

EVALUATION OF THE CLEVELAND SCHOLARSHIP PROGRAM

1998-2000

EXECUTIVE SUMMARY

September, 2001

The current evaluation focuses on a cohort of children who entered school as kindergartners in 1998. The cohort consists of three groups of students: those who were awarded scholarships to attend private school, those who applied for a scholarship but who did not win an award (and subsequently stayed in public school), and finally, public school students who did not apply to the scholarship program. The objective of the evaluation is to follow this group of nearly 2,600 children as they make their way through elementary school.

The present report covers the period from autumn, 1998, when students were early in their first grade year, through late April 2000, when students were nearing the end of their second grade year. Drawing on achievement test data, classroom interviews, and records from public and private schools, the focus of this period has been on three questions:

1. What are the characteristics of students who participate in the Scholarship Program, and how do they compare with students who do not participate?
2. What are the characteristics of teachers and classrooms experienced by scholarship students, and how do they compare with those experienced by public school students?
3. What are the impacts of the scholarship program on students' academic achievement?

Based on the results of a variety of descriptive and inferential techniques, the preliminary findings suggest the following:

STUDENT CHARACTERISTICS

- Students who were awarded scholarships are more likely to be white (29.5%) than students who applied and did not win (21.3%) and students who did not apply (16.4%).

- Per capita income (\$3,242) is not significantly different among families of scholarship students, students who applied and did not win, and students who did not apply.
- Scholarship students are less likely to have changed schools than their public-school counterparts by the end of second grade.

TEACHER AND CLASSROOM CHARACTERISTICS

- Teachers in scholarship and public schools are similar in terms of experience (mean = 12.2 years).
- Teachers in scholarship schools are less likely to have completed graduate degrees (16.3%) than their public-school counterparts (34.3%).
- Classroom size is comparable across scholarship and public schools (mean = 23.97 students).

STUDENT PERFORMANCE

- Students who entered the Scholarship Program as kindergartners were achieving at significantly higher levels than other students when they entered first grade.
- Students across all three groups (scholarship, applicant non-winners, and non-applicants) made substantial and statistically significant gains in performance between kindergarten and grade two.
- Gains made by public-school students in grade one generally closed the performance gap, but students enrolled in the Scholarship Program for the full three years continue to perform slightly, but statistically significantly, higher.

CONCLUSIONS

The current findings will likely be used to support arguments on both sides of the voucher issue, but the results are far too preliminary to be conclusive, and much remains to be learned. From an educational perspective, it may be useful and informative to examine the educational experiences that led to the substantial gains made by the public school students during first-grade. More generally, will trends develop in students' achievement as they move further through their schooling? Next steps in the evaluation will include further monitoring of student performance and additional, in-depth review of teacher and parent perspectives.

Evaluation of the Cleveland Scholarship Program

1998 - 2000
Summary Report

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September, 2001

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for



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1998-2000 SUMMARY REPORT

Evaluation of the Cleveland Scholarship Program was initiated by the Indiana Center for Evaluation in the spring of 1997, at the conclusion of the first operating year of the program. From the beginning, the evaluation has examined the impact of the Scholarship Program on the students, families, and schools that participate, and the impact on the public schools from which the scholarship students are drawn. In November 1998, the evaluation began following a cohort of first grade scholarship and public school children, with the intention of collecting longitudinal data on the impact of the program.

The present report details the findings of data drawn from the cohort from the time the students began first grade through the end of second grade. The sample under study includes three primary groups of students for whom sufficient data were available: (1) first grade *scholarship students* who began the program as kindergartners during 1996-97 or first graders during 1997-98 (N = 780); (2) first grade public school students whose families had applied for a scholarship during 1996-97 or 1997-98, but who were not selected to receive one through the random lottery or who received a scholarship, but chose not to use it (N = 612), which are referred to as *applicant/non-recipients*¹; and (3) first grade public school students whose families had never applied for a scholarship (N = 1,233), referred to as *non-applicants*. When appropriate, students who accepted and began using a scholarship as second graders during 1999-00 were

1. During the period of this evaluation, records did not allow distinctions to be made between families who were awarded a scholarship but chose not to use and those that were not selected in the random lottery.

also included in analyses. As a result, the current project includes multiple comparison groups by which scholarship students' progress is weighed.

