14	0.27	0.6022
Control group	444.95	479.12	3.75			64.83	61.25	2.14		
Grade 8 Reading, Panel C										
Charter school	480.44	534.76	1.90	4.87	**0.0282**	56.66	63.37	1.12	0.75	0.3884
Control group	480.42	528.57	2.06			56.56	61.94	1.22		
Grade 8 Math, Panel C										
Charter school	470.61	500.76	1.82	13.80	**0.0002**	61.09	56.61	1.09	11.16	**0.0010**
Control group	470.93	510.35	1.83			60.43	61.78	1.20		
Grade 10 Reading, Panel E										
Charter school	527.88	526.54	2.48	3.35	0.07697	60.24	60.08	1.77	0.64	0.4266
Control group	526.17	520.13	2.48			57.35	58.08	1.77		
Grade 10 Math, Panel E										
Charter school	503.35	534.70	2.96	0.43	0.5137	55.78	59.60	1.92	0.00	0.9865
Control group	503.48	531.96	2.96			57.23	59.55	1.92		

Thomas A. Edison Charter School (Grades K-8, opened in 2000)

Results of our analysis reveal that Thomas A. Edison Charter School is maintaining and even improving its performance levels from the previous year. Although the pre-test scores of students entering Edison are lower for every grade and subject area than their demographically matched peers, Edison students are showing post-score gains in every grade and subject area over their demographically matched peers. Moreover, Edison students' post-test score gains were found to be large and statistically significant. To put these gains into perspective, consider that on the pre-test

students entering Edison Charter School scored higher than 49 percent of their demographically matched peers while on the post-test they scored higher than 57 percent of their peers.

Table 5:10 Performance on DSTP for Students from Thomas A. Edison Charter School and Comparison Students by Grade and Subject Area

Grade and Subject Area (N=74)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 5 Reading, Panel A										
Charter school	421.53	471.68	1.91	9.75	**0.0020**	49.27	56.65	1.21	10.25	**0.0015**
Control group	425.08	463.26	1.91			50.38	51.19	1.21		
Grade 5 Math, Panel A										
Charter school	409.44	465.55	1.80	23.66	**0.0001**	51.89	62.39	1.24	40.54	**0.0001**
Control group	414.72	453.08	1.82			54.14	51.21	1.25		
Grade 8 Reading, Panel C										
Charter school	453.09	520.27	2.42	4.51	**0.0354**	44.01	60.85	1.44	11.42	**0.0009**
Control group	459.45	512.95	2.43			47.46	53.90	1.45		
Grade 8 Math, Panel C										
Charter school	434.87	499.44	2.84	27.93	**0.0001**	44.64	64.43	1.65	50.53	**0.0001**
Control group	441.94	478.09	2.86			46.50	47.80	1.66		

As with last years results, the findings for this school must be considered with caution. While the participation rates on the state test are only slightly worse than the state average, the school level data reveal that there are very high retention rates in this school which may bias the sample. While most charter schools had retention rates that varied between 0 and 2 percent, the Edison school continues to have large retention rates that were as high as 15 percent or 11 percent at grade 3 (see Appendix I, which contains tables of retention rates, summer school participation, and other related indicators). Another limitation to keep in mind is that while this is a very large school, the results over the two sets of panels (last year's and this year's panels) incorporated test scores for a relatively small number of students. The design of our analysis assumes that students progress a grade each year. Because of this, the struggling students at the Edison Charter School that are retained for one or more grades are automatically dropped from the analysis, producing analyses that are biased in favor of the highest performing students at Edison.

Sussex Academy of Arts & Sciences (Grades 6-8, opened in 2000)

Last year, the population of students at Sussex Academy of Arts & Sciences scored high on standardized tests, and, most notably, they gained more than their demographically matched peers in reading. This year, while the students in this charter school performed similarly in math as their demographically matched peers, they again outgained their peers in reading. The difference in performance levels in reading was found to be large (and much larger than the previous year's difference) and was found to be statistically significant. Table 5:11 contains the full set of results for this school.

Table 5:11 Performance on DSTP for Students from Sussex Academy of Arts & Sciences and Comparison Students by Grade and Subject Area

Grade and Subject Area (N=155)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 8 Reading, Panel C										
Charter schoo	511.50	551.25	1.66	8.71	**0.0034**	68.87	71.31	1.03	2.85	**0.0924**
Control group	487.67	544.11	1.66			62.00	68.84	1.03		
Grade 8 Math, Panel C										
Charter school	499.81	528.28	1.85	0.80	0.3705	76.64	69.63	1.03	0.01	0.9296
Control group	478.65	525.88	1.85			63.81	69.76	1.03		

Marion T. Academy (Grades K-8, opened in 2000)

Analysis of the pre-test scores of students entering Marion T. Academy reveal lower than average performance. This indicates that students attracted to and enrolled at this school are typically lower performing students. As was true last year, between grades 3 and 5, the students typically lost ground relative to their peers. However, this year, students from this charter school also lost ground in grade 8. In fact, there were statistically significant differences that favored noncharter schools in both subject areas at grade 5 and at grade 8 math. Table 5:12 contains the full set of results.

Table 5:12 Performance on DSTP for Students from Marion T. Academy and Comparison Students by Grade and Subject Area

Grade and Subject Area (N=102)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 5 Reading, Panel A										
Charter school	411.44	462.09	2.34	3.45	**0.0648**	44.97	49.85	1.43	0.87	0.3532
Control group	434.85	468.42	2.34			54.90	51.77	1.43		
Grade 5 Math, Panel A										
Charter school	394.81	451.14	2.21	3.78	**0.05**	44.70	50.64	1.32	2.47	0.1172
Control group	426.83	457.33	2.14			59.09	53.62	1.28		
Grade 8 Reading, Panel C										
Charter school	451.12	506.00	3.92	0.50	0.4794	46.54	50.61	2.09	0.01	0.9147
Control group	471.31	501.98	3.92			51.57	50.29	2.09		
Grade 8 Math, Panel C										
Charter school	433.69	464.09	2.79	8.30	**0.0049**	43.10	43.63	1.65	4.17	**0.0440**
Control group	444.04	475.52	2.79			48.31	48.41	1.65		

Kuumba Academy (Grades K-6, opened in 2001)

Based on their grade 3 test results, this school attracts and enrolls students who are generally performing slightly worse than matched peers on the achievement test. However, as compared to their demographically matched peers in traditional public schools, the students at Kuumba Academy are performing similar or slightly better over time. The charter school students and their matched peers showed similar gains over time in reading, although the gains in math were larger for the charter school than for their matched peers in the control group. Over the last two years, the growth in math for the charter school students at Kuumba has increased and this difference remains statistically significant.

Table 5:13 Performance on DSTP for Students from Kuumba Academy and Comparison Students by Grade and Subject Area

Grade and Subject Area (N=37)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 5 Reading, Panel A										
Charter school	424.49	469.93	3.07	0.01	0.9037	51.40	55.05	2.11	0.31	0.5767
Control group	431.76	469.38	3.25			53.32	53.32	2.23		
Grade 5 Math, Panel A										
Charter school	407.44	469.69	3.62	8.76	**0.0041**	53.28	60.46	2.38	6.71	**0.0114**
Control group	423.82	453.85	3.85			57.82	51.44	2.53		

Newark Charter School (Grades 5-8, opened in 2001)

Analysis of pre-test scores of those students entering Newark Charter School reveals that performance levels are far above both national norms and that of their demographically matched peers in traditional public schools. Moreover, the students enrolling at the school appear to be coming in with progressively higher scores when they enroll.

Between grades 3 and 5 there was an interesting finding: statistically significant differences were found to exist both in the favor of the charter school on the DTSP and in the favor of its demographically matched control group on the SAT-9. Small but statistically significant differences were found to exist on the SAT-9 results for Math at Grade 5 and for Reading and Math at Grade 8. All of these favored the charter school. On the whole, this school continues to perform similar or slightly better than their demographically matched peers.

Table 5:14 Performance on DSTP for Students from Newark Charter School and Comparison Students by Grade and Subject Area

Grade and Subject Area (N=273)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 5 Reading, Panel A										
Charter school	466.89	501.29	1.36	3.55	**0.0597**	68.75	67.98	0.78	7.74	**0.0055**
Control group	455.66	495.53	1.02			65.35	70.42	0.39		

Grade and Subject Area (N=273)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 5 Math, Panel A										
Charter school	472.19	491.71	1.44	1.70	0.1927	75.37	70.98	0.78	6.94	**0.01**
Control group	451.42	493.80	0.69			68.94	68.70	0.38		
Grade 8 Reading, Panel C										
Charter school	507.62	543.65	1.34	0.02	0.8836	67.97	70.10	0.85	4.12	**0.0430**
Control group	488.89	543.37	1.34			59.98	67.62	0.85		
Grade 8 Math, Panel C										
Charter school	507.11	531.61	1.63	1.24	0.2655	77.01	74.35	0.82	19.52	**0.0001**
Control group	478.12	528.96	1.63			65.76	69.15	0.82		

MOT Charter School (Grades K-8, opened in 2002)

This year's findings are similar and consistent with those from last year. Students attracted to and enrolled at MOT Charter School continue to perform at levels high above the national average (NCEs are 68.29 in reading and 65.83 in math for the pretest) and higher than their demographically matched peers. Although, as compared to last year, MOT Charter School students have lost some of their edge over their demographically matched traditional public school. Between grades 3 and 5 the charter school students were outperformed by the comparison group, although the differences were small and nonsignificant in reading. As was the case last year, only in math were the differences favoring the noncharter school students statistically significant.

Table 5:15 Performance on DSTP for Students from MOT Charter School and Comparison Students by Grade and Subject Area

Grade and Subject Area (N=250)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 5 Reading, Panel A										
Charter school	458.86	492.58	2.06	1.16	0.2831	68.29	66.63	1.24	0.01	0.9034
Control group	457.50	495.72	2.06			66.20	66.41	1.24		
Grade 5 Math, Panel A										
Charter school	445.94	481.65	2.07	4.73	**0.0305**	65.83	69.00	1.23	0.91	0.3403
Control group	445.28	488.01	2.07			67.76	67.34	1.23		

Providence Creek Academy (Grades K-8, opened in 2002)

The results were for Providence Creek were not promising last year. This year, after we added a second set of panels to the aggregate results, the findings indicated that the Providence Creek student

continued to lag behind their comparison group. The differences between the charter school students and the control group were still statistically significant. The pretest scores suggest that while the students attracted to the school perform better than national means, the students had lower scores than their demographically matched peers at the time of the pretest. Between grades 3 and 5, the students at Providence Creek Academy lost ground to their peers after adjusting for pretest scores. In both subject areas, statistically significant differences favored the noncharter students.

As noted earlier, this school was relatively new and had a rough start-up process. There were no grade 8 results since this grade was only added in 2004. Another concern about the findings from the previous year was that there was high student attrition, which may have resulted in sampling bias.

Table 5:16 Performance on DSTP for Students from Providence Creek Academy and Comparison Students by Grade and Subject Area

Grade and Subject Area (N-117)	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std. Err	F-value	P-value
Grade 5 Reading, Panel A										
Charter school	444.31	481.03	1.92	10.43	**0.0014**	61.88	62.61	1.21	2.46	0.1183
Control group	454.94	489.91	1.92			64.60	65.32	1.23		
Grade 5 Math, Panel A										
Charter school	466.38	469.12	2.19	13.29	**0.0003**	64.02	60.59	1.34	3.79	**0.0526**
Control group	483.36	480.53	2.23			67.44	64.31	1.36		

5.4 Limitations in Our Analyses and Findings

In this section we highlight and discuss some key limitations. Because we used the same methodology as last year, these limitations are largely the same. We were, however, able to add on one more year of test data which provided more time for the schools to develop. Additionally, we were also able to add 6 new panels in our design which nearly doubled the number of students included in the analysis. Most importantly, the limitations we have highlighted have to do with controlling for the number of years students spend at the charter schools and controlling for mobility.

