



EVALUATION OF THE DELAWARE CHARTER SCHOOL REFORM: FINAL REPORT

EXECUTIVE SUMMARY

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In 2003, The Evaluation Center at Western Michigan University was awarded a contract by the Delaware State Board of Education and Delaware Department of Education to evaluate the charter schools and the charter school reform in Delaware over the period 2003-2006. The major objective of the evaluative study was to determine the effectiveness, progress, and impact of the charter schools in Delaware. Further, the evaluation was intended to provide objective, unbiased feedback to the schools, the Delaware Board of Education and Delaware Department of Education, and other stakeholders about the operation and oversight of the schools and the charter school reform. This final report summarizes findings across the three-year evaluation.

In this report, we address the following tasks/issues that are central to the evaluation within the context, mission, and goals of each charter school and under the overriding goals of the study.

- ❑ Collection and synthesis of critical legislative and oversight issues raised by key stakeholders.
- ❑ Collection and analysis of teacher survey data that included teacher background characteristics, levels of satisfaction, perceptions of quality, and areas for improvement.
- ❑ Review and synthesis of evidence regarding the accomplishment of the mission found in the charter school annual reports.
- ❑ Comparison of revenues and expenditures for charter schools and traditional public schools.
- ❑ Descriptive analysis and comparison of charter school-level demographic data relative to surrounding district schools.
- ❑ Longitudinal analysis of student-level test data on the Delaware Student Testing Program (DSTP) comparing charter school students and matched noncharter school students.
- ❑ Longitudinal analysis of school-level data for the state assessment (DSTP) for charter schools and

demographically and geographically similar noncharter public schools.

- ❑ Description and discussion of key policy issues relevant to the performance and oversight of charter schools.

DELAWARE CHARTER SCHOOL LAW AND COMPARATIVE REVIEW

The legislative intent of the Delaware charter school reform is to

- ❑ improve student learning
- ❑ encourage the use of different and innovative or proven school environments and teaching and learning methods
- ❑ provide parents and students with improved measures of school performance and greater opportunities to choose public schools within and outside their school districts
- ❑ provide a well-educated community

To fully understand Delaware's charter school law, we looked at a few comparative research studies that rated and ranked charter school laws based on their perceived strength. Delaware's charter school law is generally viewed as permissive in that it allows multiple authorizers, has no cap on the number of schools, and a wide range of groups are permitted to apply for a charter school.

Three different ranking systems of charter school laws (CER, 2006; Miron, 2005; Chi & Welner 2007) indicated that Delaware had a strong charter school law.

We also looked at a number of reviews that rated and ranked states by the quality and strength of their authorizers and oversight of charter schools. Here, Delaware was typically placed in the middle of the rankings (Bierlein Palmer & Gau, 2003; Lake, 2006; Hassel & Batdorff, 2006).

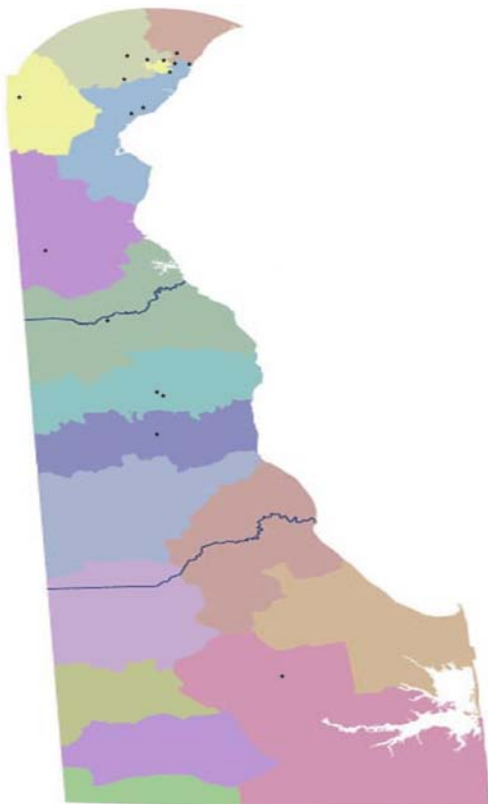
A number of charter school administrators indicated that the rigorous regulations and oversight hinder them from being innovative, adaptive to local conditions, and effective in pursuing their unique missions. While some complaints were leveled at the Department of Education for its rigid interpretation and enforcement of legislation and regulations, charter school administrators also were quick to acknowledge that the support and guidance provided by DOE were constructive and helpful.

During the course of this three-year evaluation, efforts by the Department of Education and the State Board of Education have simplified and streamlined many oversight activities. For example, the process for making minor modifications to charters now is easier and less restrictive. Communication has also improved, with regular meetings and events scheduled between state agencies and the charter schools.

