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ABSTRACT

A study in New York City examined the 1987 entering Educational Options high school class, the first group admitted under a revised admissions policy designed to increase access to specialized high school programs for students whose academic performance might otherwise have precluded their admission. The revised admissions policy mandated that one-half of the students be assigned to the program randomly, and that one-half be selected by the Educational Options programs. It also indicated that 16% of the students to be admitted read below average and 16% read above average. Findings indicated that: (1) no significant differences existed between the two groups in the distribution of gender, average age, or percent entitled to bilingual/ESL services; (2) no significant differences were found in the percentage of students who left the public school system; (3) maintenance of slightly higher reading scores, mathematics achievement, and attendance level were found for the selected groups of students than for the random groups of students; (4) the selected groups earned about one credit hour more than the random groups after 1 year; and (5) of the Educational Options programs admitting 50 or more students, the majority deviated from the prescribed distribution of reading scores and over-represented low achievers. (Ten tables of data are included.) (RS)

New York City Board of Education

Bernard Mecklowitz, Chancellor
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for Instruction and Development

RESEARCH SECTION REPORT

A Study of The Impact of the Revised Educational Options Admissions Policy, 1987-88

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A SUMMARY OF THE REPORT

The admissions policy of the Educational Options program for the 1987 entering high school class stipulated that in each program 50 percent of the places were to be filled with randomly assigned students and 50 percent with students selected by the Educational Options programs. It further indicated that the population of entering students was to reflect a distribution in which 16 percent of the students read below average and 16 percent above average on the city-wide reading test. The remaining 68 percent were to be average readers. These admissions criteria were for each Educational Options program and for grades nine and ten separately.

The Office of Research, Evaluation, and Assessment conducted a study of the 1987 entering Educational Options class which continued to examine the achievement of randomly assigned and selected students. In addition, the report examines the implementation of the admissions policy vis-a-vis the mandated 16-68-16 distribution. This report presents the overall findings for the first year of study of the impact of the revised admissions policy.

FINDINGS

* During the first year of high school, there were no meaningful differences between random and selected groups in the distribution of gender, average age, or percent who were entitled to bilingual/E.S.L. services.

* No meaningful differences between the two groups were noted in the percentages of students who left the New York City public schools.

* Attendance for both groups was relatively high. Selected students had slightly higher attendance than the random group (90 as opposed to 85 percent); this was similar to the difference noted in their pre-program attendance patterns.

* Initial reading scores were slightly higher for the selected than for the random groups of students. These differences were generally maintained through the first year in the Educational Options program.

* The selected groups of students manifested slightly better mathematics achievement than did the random groups both before and after the first year of high school.

* The selected groups of students earned, on average, about one credit more after one year of high school than did the random groups of students. The select group earned around nine credits, on average, while the random group earned slightly less than eight.

* Of those Educational Options programs admitting 50 or more students, the majority deviated from the 16-68-16 rule of distribution to a statistically significant degree. Among both random and selected groups, low achievers were generally over-represented, with a resulting decrease in average achievers.

RECOMMENDATIONS

Continued examination of the 1987-88 cohort of Educational Options students.

A STUDY OF THE IMPACT OF THE REVISED EDUCATIONAL OPTIONS ADMISSIONS POLICY, 1987-88

INTRODUCTION

The Educational Options policy was revised during the 1987-88 academic year by the Division of High Schools of the New York City Board of Education. Its intent was to increase access to specialized high school programs for students whose academic performance in junior high school might have otherwise precluded their admission. Briefly stated, the Educational Options policy mandated the affected high schools to enroll one-half of their entering classes from pupils who were randomly chosen from the pool of applicants, thus decreasing the percentage of pupils who were specifically selected for admission by the high schools. Admissions were constrained by the requirement that 16 percent of the entering class be composed of pupils who were reading below average, 16 percent who were reading above average, and 68 percent who were reading on or about grade level[1]. The previous policy indicated that 50 percent of the entering classes should be composed of students reading at grade level and 25 percent each of students reading above and below grade level.

Several preliminary reports on the Educational Options policy were prepared by the Office of Educational Assessment

[1] Allotting 16 percent of entering students to the upper and lower groups and 68 percent to the "average" group suggests that "average" be defined as ± 1 standard deviation from the 50th percentile, or grade level, which, postulating a normal distribution, would yield 68 percent. The Division of High School supplied the DRP scores used to categorize students.

(O.E.A.), precursor of the Office of Research, Evaluation, and Assessment (OREA). The first of these reports, in December 1987, found that, of the specifically selected students in the fall 1987 class, 69 percent were reading at or above grade level on the spring 1987 city-wide test, as compared to 62 percent of the randomly assigned students. It also found that the selected students had, on average, slightly higher junior high school class grades than the random students. Average junior high school attendance of the selected students was marginally higher than that of the random students.

The second O.E.A. report, in January 1988, attempted to compare reading achievement of the entering Education Options class of 1987 with the 1986 entering class. However, these classes had taken different reading tests during their last year in junior high school. The class of 1986 took the Metropolitan Achievement Test, while the class of 1987 took the Degrees of Reading Power test. The improvement in reading achievement which this report noted was due to the change of tests.