Controlling for Number of Years at a Charter School

As a consequence of the characteristics of the data we received from the Delaware State Department of Education, we were not able to adequately control for the number of years a student was enrolled in a charter school. At best, a student could appear every other year in the data. Thus, we conducted several pilot analyses to examine the effect of this possibility. Using the same analytical strategy, we constructed a second covariate representing the number of years a student was enrolled in a charter school. Thus, this new covariate ranged from 0 to 2 or 3, depending on the panel. Using Panel A Math Scale Score and NCE SAT-9, we examined the influence of adding the second

covariate. ANCOVA findings indicated that both covariates (previous assessment score and the new covariate, years) were statistically significant in the math scaled score analysis. Moreover, the statistically significant difference observed in Table 5:4 favoring the noncharter schools actually increased when we controlled for the number of years at a charter school. Although this brief examination remains limited, the impact of adding a covariate that statistically controls for the number of years a student attended a charter school did not alter the general findings presented in Table 5:4. [10]

Controlling for Mobility

Related to our challenge to control for the number of years students actually spend at a charter school is the issue of mobility. Due to limitations in data and in the design used, we have not controlled for mobility across schools in our analyses. When we attempted to build panels across more than two assessment points, students inevitably changed schools, since the range of grades within most charter schools was limited. At the posttest, all students are enrolled in a charter school. However, our analyses do not require that the student also be enrolled in the same school at the time of the pretest. It is implicit in our interpretation that students remain enrolled in the same school although it is possible that some students moved to the charter school shortly before the posttest. While the data would allow us to restrict the analyses only for students who remained at the same school, there were a number of complications with this. For example, the DSTP does not test students at every grade level and most of the charter schools provide for only limited grade ranges. Therefore, large portions of the students have to switch schools between tests.[11]

We also examined the impact of mobility by comparing mobility among charter school students (experimental group) and the traditional public school students (control group). Specifically, we compared the total number of students at the time of the posttest. This represents the target population we were seeking to capture. The panel design, however, requires that students take the DSTP 2 years previously in Panels A, B, E, and F, and 3 years previously for Panels C and D. As it turned out, the numbers in the panel were noticeably smaller than the numbers of actual test takers. The reason for the drop in students was because a portion of the students did not have pretest scores. This can be due to a number of reasons, including (i) student was not enrolled in a public school in Delaware (some students move to the state, and others are enrolled in private schools, which are not required to take the DSTP); (ii) the student did not receive a valid test score at the time of the pretest either because he or she was not present or because he or she may have been classified as special education or limited English proficiency; or (iii) the student was retained or repeated one or more grades.

The charter schools had a larger proportion of their students excluded from the panels than did the traditional public school. This can potentially bias the data in a number of ways, particularly

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[10] When we examined this possibility at the school level, we found that, due to the limited manner in which we constructed our panels, addition of the second covariate was not justified. For example, in the Charter School of Wilmington, only 1 student previously had been enrolled in a charter school. A large portion of these students presumably came from private schools.

[11] In a school like the Charter School of Wilmington, which serves grades 9-12, only one grade is tested in this range (i.e., grade 10). Therefore, the pretest for this group is the DSTP at grade 8. All students would be classified as "movers."

when the students excluded differ in performance levels from the students included. For example, a sizeable proportion of the students in the Edison school were excluded because they had to repeat one or more grades. Students that are repeating grades are likely to be lower performing students, and excluding them presumably has biased the analyses.

If we look at the loss of students from the analysis in Panel E1 (grade 8 to grade 10), we see that the total panel population contained 6,230 students enrolled in noncharter schools and 271 students enrolled in charter schools. This population is then reduced by dropping students without an 8th grade assessment score, which results in 5,471 noncharter students and 221 students enrolled in charter schools. Thus, we captured 87.8 percent of the noncharter students and 81.5 percent of the charter students in the aggregated data presented in Table 5:4. While this difference does not look great, the school-level analyses illustrated very large and dramatic differences. For example, in the Charter School of Wilmington, only 136 students had both valid 8th and 10th grade scores last year which yielded only a 59.6 percent capture rate. Thus, the analyses for this school are somewhat suspect in that there is an unknown sampling bias that has resulted in a large drop in students with both 8th and 10th grade scores. Using the same panel, we examined the decline in sample for Campus Community School last year. Of the 44 possible students, only 30 of them also had 8th grade scores providing a 68.2 percent capture rate.

In our aggregate analyses we assumed that all charter schools delivered the same curriculum. Without this assumption, the DSTP could not be considered a valid measure of student learning in Delaware. Moreover, it is fundamental to the validity of the aggregate analyses. However, if one or more schools take a divergent approach to meeting the state standards, this assumption may be stretched.

Other general limitations to keep in mind are the fact that the charter school reform in the state of Delaware is still relatively new. More critically, some of the school level findings are based on schools that have operated for only three to four year. Also two of the newest charter schools still do not have test data for three years which is the minimum required for inclusion with the given design. Because charter school reforms vary so extensively by state, one needs to be very cautious and restrain from making generalizations within and especially across states.

5.5 Future Analysis of Charter School Performance Using DSTP Data

Extensive work was involved in cleaning, sorting, and organizing the data into specific SAS datasets. Following this, programs were written to match charter school students with randomly selected students in traditional public schools with similar demographic backgrounds. After this groundwork was done, it was possible to test our design possibilities and proceed with the analysis of data. While the findings have a number of noteworthy limitations, as outlined in the previous section, we hope and expect that we will be able to improve the quality and rigor of the evaluation in the third and final year of evaluation. For year 3, we have been provided off grade results so that we will be able to more closely follow and track students. Also, we will be able to add or include the two newest charter schools that could not be included in our findings since they required at least 3 years of test results.

Among the other topics we would like to explore or study further, we propose further analysis of

subgroups and the use of other study designs for the third and final year of the evaluation.

Analysis of Subgroups

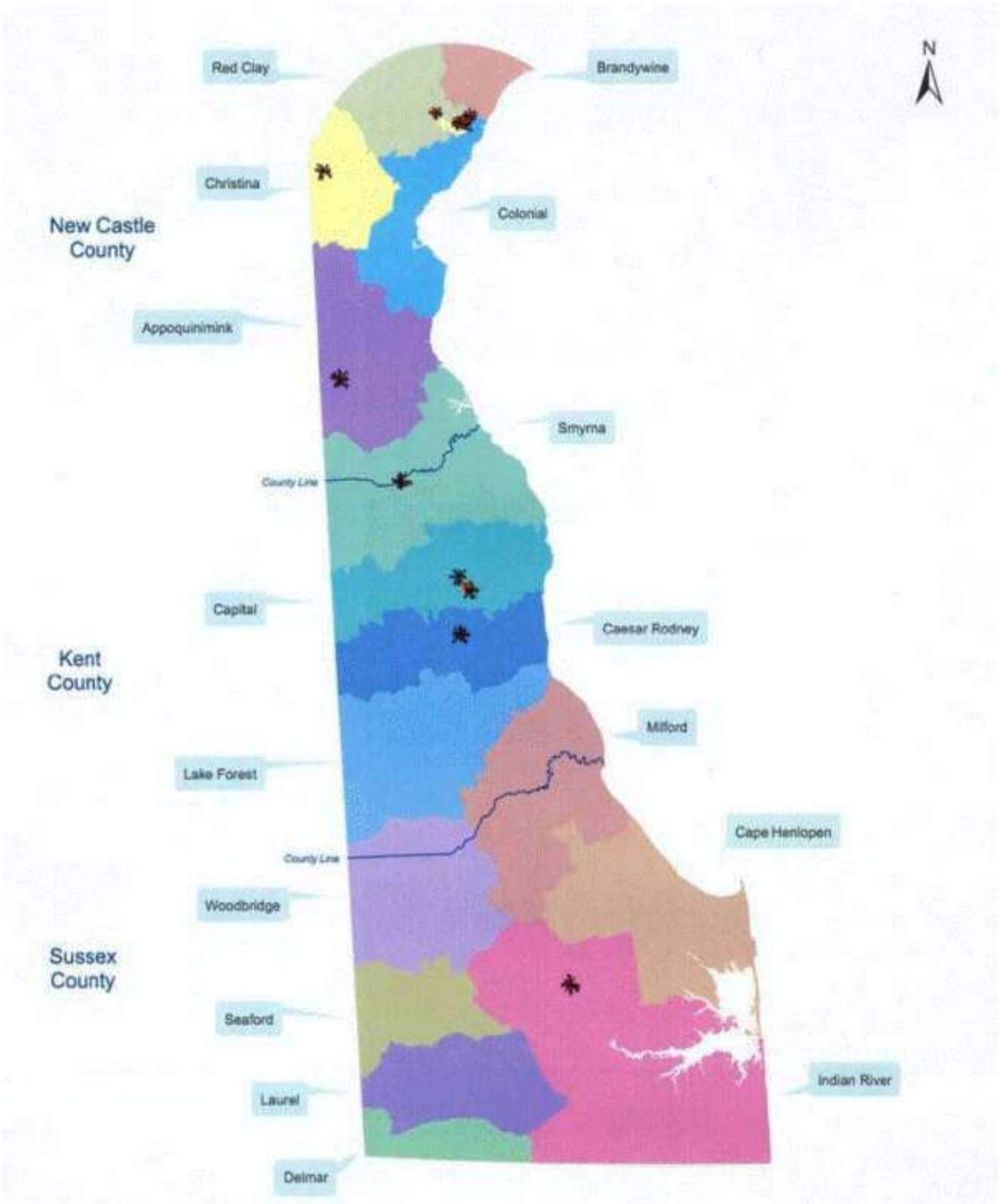
An analysis of subgroups, such as the students that leave or move to charter schools, would yield important information about the schools and their relative performance. Characteristics of the "leavers" should be contrasted with the characteristics of the "stayers." Other subgroup analyses that would yield beneficial information would look at the length of time students have spent in charter schools, as well as groupings of schools based on grade levels they serve and the general profiles of the schools. Finally, it will be important to study the characteristics of the students that are retained or that are required to attend summer school.

Apply and Compare Other Study Designs

Availability of charter school test data in many states restrict analyses to cross-sectional designs or group level comparisons. The data in Delaware actually allow for a variety of study designs. In our current report we have applied a more rigorous design. In future work, we would like to analyze the data using a variety of designs, including cross-sectional designs and designs using the same cohorts or consecutive cohorts of students. Contrasting results from these differing designs will allow us to weigh in on the larger debate regarding evaluations of reforms using differing study designs.

Based on feedback from the Delaware Department of Education and the State Board of Education, we will consider additional study designs for future analyses. Furthermore, we will explore other means of aggregating and disaggregating the data so that they best serve the needs of policymakers and key stakeholders.

Appendix A
State Map Showing the Locations of Charter Schools



Note: The asterisks (*) denote the location of charter schools

Appendix B Delaware School Enrollment for 2004-05

	Total Non Vo-Tech Students Recorded in District	2004-05 Total Traditional Public School District Enrollment (non vo tech, non charter school) [1]	2004-05 Total Choice Students (Inter & Intra)	Inter-District Choice (resident from another district, district receiving/gaining Choice student) [2]	Inter-District Choice (residents leaving district for Choice, district losing student) [2]	Total Inter-District Choice Effect on Enrollment	Percent of Inter-District Choice Effect on District Resident Enrollment	Charter School Enrollment by Resident District [3]	Percent of Charter School Enrollment by District Resident	Nonpublic Enrollment, Residing in District [4]	Percent of Nonpublic School Enrollment by District Resident	Total Inter-District Choice Effect Less Charter School and Nonpublic Enrollment	Percent of Inter-District Choice, Charter, and Nonpublic Enrollment in District
NEW CASTLE COUNTY													
Appoquinimink	9,031	6,710	389	64	86	-22	-0.2%	804	8.9%	1,495	16.6%	-2,321	-25.7%
Brandywine	14,523	10,645	2,015	367	206	161	1.1%	476	3.3%	3,563	24.5%	-3,878	-26.7%
Christina	27,358	19,421	1,797	230	881	-651	-2.4%	1,749	6.4%	5,537	20.2%	-7,937	-29.0%
Colonial	13,601	10,455	633	168	469	-301	-2.2%	554	4.1%	2,291	16.8%	-3,146	-23.1%
Red Clay	22,643	15,394	6,563	1,087	290	797	3.5%	981	4.3%	7,065	31.2%	-7,249	-32.0%
KENT COUNTY													
Caesar Rodne	7,563	6,045	941	551	241	310	4.1%	298	3.9%	834	11.0%	-822	-10.9%
Capital	8,063	5,865	535	273	506	-233	-2.9%	880	10.9%	1,085	13.5%	-2,198	-27.3%
DAFB		696											
Lake Forest	4,025	3,571	560	199	277	-78	-1.9%	74	1.8%	302	7.5%	-454	-11.3%
Milford	4,114	3,762	187	256	163	93	2.3%	35	0.9%	410	10.0%	-352	-8.6%
Smyrna	4,327	3,645	325	168	93	75	1.7%	389	9.0%	368	8.5%	-682	-15.8%
SUSSEX COUNTY													
Cape Henlope	4,995	4,311	169	125	272	-147	-2.9%	51	1.0%	486	9.7%	-684	-13.7%
Delmar	1,085	1,061	67	58	24	34	3.1%	3	0.3%	55	5.1%	-24	-2.2%
Indian River	8,174	7,798	1,036	324	117	207	2.5%	124	1.5%	459	5.6%	-376	-4.6%
Laurel	2,392	2,040	164	120	194	-74	-3.1%	22	0.9%	256	10.7%	-352	-14.7%
Seaford	3,840	3,376	775	169	173	-4	-0.1%	91	2.4%	369	9.6%	-464	-12.1%
Woodbridge	2,485	1,937	44	76	243	-167	-6.7%	17	0.7%	364	14.6%	-548	-22.1%
TOTAL	138,219	106,732	16,200	4,235	4,235	0		6,548	4.7%	24,939	18.0%	-31,487	-22.8%

NCC Votech (New Castle)	3,464
Polytech (Kent County)	1,149
Sussex Technical (Sussex Co	1,215
	5,828

TOTAL DISTRICT 112,560

1 DDOE School Enrollment Reports. Public Schools, 2004-05, by District. Retrieved January 4, 2006 from http://www.doe.k12.de.us/info/reports/enrollment.shtml

2 DDOE Specialty Report. Charter School and Across District Choice: Statistics and Maps from the September 30th 2004 Unit Count. Table 1, Number and Percent of Students by Choice District and Resident District, September 2004. Retrieved January 4, 2006 from http://www.doe.k12.de.us/info/reports.