Three evaluation questions guided the project. These questions are:

1. What are the characteristics of students who participate in the Scholarship Program and how do they compare with students who do not participate?
2. What are the characteristics of the classrooms and teachers experienced by students who participate in the program, and how do they compare with those experienced by public school students?
3. What is the impact of participation in the program on students' academic achievement, and other relevant school related variables (e.g., attendance, behavior)?

During 1998-2000, the evaluation emphasized the identification of complete and representative groups of students who constitute the longitudinal sample and on collecting initial data on questions 1, 2, and 3 above. A detailed technical report has been prepared in which the statistical and methodological techniques of the project are explained and justified. The present report attempts to summarize the basic evaluation activities in ways that avoid technical language and that focus on the findings and their interpretation. Individuals who would like more information on the details of the study, including the specific measures used in collecting data and their operational definitions, are encouraged to obtain the longer technical report.

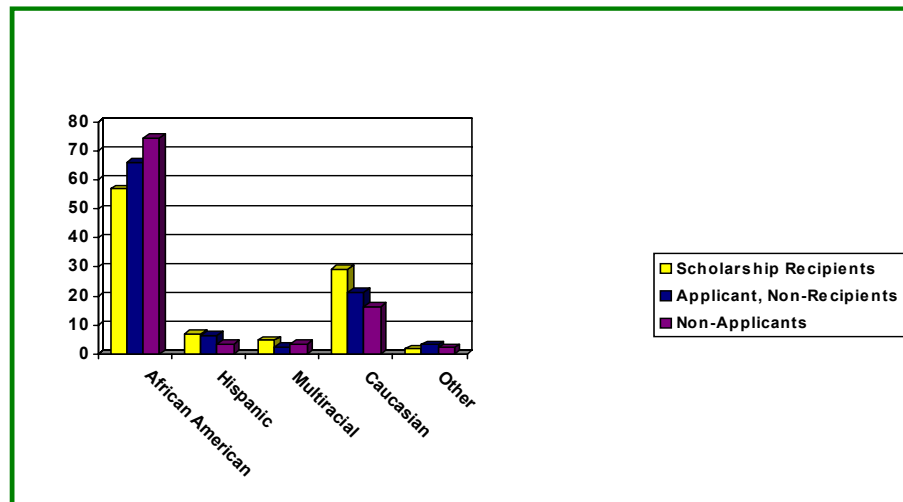
The remainder of this summary is organized around the three evaluation questions for which data were collected and analyzed. Findings are frequently presented graphically rather than in tables and supplemented with narrative explanations for clarity.

EVALUATION QUESTION ONE

What are the characteristics of students who participate in the Scholarship Program, and how do they compare with students who do not participate?

At the beginning of first grade, students in each of the groups were of similar gender and of similar family income, but differed in minority status.² Students in each of the groups were about equally male and female, and estimated per capita income was roughly \$3,242. However, students who participated in the Scholarship Program were significantly less likely to be of minority status than were non-applicants. Only about 70% of scholarship students were of minority status in contrast to 83% of non-applicants. Applicant/non-recipients and non-applicants, however, were of roughly equal minority status (79% minority for applicant/non-recipients). Figure 1 graphically depicts minority status across groups.

FIGURE 1. Minority Status Early First Grade



2. Because no comparable measure of family income was available on all students, a proxy for this variable was computed using data from Cleveland Scholarship Office and Cleveland Public Schools records. This new variable, called Estimated Meal Code, was used in all analyses. Details of this variable and its calculation are explained in the detailed technical report.

Additional comparisons suggest that students who enter the Scholarship Program as second graders differed in important ways from those who entered in kindergarten or first grade. All scholarship students were of roughly equal levels of achievement throughout the period, and students who entered in kindergarten and first grade were not statistically different on any demographic variables. However, students who entered the program in second grade were significantly less likely to be of minority status (41%) than students admitted in either kindergarten (65%) or first grade (74%). Further, second grade entrants were more likely to be male than first grade entrants (40%).