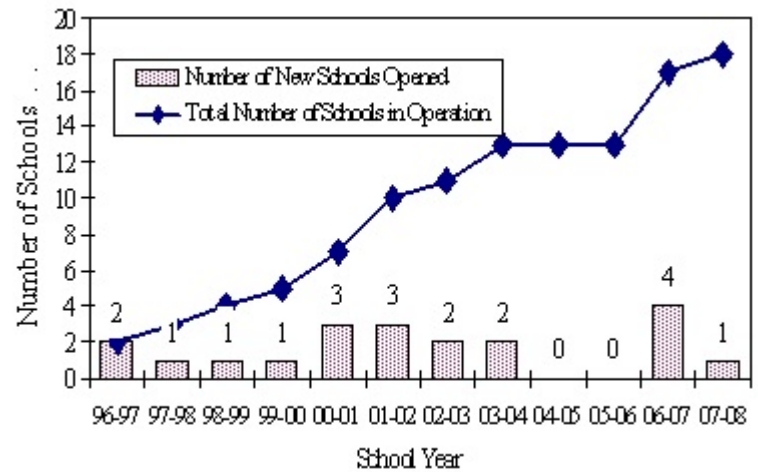
DELAWARE SCHOOLS AND THEIR STUDENTS

The Delaware charter school reform has continued to grow since the first 2 charter schools in the state opened in September 1996. Currently, 17 charter schools are operating with—thus far—1 more planned to open in September 2007. In the 2005-06 school year, 13 charter schools were operating. They enrolled 6,566 students, which accounts for approximately 5.4 percent of all public school students in Delaware. Two charter schools have closed, both after 1 year or less of operation due to financial problems and other difficulties.

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 enrollment patterns for 2005-06 as well as five-year trends for charter schools. Overall, enrollment levels at charter schools are steady and comparable to previous years. There are, however, some noteworthy findings:



- ❑ The aggregate of charter schools does not differ greatly from the traditional public schools in the state. However, when we look at the data by schools, we find substantial differences in student demographics. Some charter schools primarily serve minority students, and others cater primarily to white students.
- ❑ This pattern of segregated charter schools based on race is also repeated in 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 been identified as needing special education services, while at most other schools the number of students with special education needs is surprisingly low.
- ❑ On the whole, traditional public schools have higher percentages of low income students, students with special education needs, and students who have limited English proficiency.



Some reasons that explain why the charter schools have become so segregated include the following:

- ❑ The school may be located in a highly segregated housing market.
- ❑ Parents choose these highly segregated environments for their child(ren) because of their desire for a homogeneous learning environment.
- ❑ Targeted marketing and recruitment efforts by charter schools. For example, particular cultural profiles may attract a particular ethnic group; and specific offerings such as full day kindergarten may be more attractive to low-income families.

Because individual charter schools enroll students that differ greatly from sending districts, one can argue that charter schools may be accelerating the resegregation of public schools by leaving them more fragmented based on race, class, and ability. However, one also must recognize that other school choice programs (such as interdistrict choice and the neighborhood schools program) are promoting the acceleration of the resegregation of schools within the state. 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

Some teachers in charter schools have credentials and qualifications (i.e., formal education, certification status, years' experience, etc.) that are lower than teachers in traditional public schools. Extensive differences exist, however, among the charter schools, with some schools having a high proportion of teachers with master's or doctoral degrees and other schools with few teachers completing any graduate degrees. Over time, we have seen the level of qualifications of the teachers in most charter schools have been improving continuously.

On the whole, charter school staff were satisfied with their schools and with the working conditions they face. "Safety at school" was cited as the most important factor for working at a school; other important factors were opportunities to work with like-minded educators, committed parents, and the academic reputation (high standards) of the school.

and laboratories and others that had crowded and run-down facilities.

Teachers' salaries also varied extensively, with a few schools having mean salaries noticeably higher than the state average and several schools with salaries far below the state average. The Delaware charter schools' average teacher salary in 2005-06 was \$42,281, which is noticeably lower than the state average of \$52,486. In recent years, the difference between the average salary for charter school teachers and traditional public school teachers has been growing smaller. 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. Another factor that explains differences in teachers' salaries are decisions made by charter schools regarding the amount of pay and bonuses they provide their teachers. Charter schools have considerable autonomy in determining teacher salaries.

Given the vast differences in working conditions across the charter schools, it was no surprise to find that teacher attrition also varied extensively by school. The schools have experienced gradually decreasing rates of attrition over the past four years, ranging from 33 percent to 12 percent. Attrition is still a serious problem in some schools.

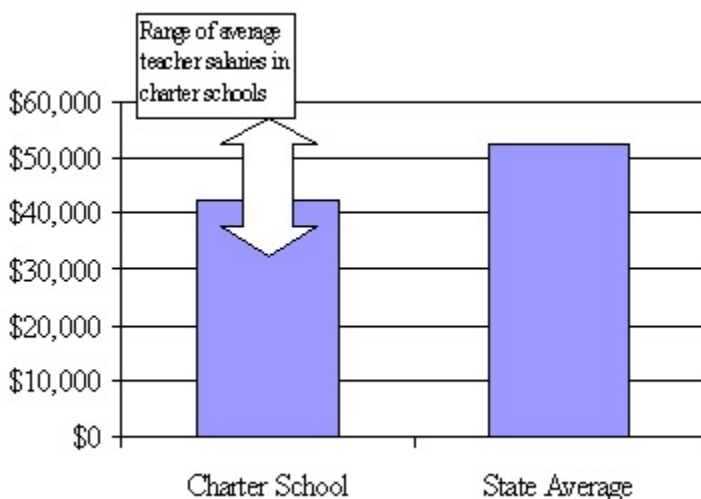
In summing up the findings regarding charter school teachers and their working conditions, it is fair to say that—overall—improvements are being made each year. Nevertheless, the disparity among the charter schools in terms of their teachers and the working conditions they face need to be recognized and addressed.