3 DDOE School Enrollment Reports. Public Schools, 2004-05, by Charter School. Retrieved January 4, 2006 from http://www.doe.k12.de.us/info/reports/enrollment.shtml

4 DDOE Enrollment Report. Nonpublic Schools in Delaware, 2004-2005. Table 4, September 2004 Enrollment, DE Public and Resident Nonpublic Students by District of Residence (All Nonpublic Schools). (p. 9). Retrieved January 4, 2006 from http://www.doe.k12.de.us/info/reports/enrollment.shtml

Appendix C Enrollments Trends Tracking One and Five Year Changes

	TRADITIONAL PUBLIC SCHOOL DISTRICTS					CHARTER SCHOOLS					NON-PUBLIC SCHOOLS				
	1999-2000 Traditional Public School Enrollment	*2003-04 Traditional Public School District Enrollment*	*2004-05 Traditional Public School District Enrollment*	*1-Year Increase/ Decrease in Enrollment (Percent)*	*5-Year Increase/ Decrease in Enrollment (Percent)*	*1999-2000 Charter School Enrollment*	*2003-04 Charter School Enrollment*	*2004-05 Charter School Enrollment*	*1-Year Increase/ Decrease in Enrollment (Percent)*	*5-Year Increase/ Decrease in Enrollment (Percent)*	*1999-00 Non-Public Enrollment, Residing in District*	*2003-04 Non-Public Enrollment, Residing in District*	*2004-05 Non Public Enrollment, Residing in District*	*1-Year Increase/ Decrease in Enrollment (Percent)*	*5-Year Increase/ Decrease in Enrollment (Percent)*
NEW CASTLE COUNTY															
Appoquinimink	4894	6395	6710	4.9%	37.1%			804			831	1327	1495	12.7%	79.9%
Brandywine	11200	10602	10645	0.4%	-5.0%			476			3891	3651	3563	-2.4%	-8.4%
Christina	20404	19410	19421	0.1%	-4.8%			1749			5018	5611	5537	-1.3%	10.3%
Colonial	10638	10342	10455	1.1%	-1.7%			554			2164	2295	2291	-0.2%	5.9%
NCC VoTech	3384	3396	3464	2.0%	2.4%										
Red Clay	15715	15554	15394	-1.0%	-2.0%			981			7866	7155	7065	-1.3%	-10.2%
	66235	65699	66089	0.6%	-0.2%	837	4206	4564	8.5%	445.3%	19770	20039	19951	-0.4%	0.9%
KENT COUNTY															
Caesar Rodney	6686	6596	6741	2.2%	0.8%			298			650	777	834	7.3%	28.3%
Capital	6204	5909	5865	-0.7%	-5.5%			880			985	1021	1085	6.3%	10.2%
DAFB															
Lake Forest	3470	3397	3571	5.1%	2.9%			74			233	292	302	3.4%	29.6%
Milford	3847	3797	3762	-0.9%	-2.2%			35			265	367	410	11.7%	54.7%
Polytech Vocationa	1119	1146	1149	0.3%	2.7%										
Smyrna	3405	3310	3645	10.1%	7.0%			389			267	322	368	14.3%	37.8%
	24731	24155	24733	2.4%	0.0%	363	1747	1676	-4.1%	361.7%	2400	2779	2999	7.9%	25.0%
SUSSEX COUNTY															
Cape Henlopen	4213	4262	4311	1.1%	2.3%			51			224	393	486	23.7%	117.0%
Delmar	785	1066	1061	-0.5%	35.2%			3			35	58	55	-5.2%	57.1%
Indian River	7597	7756	7798	0.5%	2.6%			124			293	412	459	11.4%	56.7%
Laurel	2097	2007	2040	1.6%	-2.7%			22			213	247	256	3.6%	20.2%
Seaford	3749	3444	3376	-2.0%	-9.9%			91			285	389	369	-5.1%	29.5%
Sussex Technical	1161	1211	1215	0.3%	4.7%										
Woodbridge	1830	1916	1937	1.1%	5.8%			17			335	361	364	0.8%	8.7%
	21432	21662	21738	0.4%	1.4%	0	307	308	0.3%	0.0%	1385	1860	1989	6.9%	43.6%
STATE TOTAL	112398	111516	112560	0.9%	0.1%	1200	6260	6548	4.6%	445.7%	23555	24678	24939	1.1%	5.9%

SUMMARY--TOTAL ENROLLMENT	1999-2000	2003-04	2004-05
NEW CASTLE	86,842	89,944	90,604
KENT	27,494	28,681	29,408
SUSSEX	22,817	23,829	24,035
STATE TOTAL	137,153	142,454	144,047

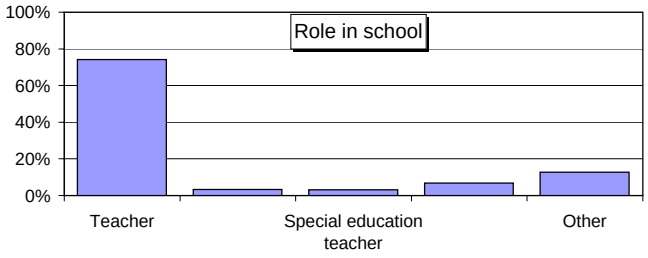
Appendix D Aggregate Results from the Charter School Teacher Survey

2004-05 Charter School Survey

Informant Group: **Teachers/Staff (N=358)** **Response Rate 79%** **Descriptive statistics**

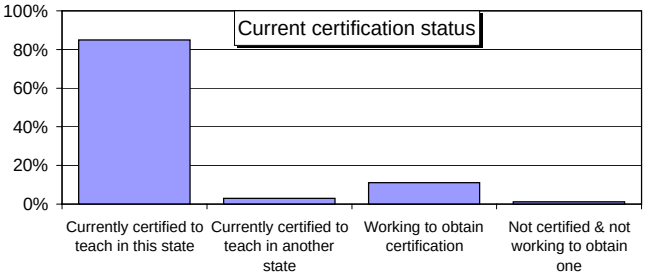
1. What is your role at this school?

	Teacher	Teaching assistant	Special education teacher	Principal/director	Other	Total	Missing
N	263	12	11	24	45	355	3
%	74.1%	3.4%	3.1%	6.8%	12.7%	100.0%	



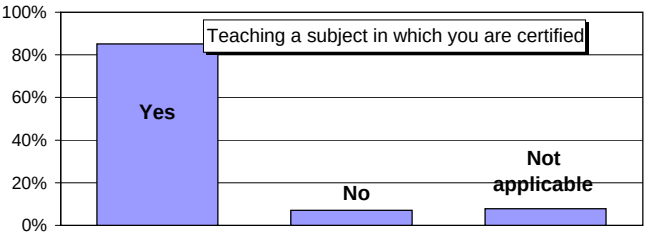
2. What is your current teaching certification status (teachers only)?

	Currently certified to teach in this state	Currently certified to teach in another state	Working to obtain certification	Not certified and not working to obtain certification	Total
N	231	8	30	3	272
%	84.9%	2.9%	11.0%	1.1%	100.0%



3. Are you teaching in a subject area in which you are certified to teach? (teachers only)

	Yes	No	Not applicable	Total
N	230	19	21	270
%	85.2%	7.0%	7.8%	100.0%

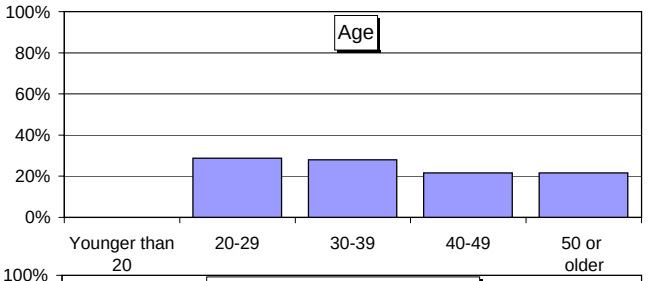


4. With which grade do you mostly work?

	Grade Level															
	K	1st	2nd	3td	4th	5th	6th	7th	8th	9th	10th	11th	12th	Not applicable	Total	Missing
N	22	17	15	18	19	20	26	21	33	26	28	14	8	64	331	27
%	6.6%	5.1%	4.5%	5.4%	5.7%	6.0%	7.9%	6.3%	10.0%	7.9%	8.5%	4.2%	2.4%	19.3%	100.0%	

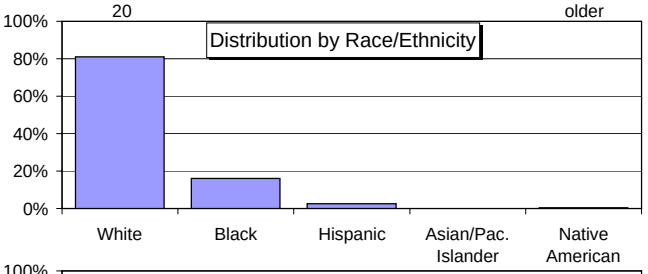
5. What is your age?

	Younger than 20	20-29	30-39	40-49	50 or older	Total	Missing
N	0	101	98	76	76	351	7
%	0.0%	28.8%	27.9%	21.7%	21.7%	100.0%	



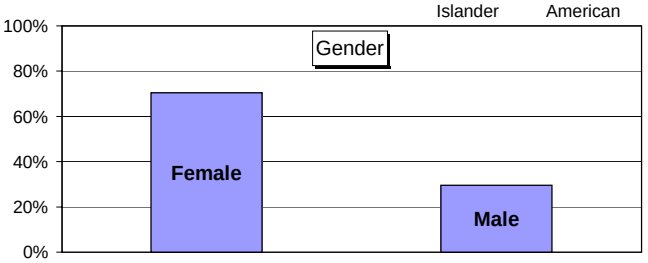
6. What is your race/ethnicity?

	White	Black	Hispanic	Asian/Pac. Islander	Native American	Total	Missing
N	281	56	9	0	1	347	11
%	81.0%	16.1%	2.6%	0.0%	0.3%	100.0%	



7. What is your gender?

	Female	Male	Total	Missing
N	205	86	291	67
%	70.4%	29.6%	100.0%	



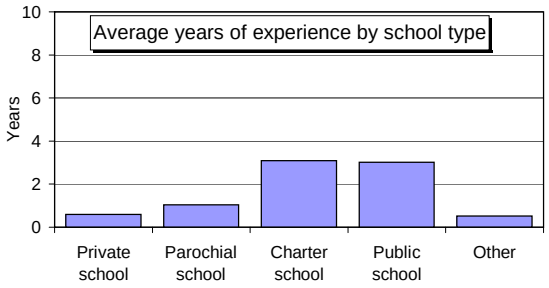
Note: Questions 2 and 3 include the responses from only those staff who indicated that they were teachers.

8. How many years of experience have you had in each of these types of schools (teachers only)

	Private school	Parochial school	Charter school	Public school	Other	Total	Total (excluding "other")
Mean	0.59	1.04	3.09	3.01	0.52	8.25	7.73
STD	2.11	3.65	1.92	5.04	2.00	7.36	7.07

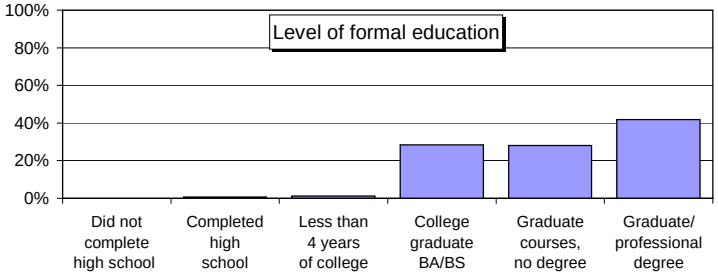
9. Years at current school?