Thus, students in the Scholarship Program are somewhat less likely to be of minority status than their public school peers, and this pattern continues and is more distinct as students enter the program as second graders. What remains to be seen is the pattern these group characteristics may exhibit in coming years. If these data reflect a trend that continues for several years, the nature of students in the scholarship program may change substantially and become less similar to students in public schools. It is additionally important to understand whether these changes are a result of differential student characteristics among those who enter the program in later grades, whether these reflect group change due to attrition from the program, or some combination of these factors. In any event, the findings suggest that the scholarship students are not like their public school counterparts in all ways.

EVALUATION QUESTION TWO

What are the characteristics of the classrooms and teachers experienced by students who participate in the Scholarship Program, and how do they compare with those experienced by public school students?

Public and private school classrooms experienced by the students in the sample serve approximately 23 students in first grade and nearly the same number in second grade.

Both public and private school teachers in the present sample were found to have over 12 years of teaching experience. However, public school teachers were significantly more likely to have completed at least some graduate coursework than were private school teachers. Between 64% and 72% of public school teachers had taken at least some graduate coursework, while only 30% to 54% of private schools teachers had done so.

Thus, in the current sample, the classroom and teacher characteristics experienced by students in public and private schools were more similar than we had found in our earlier work.³ The substantial financial incentives provided to public school teachers for completing graduate coursework likely explain some of this consistent contrast with private school teachers. It is less clear why other differences, even those that were found in our earlier work, did not appear in the present data. Public school teachers in our sample had nearly the same level of experience as those we studied in previous years. In contrast, the level of experience of private school teachers in the present sample was nearly four years higher than we had found before. Sample error might explain some of this, though data on all private and public school teachers were obtained each year. It is also possible that the difference in grade levels at which we collected data are a factor. Perhaps, particularly in the private schools, teachers with greater experience tend toward the early grades, while less experienced teachers are assigned to the upper elementary grades.

A final point is noteworthy. The three teacher/classroom variables that were examined in this phase of the study were not substantially related to student achievement. In fact, these variables accounted for less than 10% of variance in student achievement gains over the two-year period. A lack of variance between the groups on these variables may explain the limited relationship with student achievement. Still, these fac-

3. K. Metcalf, W. Boone, P. Muller, P. Tait, and N. Stacey, *Evaluation of the Cleveland Scholarship Program: 1997-1999* (Bloomington, IN: Indiana Center for Evaluation, 1999).

tors have long been associated with varying student achievement levels, with an assumption that greater experience, greater teacher education, and smaller class size promotes greater student learning. Class size reduction, in particular, rivals school choice as the most hotly and frequently debated educational issue. Unfortunately, our current data do not indicate that these factors substantially influenced the achievement of students in our sample.

EVALUATION QUESTION THREE

What is the impact of participation in the Scholarship Program on students' academic achievement?

Graphical representations of students' performance in reading, language, mathematics, and total score are presented respectively in Figures 2, 3, 4, and 5.⁴ The analytic approach allowed examination of three aspects of influence on students' achievement in each of the four areas measured by the test and can be explained in terms of these graphs. For each subject area or score, a result is provided that indicates the effect of *time* on student scores (i.e., do all of the lines change in roughly parallel ways across the three testing episodes?); the effect of *group* on student scores (i.e., does one or more of the lines differ from the others consistently across the three testing episodes?); and the interaction effect of *time and group* (i.e., does the performance of one or more groups change more or less than the others over time?).

4. Scholarship students were analyzed as two distinct groups based upon whether they entered the program in kindergarten or in first grade. As a result, there are four groups presented in the graphs.