COMPARISON OF FINANCE DATA

The financing of charter schools is a highly contentious area. In our analyses, we sought to provide a fair and balanced description of charter school finance in Delaware. Care was given to spell out limitations in the data, and the text is riddled with cautions regarding how the findings should be interpreted and might be misinterpreted.

Due to the complexity of school finance data, we were not able to identify all the determinants of disparities (or lack thereof) in funding between traditional public schools and charter schools. Instead, we present a comparative analysis of the source and scope of revenues and the size and pattern of expenditures for both groups of schools. We also discuss some of the contextual issues surrounding charter school financing.

The funding formula for public school districts and charter schools in Delaware is complicated. The same



The working conditions for charter school teachers differ dramatically depending on the school in which they work. During our site visits, we saw some schools with extremely modern facilities and well-equipped offices

funding formula is applied for both district schools and charter schools. However, this does not mean they get the exact same revenues. Instead, the formula is designed to provide the same revenues for similar students being taught by teachers with similar qualifications. The report we provide a more detailed explanation of the funding formula and how it affects charter schools. While some may argue that charter schools receive too much funding, others claim that charter schools are underfunded. Below, we include a list of reasons or factors that suggest that charter schools have cost advantages or disadvantages relative to traditional public schools.

Cost Advantages

- ❑ Increased autonomy permits the flexibility needed to be more responsive and more efficient.
- ❑ Charter schools are community-based and are better able to solicit in-kind contributions from families, community partners, businesses, and private organizations.
- ❑ Charter schools can apply for additional federal funding for start-up, implementation of the school, and dissemination of ideas.
- ❑ Charter school teachers typically receive lower salaries than traditional public schools teachers, which is a substantial cost savings for these schools. While some point out that this is a result of insufficient funds, it is fair to say that this is a result of the lower level of qualifications of the teachers that are recruited or that seek employment in charter schools.
- ❑ Charter schools can limit enrollments to ensure an efficient match with existing facilities and instructors.

Cost Disadvantages

- ❑ Most charter schools are start-up schools that require a lot of initial funding—particularly for facilities—and federal start-up grants are insufficient, especially when the renovation or purchase of a facility is involved.
- ❑ Charter schools tend to be small and lack economies of scale that districts have.
- ❑ While Delaware charter schools are required to have specialized staff, such as a certified administrator or a school nurse, the net cost for such staff is distributed over a small number of students.

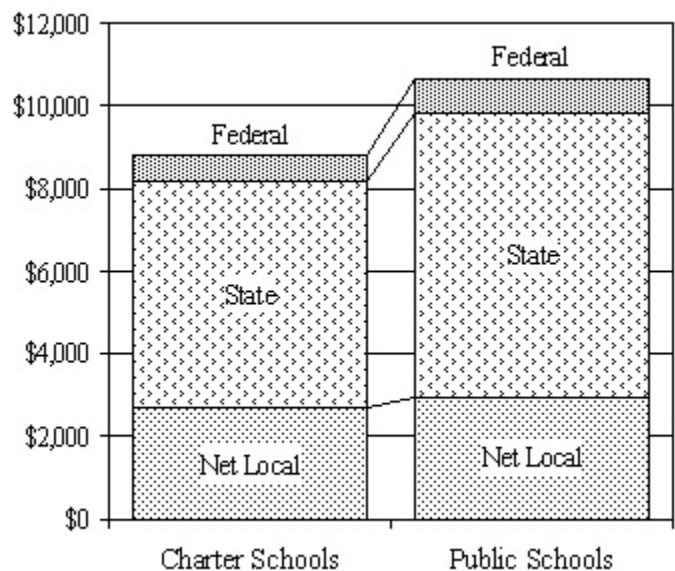
Our analyses covered three consecutive years of finance data: 2002-03, 2003-04, and 2004-05. The 2004-05 finance data, which were released in January 2007,

represent the most recent data that are available. Although our attention is on the most recent year of available data, we compared trends from the previous two years where appropriate.

Critical for understanding and verifying our findings is our specification of the schools included in the analysis. We compared charter schools with traditional public schools to determine and understand differences and patterns in the data. All 13 charter schools that were operating in 2004 were included in our analysis. Our comparison group was comprised of the 16 public school districts that cover the state. The county vocational-technical schools and the Dover Air Base schools were excluded from the comparison group since they were viewed as outliers in terms of revenue and expenditure patterns. Also, the separate special education schools and 2 intensive learning centers that have separate facilities were excluded from the group because these schools had extraordinarily high revenues, which are required to provide services to the students with disabilities they serve. Even after these special schools were removed from the comparison group, the proportion of special education students was far greater for remaining traditional public schools (12.7%) than for the charter schools (6.4%). This large difference in the type of students served is a key factor in explaining the differences in revenues that are outlined below.

Revenues

The average per-pupil revenue reported for charter schools in 2004-05 was \$8,821, while the per-pupil revenue for comparison district schools was approximately \$10,560. On average, district schools receive noticeably higher revenues than charter schools.