Years at current school
3.07
1.91



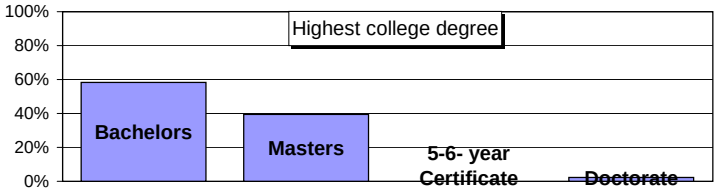
10. How much formal education have you had (teachers only)

	Did not complete high school	Completed high school	Less than 4 years of college	College graduate BA/BS	Graduate courses, no degree	Graduate/ professional degree	Total
N	0	2	3	76	75	112	268
%	0.0%	0.7%	1.1%	28.4%	28.0%	41.8%	100.0%



11. What is the highest college degree you hold? (teachers only)

	Bachelors	Masters	5-6- year Certificate	Doctorate	Total
N	154	104	0	6	264
%	58.3%	39.4%	0.0%	2.3%	100.0%

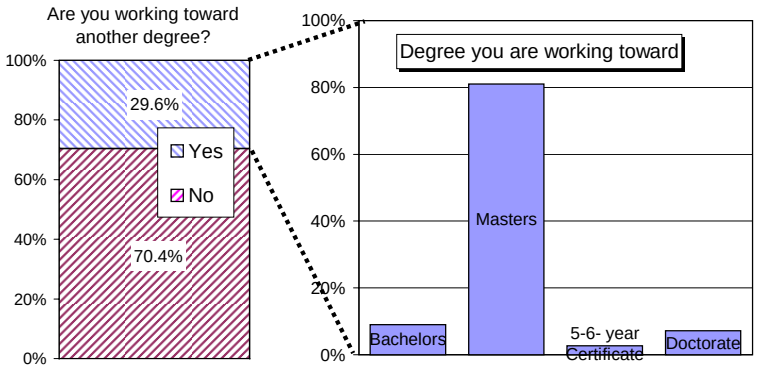


12a. Are you working toward another degree at this time?

	No	Yes	Total	Missing
N	247	104	351	7
%	70.4%	29.6%	100.0%	

12b. If yes, what degree?

	Bachelors	Masters	5-6- year Certificate	Doctorate	Total	Missing
N	10	90	3	8	111	247
%	9.0%	81.1%	2.7%	7.2%	100.0%	

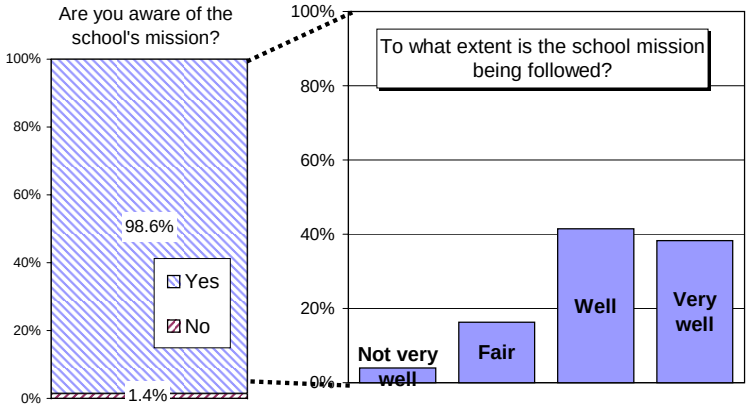


13a. Are you aware of the school's mission?

	No	Yes	Total	Missing
N	5	350	355	3
%	1.4%	98.6%	100.0%	

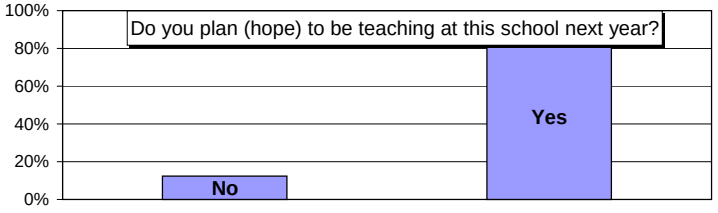
13b. If yes, to what extent is the mission being followed by the school?

	Not very well 1	Fair 2	Well 3	Very well 4	Total	Missing
N	14	57	145	134	350	8
%	4.0%	16.3%	41.4%	38.3%	100.0%	



14. Do you plan (hope) to be working at this school next year?

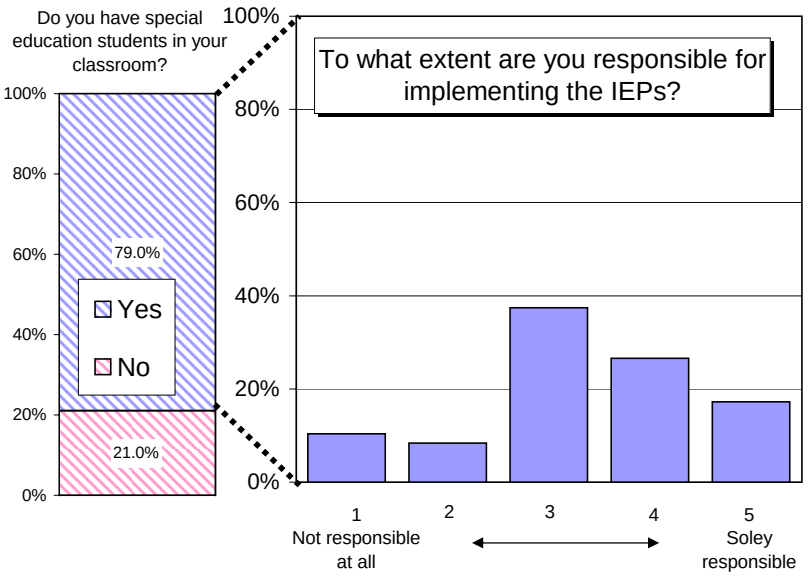
	No	Yes	Total	Missing
N	40	282	322	36
%	12.4%	87.6%	100.0%	



Note: Questions 8, 9, 10 and 11 include the responses from only those staff who indicated that they were teachers

15a. If you are a classroom teacher, do you have students identified for special education services in your classes?

	No	Yes	Total	Missing
N	54	203	257	101
%	21.0%	79.0%	100.0%	

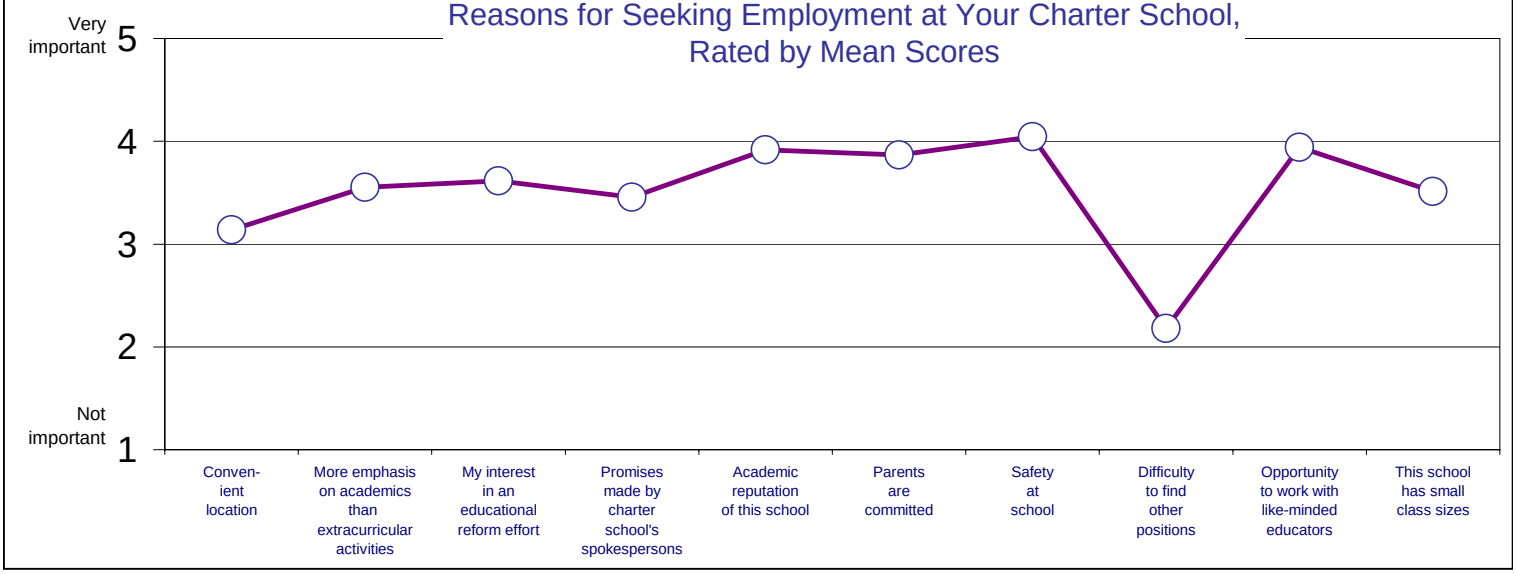


15b. If yes, to what extent are you responsible for implementing the IEPs?

	Not responsbile at all ←				Solely responsible →	Total	Missing
	1	2	3	4	5		
N	21	17	76	54	35	203	155
%	10.3%	8.4%	37.4%	26.6%	17.2%	100.0%	

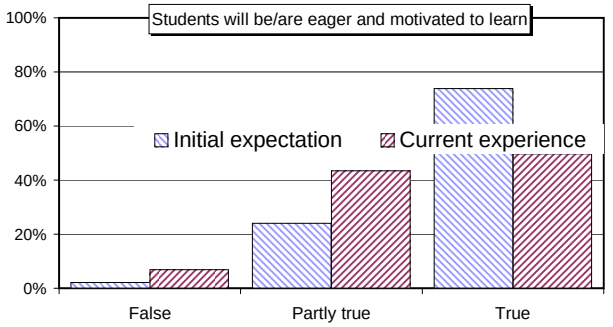
16. Rate the importance of the following factors in your decision to seek employment at this school.

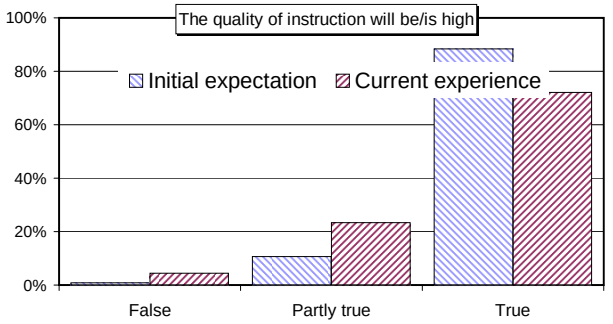
	Percentages: Not important 1	2	3	4	Very important 5	Mean	STD	Median	N	Missing
Convenient location	16.8%	15.7%	25.1%	21.7%	20.8%	3.14	1.37	3.0	351	7
More emphasis on academics as opposed to extracurricular activities	7.2%	6.9%	31.4%	32.3%	22.2%	3.55	1.12	4.0	347	11
My interest in being involved in an educational reform effort	6.6%	9.1%	26.0%	32.9%	25.4%	3.61	1.15	4.0	350	8
Promises made by charter school's spokespersons	11.0%	9.2%	25.1%	32.9%	21.9%	3.46	1.24	4.0	347	11
Academic reputation (high standards) of this school	7.0%	2.6%	20.5%	31.6%	38.3%	3.92	1.15	4.0	342	16
Parents are committed	4.0%	6.3%	23.1%	32.3%	34.3%	3.87	1.08	4.0	350	8
Safety at school	2.9%	3.2%	22.9%	28.7%	42.4%	4.05	1.02	4.0	349	9
Difficulty to find other positions	45.2%	18.3%	19.4%	7.5%	9.6%	2.18	1.33	2.0	345	13
Opportunity to work with like-minded educators	3.2%	3.7%	22.7%	36.5%	33.9%	3.94	1.00	4.0	348	10
This school has small class sizes	6.1%	10.1%	35.5%	23.1%	25.1%	3.51	1.15	3.0	346	12

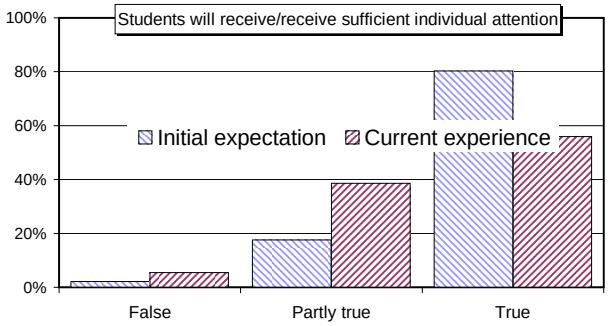


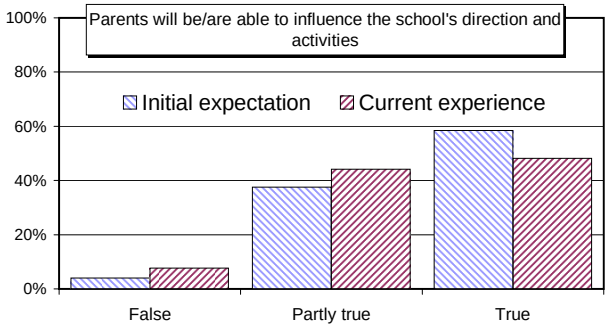
17. Rate each of the following statements as to what you expected when you first began working at this school (initial expectation)and how you would rate it today (current experience).