FIGURE 2. Reading Achievement: 1998-00

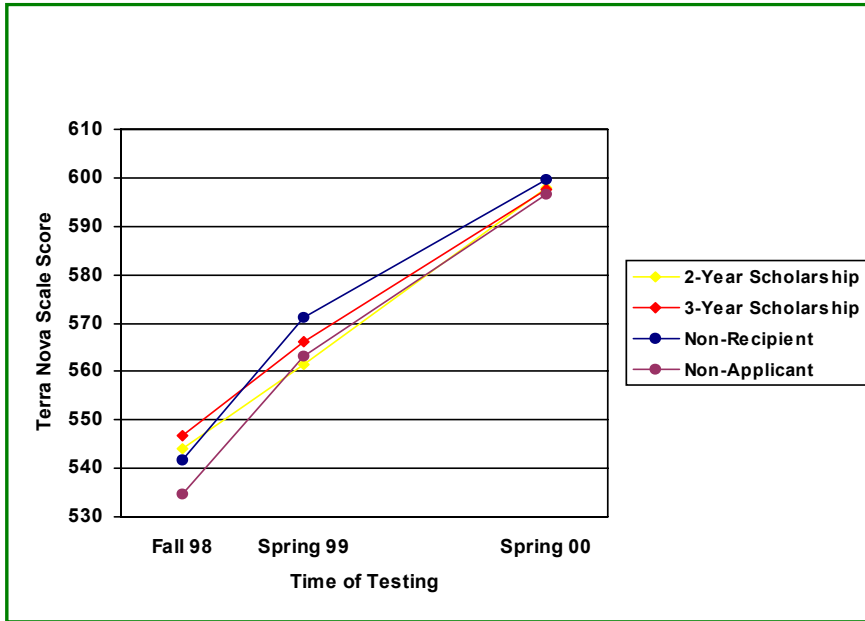


FIGURE 3. Language Achievement: 1998-00

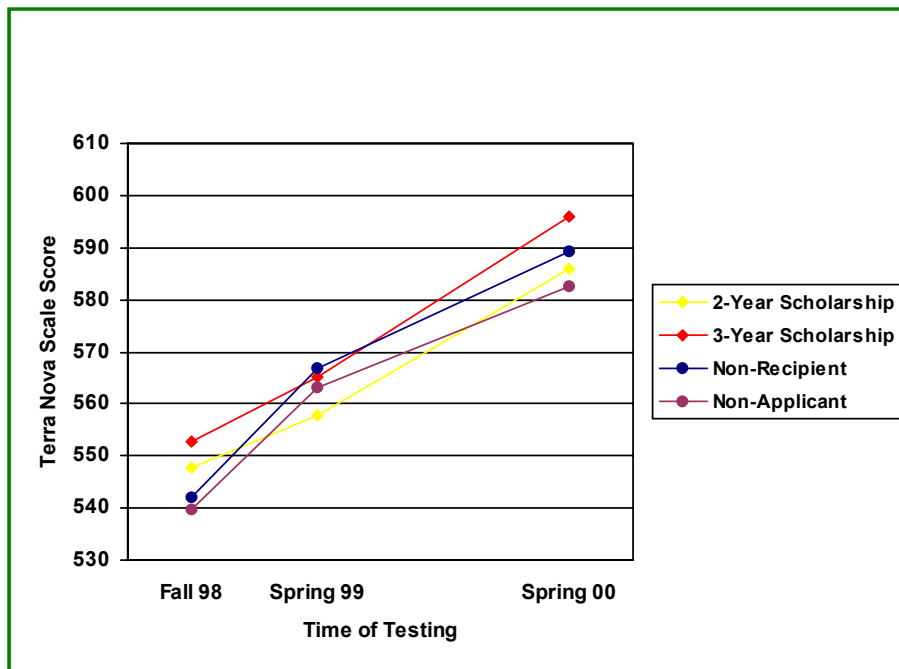


FIGURE 4. Mathematics Achievement: 1998-00

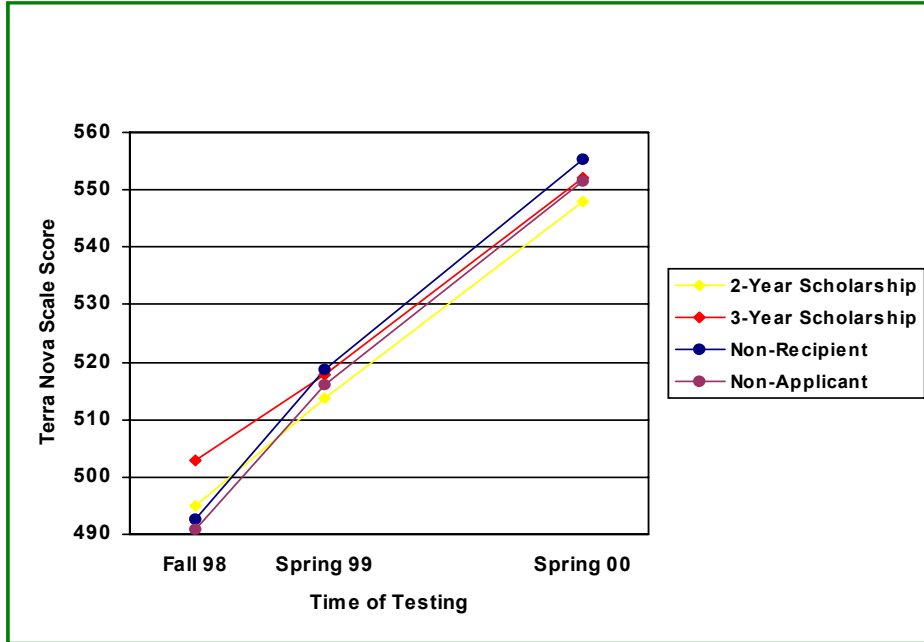
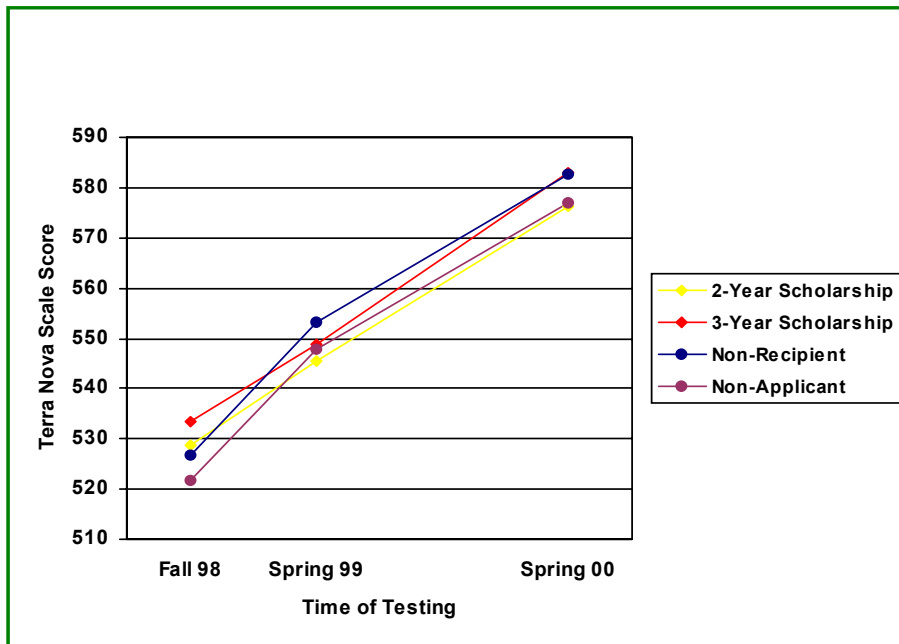


FIGURE 5. Total Achievement: 1998-00



Analyses first provided information about the effect of *time* on students' performance, independent of their scholarship status. Because we would hope that students' learning in schools is cumulative, we can assume that their test scores would increase as they experience more formal schooling and our data bear this out. Students' academic performance in each of the four areas improved significantly from the beginning of first grade to the end of first grade and from the end of first grade to the end of second grade. This was true for all students, independent of their scholarship status, and suggests that all students benefited significantly from their schooling, whether in private or public schools and whether they were one or two-year scholarship, applicant/non-recipient, or non-applicant students. This pattern of improvement is apparent in the positive slope of all four lines in the graphs.