It is important to note that these differences in funding levels are in large part explained by differences in teacher qualifications and the types of students served. Below, we summarize the other key findings regarding charter school revenue:

- ❑ In absolute terms, traditional public schools reported higher revenues from all three general funding sources: federal, state, and local.
- ❑ Differences in revenue between charter schools and traditional public schools is partially explained by the differences in the experience and qualifications of the teachers they hire and the students they serve. For example, greater experience and formal education for teachers translates into higher revenues to cover higher teacher salaries. Also, schools with special needs students receive additional revenues required to provide an adequate education for students with disabilities.
- ❑ A number of private funding sources are available to charter schools (e.g., foundations, nonprofit organizations, and private companies). Private sources of funding are not included in our financial analysis, because the exact sources and scope of private funding are unknown. Private funding may help bridge the gap between charter and traditional public schools in terms of funding, and it may explain why some charter schools have such large year-end balances that are far larger than traditional public schools.

Expenditures

Expenditures were divided into three broad categories: instructional, noninstructional, and school services. Just as charter school revenues are lower than those of traditional public schools, so too are their expenditures. In 2004-05, the average net expenditure per pupil in charter schools was \$7,604, while the average net current expenditure per pupil in public schools was \$9,998. One of the key patterns that we identified was that charter schools were spending a lower proportion of their resources on instruction. This can be explained by a number of factors including lower teacher salaries and the need for charter schools to shift more of their resources to cover the costs of purchasing or renovating facilities. Differences in expenditures can also be attributed to differences in the type of student served.

Capital Funding and Facilities

Capital funding and facilities finance have been increasingly debated topics, both in Delaware and in the nation as a whole. During interviews with charter school

administrators, it was commonly reported that it was difficult, if not impossible, to secure funding for facilities. Hearing their stories, however, was confusing since at times we were sitting in their newly constructed or renovated school buildings. Not all charter schools have satisfactory facilities, but many have buildings that are of a similar or higher standard than the buildings available to the surrounding traditional public schools. Through private funding and partnerships, a number of charter schools were able to acquire facilities at a heavily discounted price.

Fiscal Balance

Comparing gross income and expenditure amounts for public and charter schools is not possible because of vast differences in structure: namely, public schools are much larger, offer different services and support, and have a wider array of functions. However, analyzing year-end balances and changes in year-end balances is one of the best means of studying the relative viability of charter schools. In our study, we analyzed year-end balances for the 2002-03, 2003-04, and 2004-05 school years. The analysis revealed substantial fluctuations both between charter and traditional public schools and within the same schools over time. Although there were large differences among both charter schools and districts, it was interesting to find that the standard deviation was relatively similar for the two groups. While charter schools had, on average, a per-pupil year-end balance of \$1,341, the traditional school districts had an average year-end balance of \$3,006. Over time, the year-end balance for districts remains relatively unchanged, while the charter school year-end balance continues to improve.

Charter schools were introduced with the hope that market competition would spur creativity and generate a more efficient type of school. At face value it would appear that charter schools receive less funding than public schools. Other indicators from our surveys of teachers, interviews with administrators, and analysis of year-end balances suggest that some charter schools are rather advantaged in terms of finance. However, a number of factors need to be taken into consideration when comparing charter and traditional public school finance. Differences in funding levels may result from a combination of teacher experience and qualifications, the types of students that charter schools serve, and the size of charter schools. Although we have not been able to draw conclusions, it is our hope that the detailed analysis of existing evidence can facilitate informed discussion on this very charged issue.

ACCOMPLISHMENT OF MISSION

Our evaluation team explored how well each charter school in our study is reporting on its goals and objectives in annual reports. We examined each school's mission, goals, objectives, and relevant benchmarks to measure progress. First, we looked at each school's mission statement and found all of them to be educationally relevant. We then analyzed the objectives articulated in the annual reports that covered the range of goals set out in the mission statements. The objectives fell into four areas: (i) academic performance of students, (ii) student behavior, (iii) market accountability, and (iv) mission-related accountability. Below, we highlight some of the key findings regarding our review:

- ❑ Most objectives were defined for the academic performance area.
- ❑ There was great variability in the number of measurable objectives and the general quality of the contracts and annual reports from each school.
- ❑ The actual number of academic objectives set by each school varied greatly.
- ❑ The quality of objectives varied significantly as well. Several schools mixed process and outcome objectives; even more schools listed objectives that were difficult to measure.
- ❑ Although the standard objectives included in performance agreements are beneficial in determining accomplishment of objectives across schools, individually tailored objectives are key to determining if a school has met the objectives it set for itself.
- ❑ Considerably fewer behavioral objectives than academic objectives were listed, but considerable variations among the schools and the number of objectives were identified. For the most part, the objectives were limited to attendance and the number of reportable behavioral offenses.
- ❑ The annual reports explored several indicators of market accountability: level of enrollment, attrition throughout the year, and year-to-year attrition.
- ❑ The schools that created market accountability objectives did a fairly good job of developing them.
- ❑ Some exemplary annual reports were prepared by a few charter schools and should be shared as a model for other schools to follow.