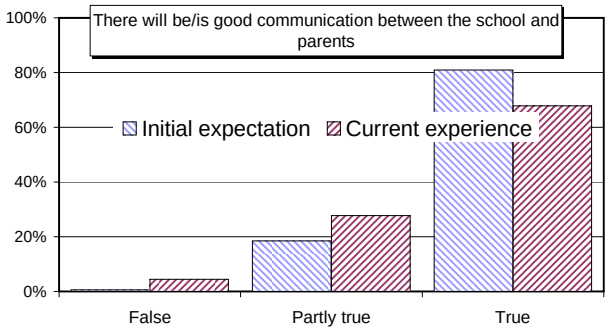
	Initial Expectation							Current Experience						
	False 1	Partly True 2	True 3	Mean	STD	Don't know	Mis-sing	False 1	Partly true 2	True 3	Mean	STD	Don't know	Mis-sing
Students will be/are eager and motivated to learn	2.1%	24.0%	73.9%	2.72	0.50	11	14	6.8%	43.5%	49.7%	2.43	0.62	4	18
The quality of instruction will be/is high	0.9%	10.7%	88.4%	2.88	0.36	8	14	4.5%	23.4%	72.2%	2.68	0.56	6	18
Students will receive/ receive sufficient individual attention	2.2%	17.5%	80.3%	2.78	0.46	14	19	5.5%	38.6%	55.9%	2.50	0.60	5	24
Parents will be/are able to influence the direction and activities at the school	4.0%	37.6%	58.4%	2.54	0.57	22	14	7.6%	44.2%	48.2%	2.41	0.63	12	18
There will be/is good communica-tion between the school and parents/ guardians	0.6%	18.4%	81.0%	2.80	0.41	13	14	4.4%	27.7%	67.8%	2.63	0.57	4	15





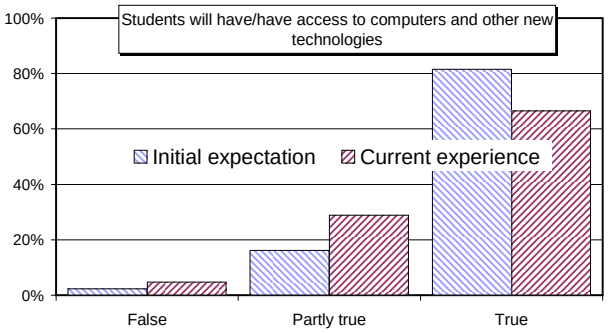


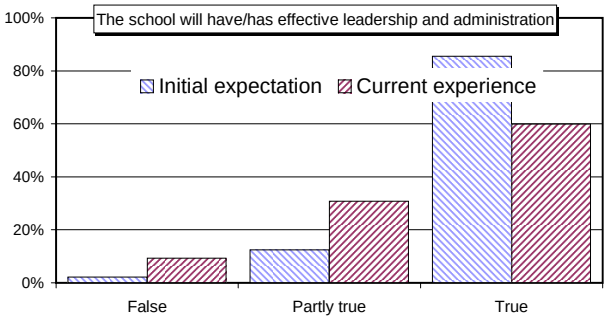


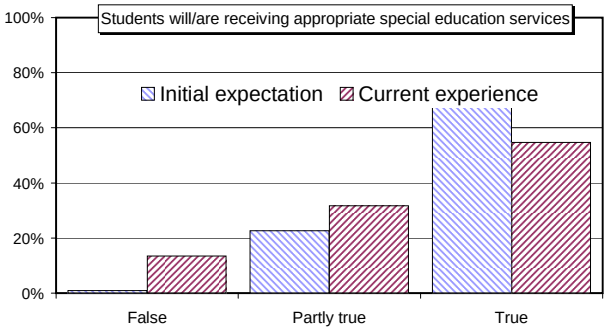


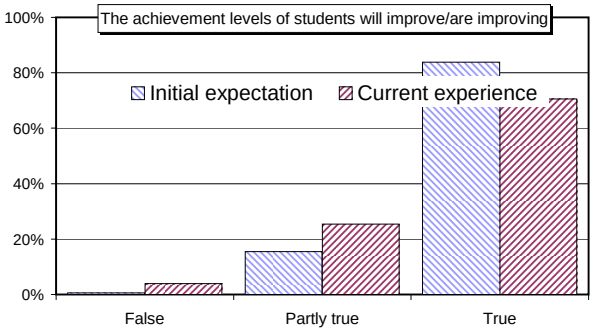
17. Rate each of the following statements as to what you expected when you first began working at this school (initial expectation)and how you would rate it today (current experience).

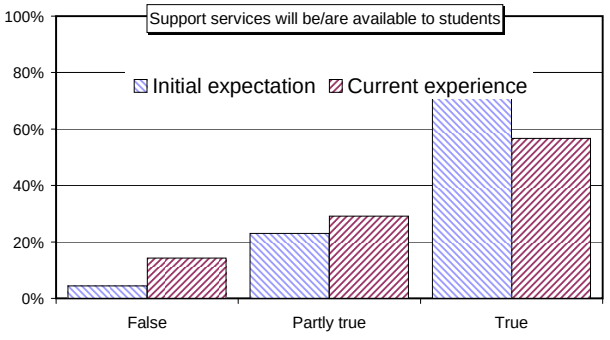
	Initial Expectation							Current Experience						
	False	Partly True	True	Mean	STD	Don't know	Mis-sing	False	Partly true	True	Mean	STD	Don't know	Mis-sing
	1	2	3					1	2	3				
Students will have/have access to computers and other new technologies	2.4%	16.2%	81.5%	2.79	0.46	5	13	4.7%	28.8%	66.5%	2.62	0.58	3	15
The school will have/has effective leadership and admin-istration	2.1%	12.4%	85.5%	2.83	0.43	9	18	9.3%	30.8%	59.9%	2.51	0.66	5	19
Students will/are receiving appropriate special education services, if necessary.	1.0%	22.6%	76.4%	2.75	0.45	37	16	13.5%	31.8%	54.7%	2.41	0.72	23	17
The achievement levels of students will improve/are improving	0.6%	15.5%	83.9%	2.83	0.39	23	13	3.9%	25.5%	70.6%	2.67	0.55	11	17
Support services (i.e., counseling, health care, etc.) will be/are available to students	4.4%	23.0%	72.6%	2.68	0.55	27	14	14.2%	29.1%	56.7%	2.42	0.73	12	16





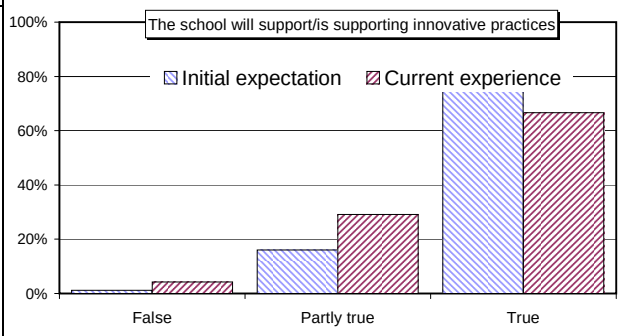


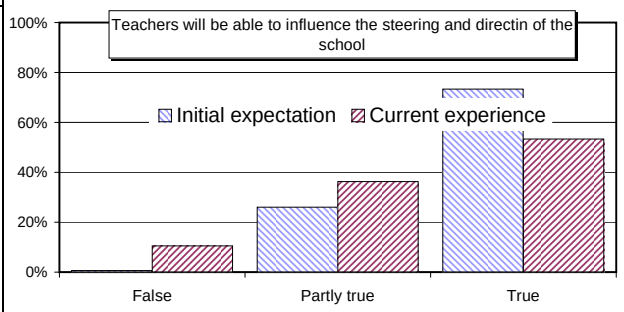


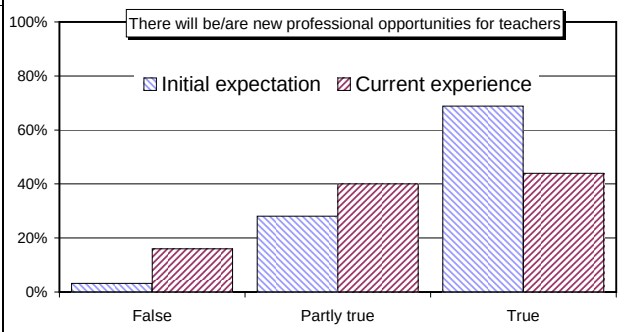


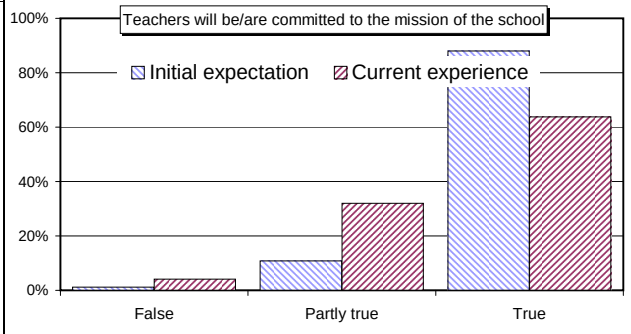
17. Rate each of the following statements as to what you expected when you first began working at this school (initial expectation)and how you would rate it today (current experience).

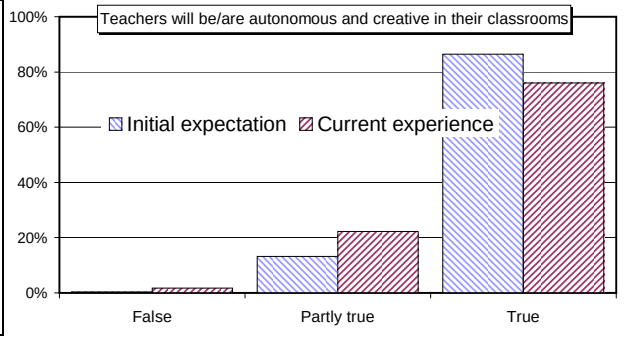
	Initial Expectation							Current Experience						
	False 1	Partly True 2	True 3	Mean	STD	Don't know	Mis-sing	False 1	Partly true 2	True 3	Mean	STD	Don't know	Mis-sing
The school will support/is supporting innovative practices	1.2%	16.0%	82.8%	2.82	0.42	17	16	4.2%	29.1%	66.7%	2.62	0.57	7	18
Teachers will be able to influence the steering and direction of the school	0.6%	26.0%	73.4%	2.73	0.46	18	13	10.5%	36.2%	53.3%	2.43	0.68	8	16
There will be/are new professional opportunities for teachers	3.2%	28.0%	68.8%	2.66	0.54	31	13	16.0%	40.0%	44.0%	2.28	0.72	16	17
Teachers will be/are committed to the mission of the school	1.2%	10.8%	88.0%	2.87	0.37	11	14	4.2%	32.0%	63.8%	2.60	0.57	5	16
Teachers will be/are autonomous and creative in their classrooms	0.3%	13.2%	86.5%	2.86	0.35	12	13	1.8%	22.3%	76.0%	2.74	0.48	6	15