A second result of the analytic technique for each area of the test was information about the effects of *group* membership on students' achievement, independent of time. With the exception of language, in which scholarship students who began the program in kindergarten had consistently higher scores than did non-applicants, no pattern of achievement difference was found based on scholarship status. Again, this largely disordinal pattern is observable in the four graphs presented above.

For the purposes of the present evaluation, the most important information provided by the analytic technique is an indication of the interaction of *group and time*. For example, if the Scholarship Program influences student achievement positively, a significant interaction of time and group would appear as more positive slopes (a greater angle of increase) in the lines representing scholarship student performance in the graphs. This would reflect a more rapid or greater rate of increase over time for scholarship students than for students in other groups. In each of the four achievement analyses, an interaction effect was found to be significant. However, the trend of this interaction was not consistent across the four measures, nor did it favor any one group. In general, students who entered the Scholarship Program as kindergartners (and thus

had participated for three years by the end of second grade) began first grade achieving at significantly higher levels than other students. And, public school students whose parents had never applied for a scholarship were often achieving at lower levels than other students when they began first grade.

By the end of first grade, earlier between group differences were reduced or eliminated. Non-applicants improved substantially in each of the four areas during their first grade year, and public school applicant/non-recipients improved similarly, though not as consistently or dramatically. Graphical presentation of students' achievement in each of the four areas indicates that the pattern of general improvement between students attending public schools (applicant/non-recipients and non-applicants) appears to differ from that of scholarship students. One year later, at the end of second grade, some differences again begin to emerge. By this point, scholarship students who began as kindergartners and applicant/non-recipients had improved more than either 2-year scholarship students (those who entered the program in first grade) or non-applicants.

The patterns of achievement gain over time and between groups are not clear, and data are only available for the first two years of students' formal schooling. As a result, it is much too early to draw definitive conclusions about the impact of the voucher program on students' achievement. As we have maintained throughout our work, and as research on vouchers in Milwaukee and other cities has indicated, the effects of schooling, and thus of the Scholarship Program, are cumulative and incremental. Further, research of other voucher programs indicates that the positive effects of choice are more likely as students move beyond the primary or early elementary grades.⁵

5. John F. Witte, *The Market Approach to Education: An Analysis of American's First Voucher Program* (Princeton, NJ: Princeton University Press, 2000); W. G. Howell, P. J. Wolf, P. E. Peterson, and D. E. Campbell, "Test-Score Effects of School Vouchers in Dayton, Ohio, New York City, and Washington, DC: Evidence from Randomized Field Trials" (Paper presented at the annual meeting of the American Political Science Association, Washington, DC, September, 2000).

SUMMARY

Across the evaluation findings from these early years of students' experience in the Scholarship Program, there is little that is provocative. Scholarship students enter the program with somewhat different academic and demographic characteristics than students who attend public schools. Public school teachers are more likely to have completed graduate coursework, particularly up to the masters' level, than are private school teachers. Class size and teacher experience, at least for the samples of classrooms we examined, were quite similar between public and private schools. And student academic achievement, a factor watched closely by those on both sides of the voucher issue, presented no clear or consistent pattern than can be attributable to program participation.

The findings and the conclusions that we have attempted to draw are preliminary. They represent only the first of what are to be multiple sets of findings drawn on students over a period of several years. As a result, the findings are incomplete and understandably inconclusive. Yet, information can be gained about the ways in which a choice program, or schools generally, influence the early school experience of children.

Advocates and opponents of the Cleveland Scholarship Program will each find information from the present study useful and supportive of their position. However, the findings also suggest that what is often assumed ideologically to be true for all students, or all schools and teachers, or all voucher programs, may not necessarily be true at all. Only the continued generation of empirical evidence, collected in the most rigorous and neutral manner possible, can help policy makers, educators, and parents make informed and effective educational choices for children. It is this respect that the publicly-funded pilot program in Cleveland and the ongoing evaluation that it includes are critical to the continued discussion surrounding the voucher issue.