It is important to have a clear, well laid out report. As part of the charter schools' "autonomy in exchange for accountability" agreement, the schools must effectively

demonstrate progress toward accomplishing these unique missions. Charter schools can focus their efforts in regard to improving the overall quality and evaluation of their objectives in four areas: (i) developing appropriate objectives, (ii) incorporating benchmarks into objectives, (iii) collecting and sharing evidence for all objectives, and (iv) developing mission-specific objectives. More work needs to be done on the annual reports if they are to be a viable tool for accountability.

STUDENT PERFORMANCE ON THE DELAWARE STUDENT TESTING PROGRAM

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. The second is the performance of charter school students on standardized tests to determine value added over time of enrollment in a charter school. Two distinct and separate methodological approaches were used to examine gains on standardized tests by charter schools relative to traditional public schools. First, we used a quasi-experimental design to measure change in student performance over time. Second, we relied on school-level, rather than student-level, data to examine differences in predicted and actual scores on the DSTP.

Quasi-Experimental Design With Cross-Year Analysis

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. This data set was provided to us by the Department of Education with test data going back to the late 1990s. We analyzed only data from 1999-00 to 2003-04 in our year 1 report. For the year 2 report, we added an additional year of data (i.e., from 1999-00 to 2004-05). For this third and final report, we added an additional year (i.e., 2005-06) to our data set as well as the results from the off-grade assessment. The complete data set includes 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.

We used a matched student quasi-experimental design in which students in the experimental group (i.e., charter schools) were demographically matched on four characteristics—gender, ethnicity, Title I status, and free and reduced lunch status—with students in the control group (i.e., traditional public schools). Using this design, three randomly drawn comparison groups were constructed from the pool of all noncharter students. The presence of the off-grade assessment data enabled a

more direct approach to examining longitudinal changes. Starting with 2002 data we constructed nonoverlapping (independent) two-year panel groups (referred to as cohorts) at the 4th/5th grade, 7th/8th grade, and at the 9th/10th grade levels for all charter school students. The selection of these grades was purposeful in that the two grades were contained within a school; that is, students were not transferring from one—e.g., elementary—school to another—e.g., middle—school. Three matched noncharter comparison groups were created.

The Delaware Student Testing Program (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. Using the student-level data, we analyzed only the math and reading results where scale scores were available.

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 in a 4 x 4 factorial ANCOVA with school (charter, noncharter1, noncharter2, and noncharter3) and cohort (2002-03, 2003-04, 2004-05, 2005-06) as the two independent variables and math or reading scale score as the dependent variable.

In the year 1 and 2 reports, separate ANCOVA analyses were examined for DSTP scaled score and SAT-9 NCE for the reading and math assessments. No offgrade results were included in these analyses.

Year 1 and 2 Results

The results indicate that charter school students in upper grades often perform better than matched traditional public school students. 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 favored traditional public schools, and the other two favored charter schools. At grade 8, the reading results for both panels 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 were gaining.

A comparison of the covariate means at grade 4 illustrates that charter school students and demographically similar students in the control group have similar pretest performance levels. At grade 8, the charter schools clearly are attracting and enrolling higher performing students. This difference is further exacerbated in grade 10, where 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 are aggregated across all the schools, which masks large differences among the schools, both in terms of the students they enroll and in terms of the growth in test scores they can achieve. The year 2 evaluation report includes a breakout and discussion of the data by school, which uncovered 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.

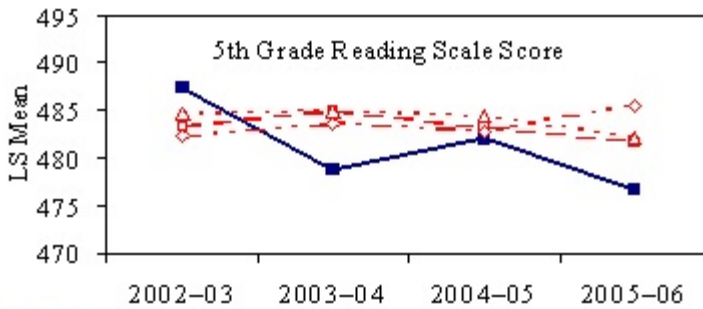
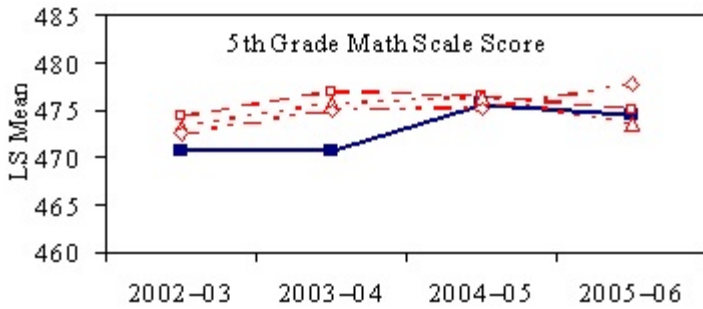
In our year 2 analyses, we also examined time effects to see if charter schools’ relative performance was improving over time. In these analyses, pooled data for each cohort (i.e., 2004 and 2005) were coded for endpoint. From these findings, we could not clearly discern improvements or declines in performance over time in either reading or math.

Year 3 Results

Our analyses from year 3 revisit this question of whether the charter schools’ relative performance is improving or worsening over time.