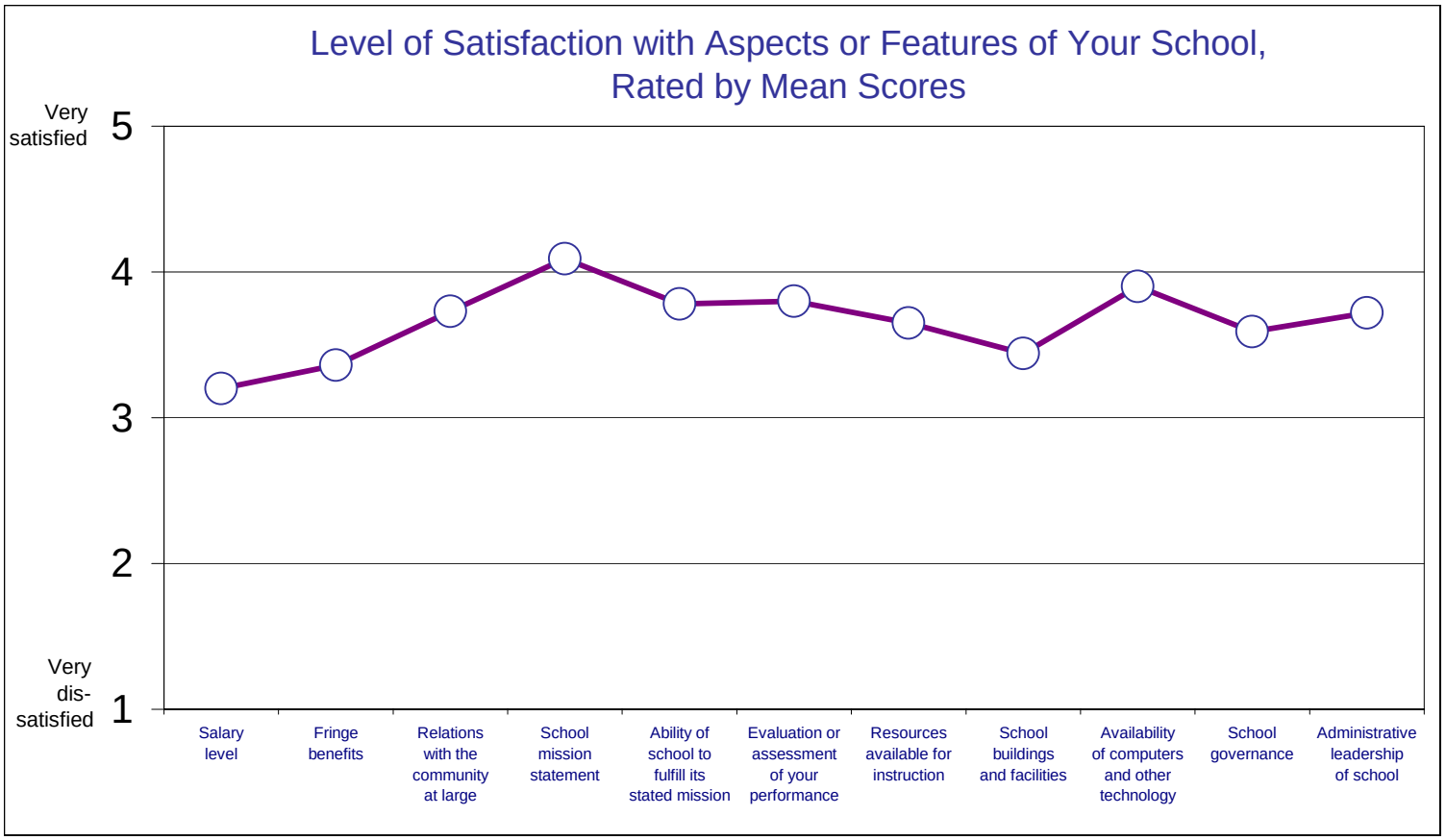






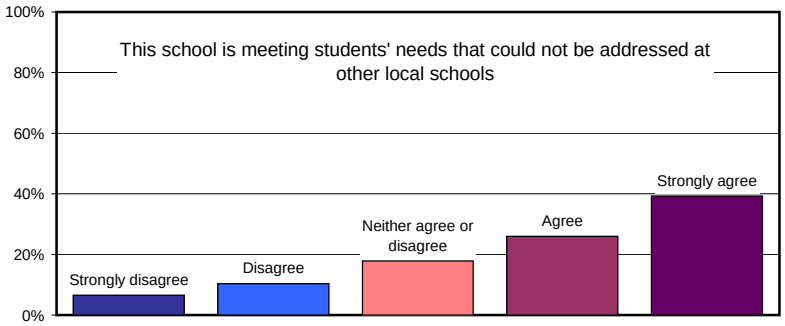
18. Rate your level of satisfaction with the following aspects or features of your school.

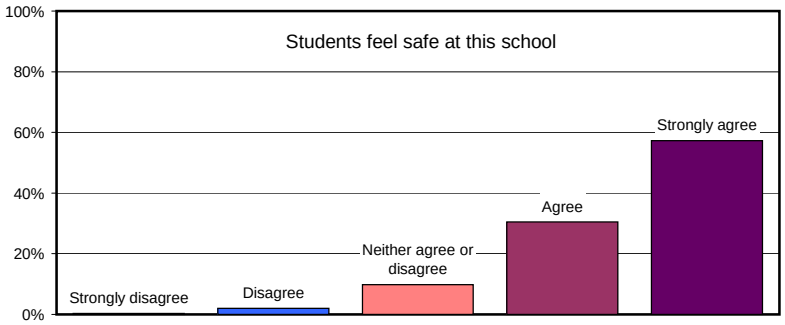
	Percentages					Mean	STD	Median	N	Don't know	Missing
	Not very satisfied 1	2	3	4	Very satisfied 5						
Salary level	9.5%	17.8%	30.2%	28.7%	13.8%	3.20	1.17	3.00	348	1	9
Fringe benefits	8.1%	11.6%	32.5%	32.2%	15.5%	3.36	1.12	3.00	335	14	9
Relations with the community at large	3.0%	8.4%	25.7%	38.0%	24.9%	3.73	1.02	4.00	334	12	12
School mission statement	1.5%	2.9%	21.3%	33.6%	40.6%	4.09	0.93	4.00	342	4	12
Ability of the school to fulfill its stated mission	4.1%	9.3%	22.4%	32.8%	31.4%	3.78	1.11	4.00	344	4	10
Evaluation or assessment of your performance	5.4%	9.1%	18.7%	33.8%	32.9%	3.80	1.15	4.00	331	16	11
Resources available for instruction	4.4%	15.2%	20.5%	31.3%	28.7%	3.65	1.17	4.00	342	6	10
School buildings and facilities	11.8%	13.9%	20.2%	26.9%	27.2%	3.44	1.34	4.00	346	1	11
Availability of computers and other technology	2.0%	10.4%	19.6%	31.7%	36.3%	3.90	1.07	4.00	347	1	10
School governance	6.7%	11.7%	23.1%	32.5%	26.0%	3.59	1.18	4.00	342	7	9
Administrative leadership of school	7.5%	10.7%	18.5%	28.9%	34.4%	3.72	1.25	4.00	346	2	10

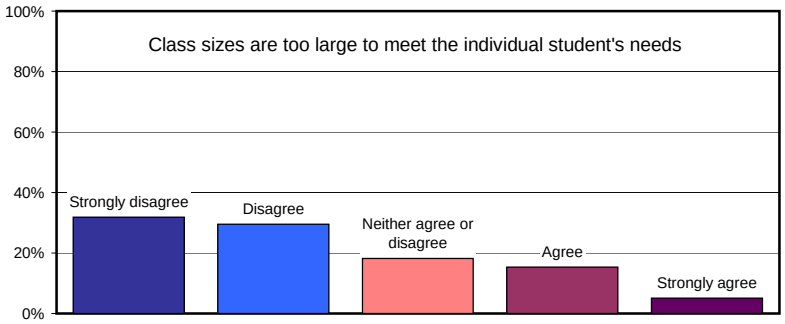


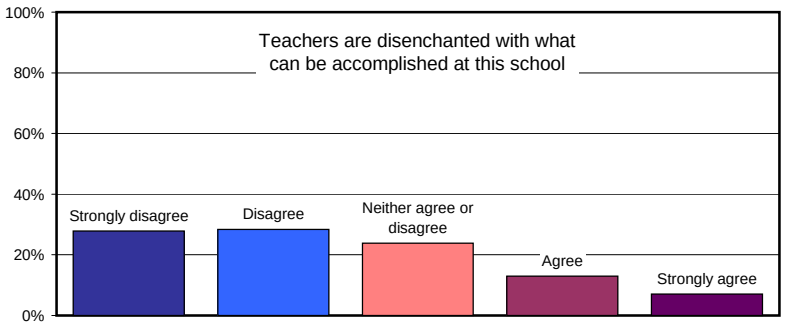
19. To what extent do you agree or disagree with the following statements about your school?

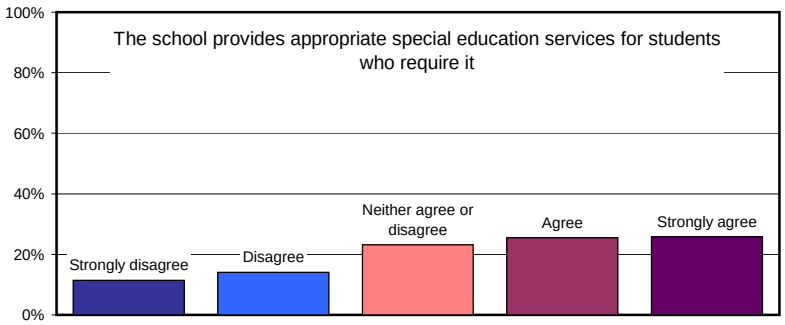
	Strongly disagree 1	2	3	4	Strongly agree 5	Mean	STD	N	Don't know	Mis-sing
This school is meeting students' needs that could not be addressed at other local schools	6.5%	10.4%	17.8%	26.0%	39.3%	3.81	1.24	338	15	5
Students feel safe at this school	0.3%	2.0%	9.8%	30.5%	57.3%	4.43	0.77	347	7	4
Class sizes are too large to meet the individual student's needs	31.8%	29.5%	18.2%	15.3%	5.1%	2.32	1.21	352	2	4
Teachers are disenchanted with what can be accomplished at this school	27.8%	28.4%	23.8%	13.0%	7.1%	2.43	1.22	324	23	11
The school provides appropriate special education services for students who require it	11.4%	14.1%	23.1%	25.5%	25.8%	3.40	1.31	333	20	5





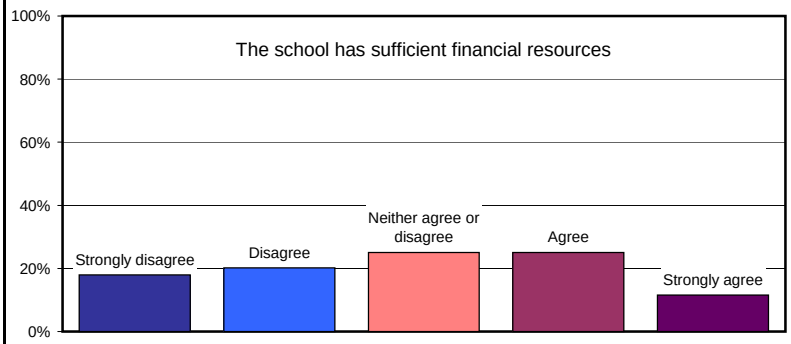


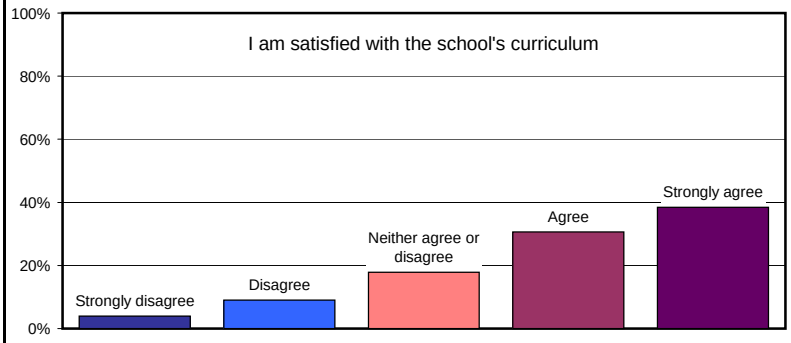


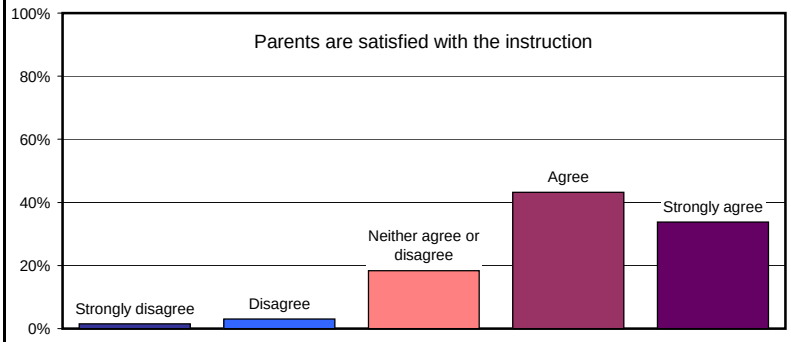


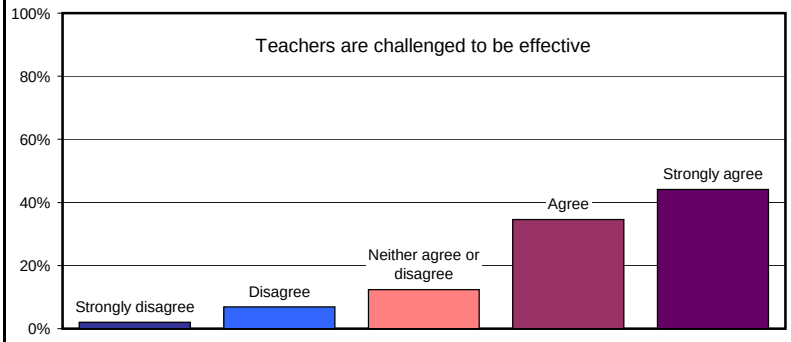
19. To what extent do you agree or disagree with the following statements?

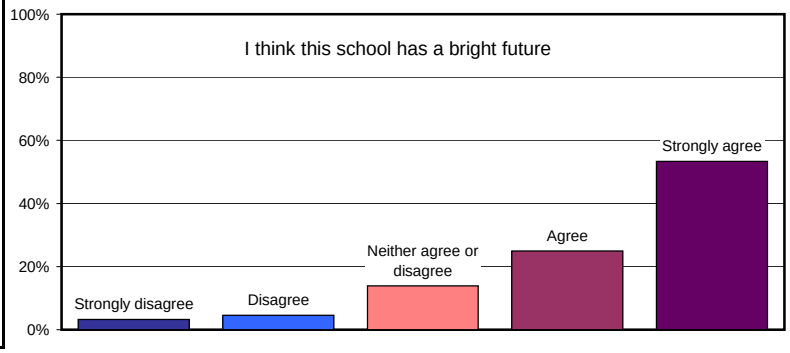
	Strongly disagree 1	2	3	4	Strongly agree 5	Mean	STD	N	Don't know	Mis-sing
The school has sufficient financial resources	18.0%	20.2%	25.1%	25.1%	11.6%	2.92	1.28	327	27	4
I am satisfied with the school's curriculum	4.0%	9.0%	17.9%	30.6%	38.4%	3.90	1.13	346	6	6
Parents are satisfied with the instruction	1.5%	3.0%	18.4%	43.2%	33.8%	4.05	0.88	331	23	4
Teachers are challenged to be effective	2.0%	6.9%	12.4%	34.6%	44.1%	4.12	1.01	347	6	5
I think this school has a bright future	3.2%	4.6%	13.9%	24.9%	53.3%	4.21	1.05	345	7	6





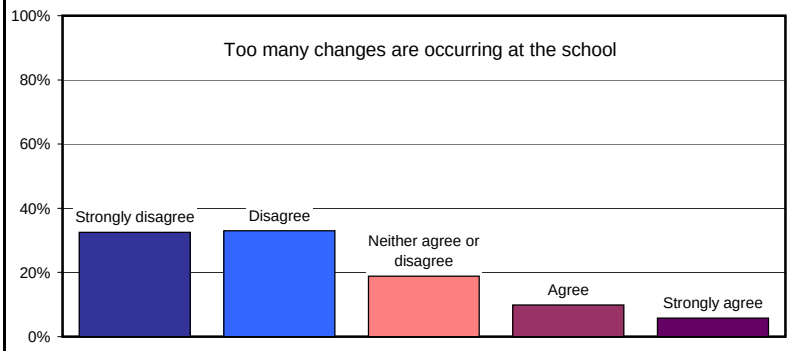


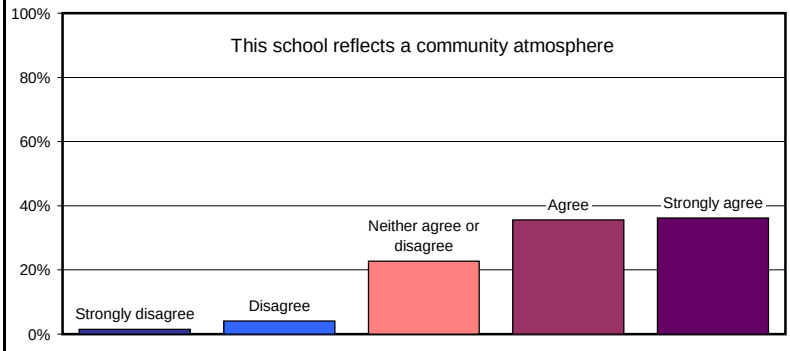


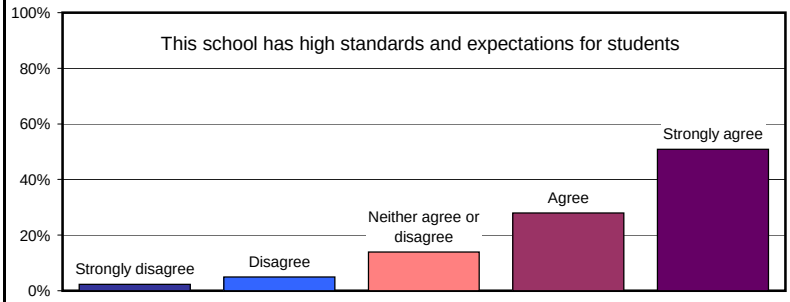


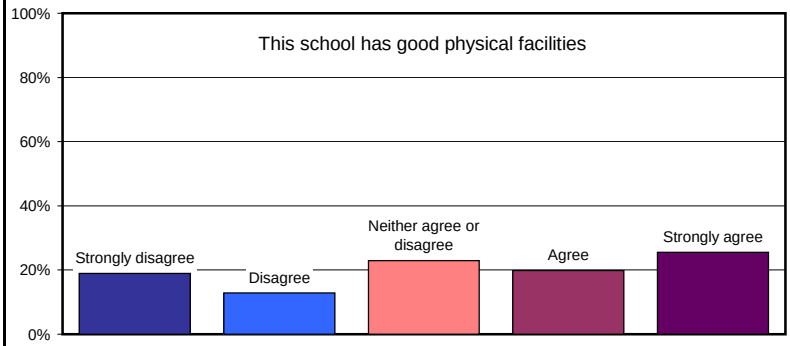
19. To what extent do you agree or disagree with the following statements?

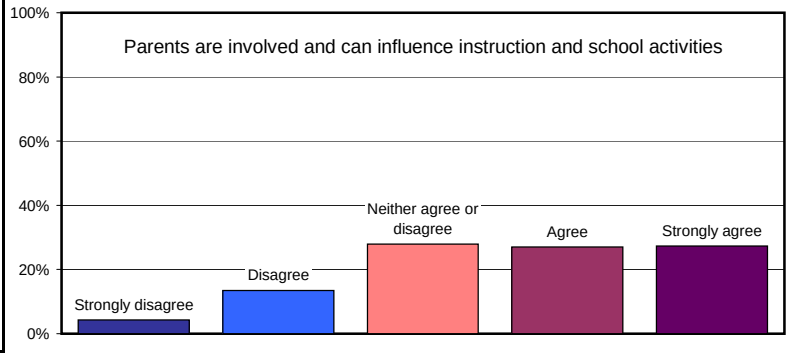
	Strongly disagree 1	2	3	4	Strongly agree 5	Mean	STD	N	Don't know	Mis-sing
Too many changes are occurring at the school	32.5%	33.0%	18.8%	9.9%	5.8%	2.23	1.17	345	7	6
This school reflects a community atmosphere	1.5%	4.1%	22.7%	35.6%	36.2%	4.01	0.94	343	7	8
This school has high standards and expectations for students	2.3%	4.9%	13.9%	28.0%	50.9%	4.20	1.01	346	3	9
This school has good physical facilities	18.9%	12.9%	22.9%	19.8%	25.5%	3.20	1.44	349	1	8
Parents are involved and can influence instruction and school activities	4.3%	13.5%	27.9%	27.0%	27.3%	3.59	1.15	348	5	5





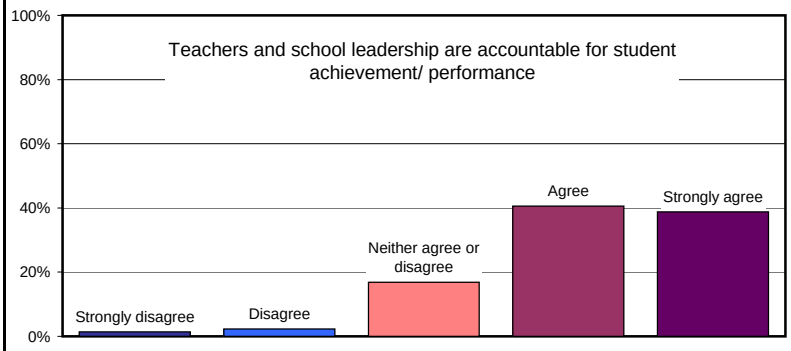


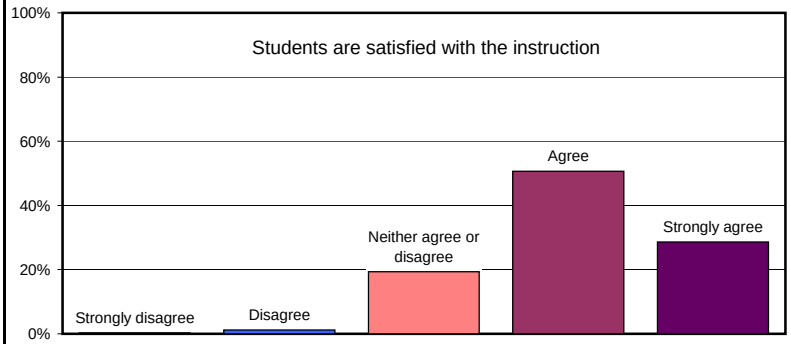


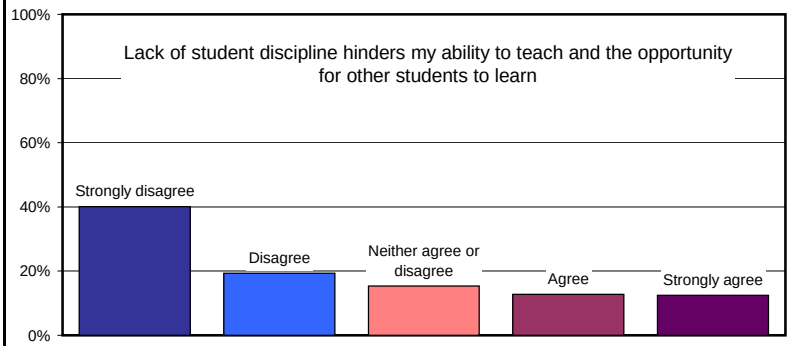


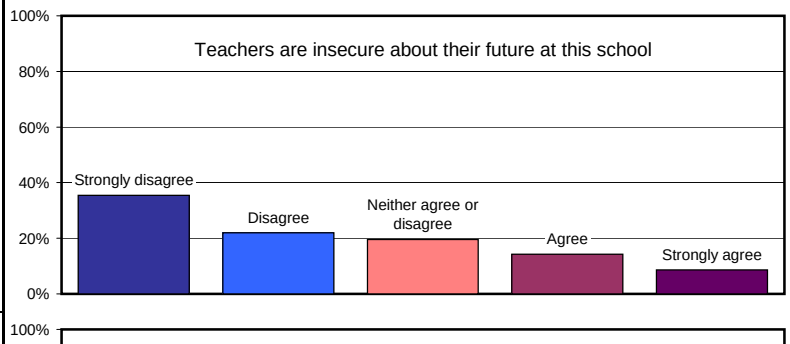
19. To what extent do you agree or disagree with the following statements?