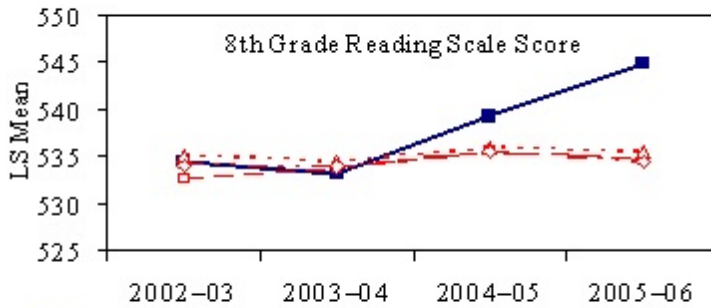
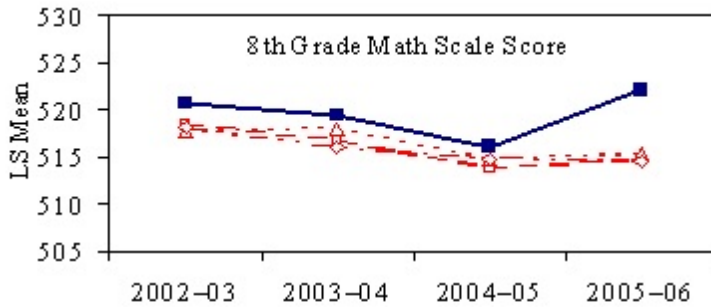
Grade 5 math. Results indicated that the 5th grade mean math scale score for charter school students was significantly lower than the mean results for matched noncharter students. There is some indication of improvement in math scaled score since 2003-04.

Grade 5 reading. The results suggest that, overall, charter school students are not performing at levels comparable to their noncharter peers in reading; and the gap appears to be widening. Results of the group by trend contrast confirmed significant differences in the linear response trajectory between the charter and the pooled noncharter groups. Charter school students in grade 5 tend to lag behind their matched peers in reading scaled score and are showing less growth over time than their matched peers.



■ Charter
 -□- Control #1
 -△- Control #2
 -◇- Control #3

Grade 8 math. Students in charter schools generally showed comparable levels of achievement on math scale scores until the 2005-06 cohort, when charter school students pulled ahead of the matched noncharter school students.



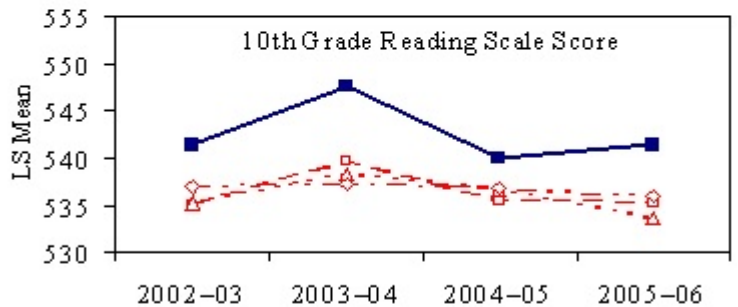
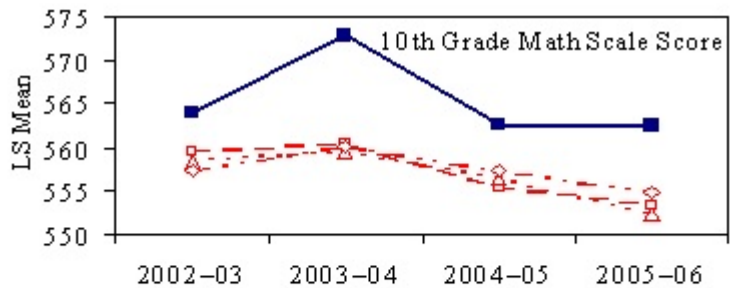
■ Charter
 -□- Control #1
 -△- Control #2
 -◇- Control #3

Results of the eighth grade group by trend contrast confirmed significant differences in the linear response trajectory between the charter and pooled noncharter groups such that the charter students showed a sharper rate of change relative to the noncharter students.

Grade 8 reading. The results for charter schools were similar to their matched peers in 2002-03 and 2003-04, but appeared to outpace their matched peers in the subsequent two years. The reason for this accelerated growth in 2004-05 and 2005-06 largely can be explained by the addition of new charter schools and not necessarily the improved performance of existing charter schools over time (note that the number of students in each cohort grew close to 30 percent between 2003-04 and 2004-05).

Grade 10 math. For grade 10 the school type by cohort analysis clearly depicted little overall performance change in math scale scores in both charter and noncharter school cohorts. Charter school students consistently outperformed noncharter school students.

One year stands out as significantly better for 10th grade charter school students (2003-04), but the gains made in that cohort group regressed back to previous levels in the next year.



■ Charter
 -□- Control #1
 -△- Control #2
 -◇- Control #3

Grade 10 reading. Charter school students evidenced significantly higher reading scale scores than their matched noncharter peers regardless of cohort.

The grade 10 charter school students consistently outperformed their matched peers in noncharter schools in both math and reading. Surprisingly, there are no advantages (or disadvantages) for students attending charter schools in the 5th grade analyses. Moreover, only three charter schools showed an advantage for their students (Sussex, MOT, and Thomas Edison) in the 8th grade analysis, but one school evidenced a disadvantage (Campus Community). In our 10th grade analysis, only students from Charter School of Wilmington showed a distinct pattern of superior performance.