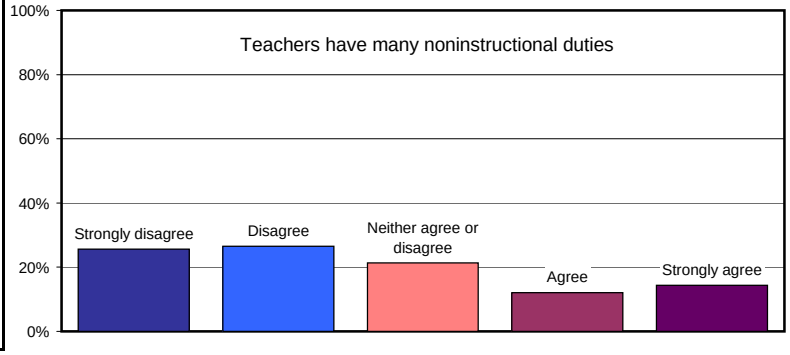
	Strongly disagree 1	2	3	4	Strongly agree 5	Mean	STD	N	Don't know	Mis-sing
Teachers and school leadership are accountable for student achievement/ performance	1.4%	2.3%	16.8%	40.6%	38.8%	4.13	0.87	345	9	4
Students are satisfied with the instruction	0.3%	1.2%	19.3%	50.6%	28.6%	4.06	0.74	322	28	8
Lack of student discipline hinders my ability to teach and the opportunity for other students to learn	40.1%	19.3%	15.4%	12.8%	12.5%	2.38	1.43	337	15	6
Teachers are insecure about their future at this school	35.4%	22.0%	19.6%	14.3%	8.6%	2.39	1.32	336	19	3
Teachers have many noninstructional duties	25.6%	26.5%	21.3%	12.1%	14.4%	2.63	1.36	347	8	3











Appendix E Characteristics of Charter School Teachers Compiled from the School Profiles

Delaware Charter Schools	Year Opened	Staffing Ratios					Race/Ethnicity 2004					Instructional Staff			*Average Teacher Salary: School year 04-05
		Students per Teacher	Students per Admin'or	per Instructional Staff	per Pupil Support Staff	School Staff per Admin'or	Amer Indian	Black	Asian-American	Hispanic	White	# of Teachers	# of Librarians	# of Pupil Support Staff	
Academy of Dover		17.8	106.5	14.7	426.0	8.8	0.0%	67.7%	0.0%	0.0%	32.3%	24.1	0.0	1.0	$32,436
Campus Community School	1998	14.8	197.3	13.2	148	18	0.0%	4.0%	0.0%	4.0%	91.0%	40.0	0.0	4.0	$44,610
CS of Wilmington	1996	19.9	312.0	19.5	156.0	20.7	0.0%	0.0%	2.0%	2.0%	95.0%	47.0	0.0	6.0	$52,559
Delaware Military Academy		27.6	207.0	27.6	138.0	13.0	0.0%	0.0%	0.0%	0.0%	100.0%	15.0	0.0	3.0	$51,747
East Side CS	1997	12.7	46.7	10.8	140.0	5.0	0.0%	62.0%	0.0%	12.0%	25.0%	11.0	0.0	1.0	$37,957
Kuumba Academy CS	2001	16.1	80.3	15.1	120.5	7.0	0.0%	47.0%	0.0%	0.0%	52.0%	15.0	0.0	2.0	$36,529
Marion T. Academy CS	2000	27.4	315.5	19.7	157.8	20.0	0.0%	65.6%	6.3%	3.1%	25.0%	23.0	0.0	4.5	$37,421
MOT CS	2002	18.2	135.0	15.3	225.0	10.6	0.0%	9.4%	0.0%	0.0%	90.6%	37.2	0.0	3.0	$34,753
Newark CS	2001	27.0	324.0	25.9	216.0	15.5	0.0%	0.0%	0.0%	3.4%	96.6%	24.2	0.0	3.0	$56,337
Positive Outcomes CS	1996	12.0	120.0	9.2	120.0	15.0	0.0%	15.4%	0.0%	0.0%	84.6%	10.0	0.0	1.3	$42,635
Providence Creek Academy CS	2002	17.2	206.7	16.8	620.0	13.3	2.6%	2.6%	0.0%	0.0%	94.7%	36.0	0.7	0.0	$33,361
Sussex Academy of Arts & Scienc	2000	18.6	317.0	18.6	317.0	24.0	0.0%	0.0%	0.0%	0.0%	100.0%	18.0	0.0	0.8	$49,416
Thomas A. Edison CS	2000	16.0	392.5	12.9	261.7	33.5	0.0%	54.1%	0.0%	1.6%	44.3%	49.0	1.0	3.0	$39,886
State of Delaware		15.2*	154.1*	212.5*			0.2%	11.1%	0.4%	1.2%	87.2%	7815.0	131.0	661.0	$51,253

*These numbers come from the 2002-03 State Profile. This information was not available for more recent years.

Appendix F
Performance on DSTP for Charter School Students and Comparison Students by Grade and Subject Area (2004 Panels)

Grade and Subject Area	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std Err	F-value	P-value
Grade 5 Reading, Panel A										
Charter school	442.3	483.2	1.03	0.02	0.8853	58.6	57.8	0.59	5.84	**0.0158**
Control group	446.8	483.4	1.03			61.2	55.8	0.59		
Grade 5 Reading, Panel B										
Charter school	435.9	482.5	1.21	0.17	0.6775	57.2	56.0	0.71	0.39	0.5309
Control group	439.5	481.8	1.21			58.3	55.3	0.71		
Grade 5 Math, Panel A										
Charter school	435.2	471.2	1.06	8.21	**0.0043**	61.1	63.2	0.69	2.28	0.1312
Control group	435.3	475.5	1.06			62.9	61.7	0.69		
Grade 5 Math, Panel B										
Charter school	428.9	466.8	1.18	0.20	0.6530	59.4	59.1	0.77	0.00	0.9540
Control group	431.9	467.5	1.18			61.0	59.0	0.77		
Grade 8 Reading, Panel C										
Charter school	484.7	532.8	1.23	1.81	0.1787	58.5	64.3	0.80	6.61	**0.0104***
Control group	479.9	530.5	1.23			58.9	61.4	0.79		
Grade 8 Reading, Panel D										
Charter school	486.1	531.6	1.25	1.41	0.2348	60.3	62.2	0.83	0.09	0.7697
Control group	478.0	529.5	1.25			57.3	61.9	0.83		
Grade 8 Math, Panel C										
Charter school	474.6	513.0	1.23	7.56	**0.0061***	64.2	64.3	0.80	5.86	**0.0157***
Control group	468.5	508.2	1.23			60.1	61.5	0.80		
Grade 8 Math, Panel D										
Charter school	477.0	509.0	1.34	1.36	0.2434	63.3	61.5	0.85	2.05	0.1527
Control group	469.1	511.2	1.35			61.3	59.8	0.85		
Grade 10 Reading, Panel E										
Charter school	550.2	544.5	1.54	20.30	**<.0001***	72.3	62.3	0.91	34.42	**<.0001***
Control group	532.6	534.5	1.54			63.8	54.7	0.91		
Grade 10 Reading, Panel F										
Charter school	550.8	540.0	1.69	3.29	0.0704	74.3	62.3	1.03	17.68	**<.0001***
Control group	528.3	535.6	1.69			64.4	56.1	1.03		
Grade 10 Math, Panel E										
Charter school	539.5	564.1	1.95	7.75	**0.0056***	74.6	69.4	1.08	1.76	0.1853
Control group	510.1	556.2	1.95			62.2	67.3	1.08		
Grade 10 Math, Panel F										
Charter school	534.7	563.1	1.87	22.35	**<.0001***	75.2	68.8	1.14	8.54	**0.0037**
Control group	505.7	550.2	1.87			60.0	64.0	1.14		

Notes. Comparison group is matched on gender, ethnicity, FRL, and Title I status.

Differences between the charter school students and comparison students are statistically significant when the P-value is less than 0.05; these scores are highlighted in **bold**. When P-values are underlined and bolded, this refers to an advantage to the noncharter school students.

P-values with an asterisk "*" refer to differences that remained statistically significant at least 80 percent of the time with repeated randomly selected comparison groups.

Appendix G
Performance on DSTP for Charter School Students and Comparison Students by Grade and Subject Area (2005 Panels)

Grade and Subject Area	Scaled Score on the DSTP					Normal Curve Equivalent on the SAT-9				
	Covariate Mean	Adjusted Mean	Std Err	F-value	P-value	Covariate Mean	Adjusted Mean	Std Err	F-value	P-value
Grade 5 Reading, Panel A										
Charter school	447.98	487.25	1.05	0.19	0.6597	61.56	65.94	0.60	2.03	0.1542
Control group	447.32	487.90	1.05			60.80	67.15	0.60		
Grade 5 Reading, Panel B										
Charter school	442.25	483.14	1.02	0.03	0.8716	58.55	57.63	0.60	6.07	**0.0139**
Control group	446.52	483.37	1.03			60.48	55.54	0.60		
Grade 5 Math, Panel A										
Charter school	438.4	477.7	1.05	0.27	0.6005	63.2	63.04	0.59	2.22	0.1368
Control group	437.3	478.5	1.05			63.24	61.81	0.59		
Grade 5 Math, Panel B										
Charter school	435.2	470.27	1.02	5.60	**0.0182**	61.15	62.80	.71	2.53	0.1122
Control group	432.29	473.76	1.06			61.65	61.18	.73		
Grade 8 Reading, Panel C										
Charter school	498.85	540.97	1.04	2.11	0.1463	64.09	68.56	0.58	9.16	**0.0025***
Control group	489.45	538.83	1.04			59.89	66.09	0.58		
Grade 8 Reading, Panel D										
Charter school	484.69	532.97	1.18	4.15	**0.0420***	58.47	63.93	0.77	7.37	**0.0068***
Control group	480.06	529.56	1.18			57.77	60.97	0.77		
Grade 8 Math, Panel C										
Charter school	488.45	515.02	1.20	0.99	0.3211	68.38	66.98	0.62	7.09	**0.0079***
Control group	474.44	516.72	1.20			62.61	64.63	0.62		
Grade 8 Math, Panel D										
Charter school	474.65	512.67	1.24	4.14	**0.0423***	64.21	64.22	.74	9.44	**0.0022***
Control group	468.08	509.09	1.25			60.16	60.97	.75		
Grade 10 Reading, Panel E										
Charter school	547.31	539.69	1.38	16.88	**0.0001***	70.73	70.77	0.80	11.75	**0.0007***
Control group	530.24	531.55	1.38			60.04	66.82	0.80		
Grade 10 Reading, Panel F										
Charter school	550.24	545.06	1.60	5.97	**0.0150***	72.25	62.36	0.93	21.68	**0.0001***
Control group	533.76	539.56	1.60			63.37	56.15	0.93		
Grade 10 Math, Panel E										
Charter school	536.24	562.10	1.49	20.78	**0.0001***	73.29	72.21	0.70	12.99	**0.0003***
Control group	509.86	552.27	1.49			61.44	68.56	0.70		
Grade 10 Math, Panel F										
Charter school	539.47	564.44	1.96	5.50	**0.0195***	74.62	69.03	1.05	0.02	0.8810
Control group	510.35	557.76	1.96			61.12	68.81	1.05		

Notes. Comparison group is matched on gender, ethnicity, FRL, and Title I status.
Differences between the charter school students and comparison students are statistically significant when the P-value is less than 0.05; these scores are highlighted in **bold**. When P-values are underlined and bolded, this refers to an advantage to the noncharter school students. P-values with an asterisk "*" refer to differences that remained statistically significant at least 80 percent of the time with repeated randomly selected comparison groups.

Appendix H Retention Rates and Summer School Participation Rates

Percent of Students Retained by School and Grade, 2004-05

	K	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Campus Community School		0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	2.0%	14.0%				
CS of Wilmington										2.6% dropout rate (Grades 9-12)			
East Side Charter School	0.0%	2.0%	0.0%	0.0%	0.0%	1.0%	0.0%						
Kuumba Academy	3.0%	14.0%	8.0%	11.0%	9.0%	0.0%	0.0%						
Marion T. Academy	4.0%	5.0%	12.0%	20.0%	4.0%	16.0%	0.0%	0.0%					
MOT Charter School	0.0%	1.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%				
Newark Charter School						0.0%	0.0%	0.0%	0.0%				
Positive Outcomes Charter School										15.9% dropout rate (Grades 9-12)			
Providence Creek Academy CS	12.0%	5.0%	1.0%	11.0%	3.0%	1.0%	2.0%	2.0%	6.0%				
Sussex Academy of Arts & Sciences							3.0%	1.0%	4.0%				
T. A. Edison CS of Wilmington	9.0%	7.0%	5.0%	11.0%	7.0%	15.0%	4.0%	8.0%	0.0%				
Academy of Dover	3.0%	1.0%	2.0%	7.0%	2.0%	3.0%	1.0%						
Delaware Military Academy										0.0% dropout rate (Grades 9-12)			

Percent of Students Attending Summer School by School and Grade (2004-05)

	K	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Campus Community School		16.0%	13.0%	5.0%	5.0%	5.0%	16.0%	9.0%	34.0%				
CS of Wilmington													
East Side Charter School	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%						
Kuumba Academy	11.0%	4.0%	9.0%	19.0%	9.0%	20.0%	0.0%						
Marion T. Academy	0.0%	0.0%	0.0%	12.0%	0.0%	14.0%	0.0%	0.0%	50.0%				
MOT Charter School	0.0%	1.0%	3.0%	5.0%	2.0%	0.0%	5.0%	8.0%	3.0%				
Newark Charter School						8.0%	0.0%	4.0%	7.0%				
Positive Outcomes CS													
Providence Creek Academy CS	0.0%	0.0%	0.0%	8.0%	1.0%	0.0%	11.0%	0.0%	27.0%				
Sussex Academy of Arts & Sciences							18.0%	11.0%	10.0%				
T. A. Edison CS of Wilmington	0.0%	0.0%	39.0%	36.0%	26.0%	31.0%	34.0%	60.0%	37.0%				
Academy of Dover	1.0%	4.0%	4.0%	28.0%	3.0%	5.0%	2.0%						
Delaware Military Academy													

Note. Academy of Dover and Delaware Military Academy were excluded from the tables since they were in their first year of operation and reported no data.
Source: Delaware Department of Education 2003-2004 School Profiles