Stayer/Leaver Results

In our most recent analyses using off-grade test results, we examined charter school students from the perspective of stayers (students continuously enrolled in the same charter school in 2006 and who progressed a year), leavers (students who progressed a grade level in 2006 but are not in the same charter school), and newcomers (students who were not in the charter school the first year but entered in the second). In just over 71 percent of the 4th to 5th grade cohorts, leavers outperformed stayers, suggesting that the higher ability students are fleeing the elementary level charter schools. In the middle school grades, leavers showed no particular tendency to have either higher or lower mean math scaled scores. At the high school level, the stayers had overwhelmingly higher test results than the leavers, indicating that the low ability students were fleeing from the charter high schools. This is just the opposite of what we found in the elementary schools.

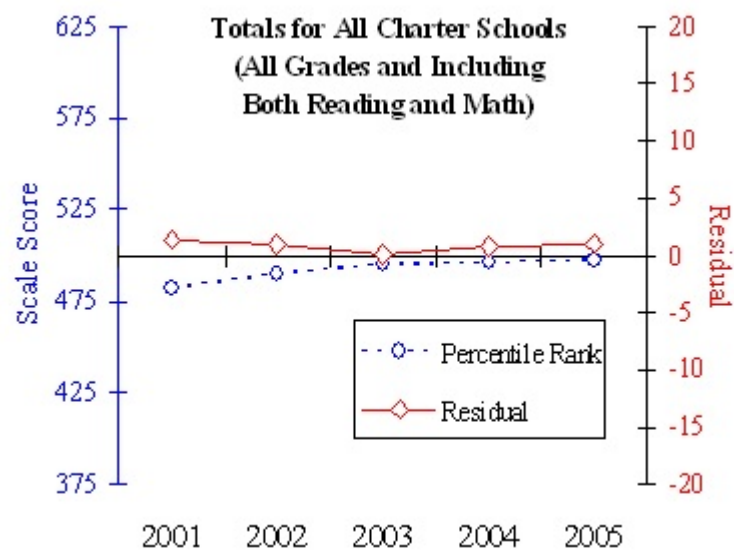
Newcomers tended to be similar to stayers in elementary and high school, but have lower scores than stayers in middle school. In a related analysis we compared the performance of students from the feeder schools. Only charter schools that did not supply or “feed” students from their own lower grades could be considered (i.e., Charter School of Wilmington and Delaware Military Academy, both at the 9th to 10th grade levels, and Positive Outcomes Charter School at the 7th to 8th grade level). Our results provide strong evidence that the Charter School of Wilmington was attracting (creaming) high ability students relative to the mean performance level of the students who did not leave their feeder school to enroll at this school.

Residual Gains Analysis

We utilized one of the strongest designs and methodological approaches suitable for group or school-level data. It should be clear that analyses based on changes of individual students are far more rigorous and desirable than analyses based on school aggregate data. The results from our residual gains analysis were

intended to provide a comprehensive look at the current performance and trends in performance of the charter schools.

Design and measures. The data used for these analyses are school-level DSTP results (i.e., average scale scores for reading, math, science, and social studies, and raw scores for writing) for students at five grade levels: 3rd, 5th, 6th, 7th, and 9th. To estimate the pattern of growth or change, it was necessary to track school-level performance across time; the period of time used was 2001 through 2005.



To estimate patterns of student achievement and growth or decline, we fit regression models to each subject and each grade level (3rd, 5th, 8th, 10th, and 11th) for each year (2001, 2002, 2003, 2004, 2005) using noncharter public schools as the reference in the models. By using noncharter public schools as a point of reference, it is possible to determine whether or not the charter schools perform similarly to, above, or below other schools throughout the state. Variables controlled for in the models included percentage of students in special education, percentage of low income students (i.e., receiving free or reduced lunch), and percentage of minority students.

From these regression models, three estimates were produced: (1) actual, or observed, scale scores; (2) predicted, or expected, scale scores; and (3) residual, or difference in, scale scores. Residual scale scores are the difference between actual and predicted DSTP scale scores for a given grade in a given year. These residuals, or differences, indicate that the school in question is either performing at, above, or below other demographically similar schools (i.e., a residual of 0

indicates that the school performs at the average of all other similar schools); a negative residual means the charter school is performing worse than predicted, and a positive number indicates it is performing better than predicted.

Results. By grade, charter schools perform rather poorly at grades 3 and 5. Here most of the residual scores are negative. Over time, however, the fifth grade residual scores are improving or becoming less negative (note that the average annual change for residuals at grade 5 is +1.84). At grade 3, students in charter schools are losing ground to demographically similar traditional public schools; the average annual change in residuals is -0.82.

We saw the most improvements over time at grade 8. Initially, the residual scores were negative, but by 2003 they were consistently positive. At grade 10, we saw the highest actual scores and the highest residual scores. Over time, however, the average change in residuals decreased (i.e., the average annual change is -5.89), but the performance of charter school students at grade 10 remains far above the predicted scores.

As one might imagine, the DSTP results varied extensively by school. The appendices in the full report contain a complete set of results from the residual gains analysis that are broken out by school, grade, and subject.

The results from our analysis using a quasi-experimental design based on individual student data are rather identical to our less rigorous residual gains analysis. Although the residual gains methodology is recognizably limited, the findings from our analyses give credence to its use in evaluating the impact of reforms and new programs on student achievement, particularly when individual student data are not available. The residual gains analysis allows us to compare schools with other demographically similar schools and to examine relative change or growth over time. These two aspects make this approach far superior to simple cross-sectional analyses or studies that compare relative school performance with the state average rather than with demographically similar schools. Delaware is further ahead than most other states in terms of capturing and storing individual student data and then using the resulting data sets for evaluations and research. Because many other states do not warehouse student-level data or because they cannot make student-level data available for research or evaluation, the residual gains approach can serve as a suitable alternative in other states when individual student data are not available.

IMPACT OF CHARTER SCHOOLS ON SURROUNDING PUBLIC SCHOOLS

Charter schools potentially can have a variety of impacts—both positive and negative—on surrounding public schools. Commonly cited areas of impact include loss of students and funding, causing shifts in student demographics within the sending schools/districts. Charter schools also can promote positive change in traditional public schools either through competition or by example. For example, the presence of charter schools or other choice options means that traditional public schools must compete to retain their students. Theoretically, this competition can force the traditional public schools to work harder to serve and educate their students. Similarly, the presence of innovative schools can be a source of learning or inspiration for traditional public schools.

Administrators from charter schools and local districts had somewhat mixed perceptions on the issue of whether or not charter schools were causing resegregation, an issue that has received a fair amount of publicity across the state. Our evaluation did track shifts in the demographic composition of school districts. Gradual changes are apparent, but it is not possible to link the presence of charter schools to changing demographics within the traditional public schools. The charter school enrollment patterns in the urban areas suggest that the charter schools recruiting largely minority students from surrounding district schools is being offset by other charter schools recruiting largely white students. In this way, the overall impact on the district schools by the presence of charter schools is believed to be minimal. In instances where charter schools are recruiting the highest performing students, however, it is likely that the sending schools are being affected negatively by the departure of exceptional students with resource-rich families. Charter schools are not the only form of school choice in the state, so sorting out the impact of charter schools on surrounding districts from the impact of other choice reforms (e.g., interdistrict choice programs and neighborhood schools initiative) is nearly impossible.

Officials from both charter schools and traditional public school districts agreed that the initiation of charter schools introduced competition into the education arena: competition for students, for funding, and for staff and resources. Philosophically, most agreed that competition was a healthy component and one that should drive improvements and innovation in public education for the common good of all students. However, several administrators pointed to the fact that few specific changes and improvements have been made in the

traditional public schools in response to good charter school examples. In addition, some administrators professed concern that competition for students and the funding that follows were driving the wrong behaviors and overshadowing the potential benefits of sharing ideas for changes and improvements.

DILEMMAS AND ISSUES RELATED TO SUCCESSFUL CHARTER SCHOOL REFORM

This report contains a summary of the relevant findings and a discussion of issues related to oversight of Delaware charter schools. Important questions are addressed such as, What factors or conditions facilitate rigorous oversight? What are the advantages and disadvantages of rigorous oversight?

Advantages and disadvantages of rigorous oversight. Many issues need to be considered and balanced when it comes to rigorous oversight of charter schools. Below is a brief list of some of the primary advantages and disadvantages of rigorous oversight, such as that pursued by the Delaware Department of Education. The main advantages include the following:

- ❑ More likely that only sound applications for charters are approved and charter boards are prepared to run a school
- ❑ More likely that poor-performing charter schools will close
- ❑ Less likely that management companies with high cost structures will remain
- ❑ Less likely that children and communities are negatively affected by poor-performing charter schools or untimely closure of charter schools

Disadvantages of rigorous oversight include these:

- ❑ Charter schools are less free to innovate.
- ❑ Charter schools have less autonomy and flexibility that may be necessary to ensure a more efficient and effective use of limited resources.
- ❑ Human and financial resources of the Delaware State Board of Education and Delaware Department of Education are disproportionately directed to charter schools that serve a small portion of the states' public school students.

Factors or conditions that facilitate rigorous oversight. The Delaware Department of Education is able and willing to monitor the performance and viability of the charter schools closely and hold them accountable to regulations and their specific performance agreements. The capacity for this type of oversight can be attributed to a number of factors including (i) small size of the state and scale of the reform, (ii) detailed and centralized accountability system, (iii) devoted and effective DOE staff, and (iv) timely and well-targeted technical assistance.

CONCLUSION

On the whole, our findings indicate that the charter school reform in Delaware is rather successful. The design and pace of expansion of the reform has allowed the State Board of Education and the Department of Education to learn over time and modify and improve regulations and oversight. The comparative studies we examined portrayed Delaware's charter school reform as a success relative to other states.

A number of negative or unanticipated outcomes need to be watched and considered carefully. These include accelerating the resegregation of public schools by race, class, and ability and the disproportionate diversion of district and state resources (both financial and human resources) from districts to the more recently established charter schools. Finally, attention must be given to those charter schools that are serving minority and low-income students, since a majority of them are lagging behind in performance and show signs that they are less stable and viable.

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