A third evaluation of the Educational Options policy by O.E.A. examined data available after the first semester of the 1987-88 academic year. The report focussed on a comparison of those pupils who had been specifically selected for admission with those who had been admitted to the specialized high schools by random assignment. It indicated that in the year prior to admission, the selected group of students were stronger in mathematics achievement than the random group. As an interim

report, it was necessarily incomplete and hence inconclusive.

This report evaluates data for the entire 1987-88 academic year. Its initial aim is to examine the comparability of the specifically selected and randomly assigned groups of students, including the academic achievement of each group for the 1986-87 (pre-program) academic year. This information provides a context within which to understand the functioning of the groups during 1987-88, their first year in high school.

The main question that the full-year evaluation seeks to answer is: How have the students who were randomly chosen for the specialized high school programs fared in their first year of high school when compared to pupils who were specifically selected for admission? This evaluation question is operationalized by comparing the two groups of students on the following dimensions:

* Percentage of each group who left the school system or transferred to another school
* Reading and mathematics achievement, as assessed by the city-wide achievement tests
* Number of credits earned
* Attendance

An attempt is also made to compare the performance of randomly assigned and selected students who manifested similar levels of reading achievement prior to admission to the specialized high school programs.

Unlike previous reports, this study also seeks to assess implementation of the Educational Options policy as well as the

policy's effect through the first year of high school enrollment. An attempt is made to examine whether the policy, indicating a 16-68-16 rule of distribution, was adhered to. Such an analysis was not previously undertaken.

METHOD

Data for the evaluation of the Educational Options policy were supplied by two sources. The Educational Testing Service, which performs the data management functions for the public high schools admissions process, supplied a computer tape containing a roster of all students accepted to the specialized high school programs for 1987-88. Included were all specifically-selected and randomly-assigned students who were admitted during the first or second semester. This file was matched to the High School Database, developed and maintained as a joint project by OREA's High School Evaluation Unit and Technical Support Section. The High School Database contains achievement, attendance, and enrollment information for all New York City public high school students.

The data for general education students were analyzed by students' entering grade (ninth or tenth), and by the dichotomous condition of randomly assigned/specifically selected. There were also students in special education who were admitted to the specialized high school programs. Data for special education pupils were analyzed separately by grade and the random/selected dichotomy.

FINDINGS

The rates at which Educational Options students left the New York City public schools during 1987-88 are presented in Table 1. Included is an accounting of "no shows" -- students who, although not officially discharged from the school system, did not show up at the Educational Options school to which they were assigned. Among general education students, seven to nine percent left the public school system or were unaccounted for, with insignificantly higher rates among the random groups than among the selected groups. For special education pupils, the school-leaving rates were higher among the random students than among the selected groups. It should be noted, however, that the numbers of special education students involved were quite small. There were few students, either random or selected, in general or special education who could be counted as "dropouts" as defined by the annual dropout report of the New York City Board of Education.

The distributions of 1987-88 Educational Options students by sex and age[2] are presented in Table 2. There were substantially greater percentages of females than males among general education pupils. This was true for both grades and for the random and selected groups. The situation was reversed for the special education Educational Options students, among whom there were more males than females, as is true with city-wide enrollment patterns for special education. There were no

[2] Age was computed as of September 1, 1987.

TABLE 1

General Education and Special Education Students
Leaving the New York City Public Schools
Educational Options Program, 1987-88

	Grade 9				Grade 10			
	Random		Selected		Random		Selected	
Reason for Leaving	N	%	N	%	N	%	N	%
General Education								
Change to private/ parochial school	32	1.0	24	0.8	12	0.5	17	0.9
Left N.Y.C.	117	3.6	91	3.0	79	3.6	58	3.0
No-show*	87	2.7	81	2.7	44	2.0	42	2.2
Other	43	1.3	10	0.3	33	1.5	22	1.1
Subtotal	279	8.7	206	7.9	168	7.6	139	7.2
Special Education								
Change to private/ parochial school	3	1.3	--	--	3	2.1	--	--
Left N.Y.C.	10	4.4	6	2.7	5	3.5	1	0.9
No-show*	7	3.1	7	3.2	7	4.9	6	5.2
Other	3	1.3	3	1.4	8	5.6	4	3.5
Subtotal	23	10.2	16	7.2	23	16.1	11	9.6
Total	302	8.8	222	6.9	191	8.1	150	7.3

*'No shows' are those students who did not present themselves at the school to which they were assigned. There were few students in either group who could be counted as 'dropouts.'

TABLE 2

Sex and Age
General and Special Education Students
Educational Options Program, 1987-88

	Sex				Age as of 9/1/87		
	Male		Female				
	N	Pct	N	Pct	N	Mean	S.D.
General Education							
Grade 9							
Random	2134	42.0%	2951	58.0%	5077	14.65	.76
Selected	1593	38.6	2538	61.4	3697	14.50	.67
Grade 10							
Random	1176	38.6	1870	61.4	3044	15.45	.73
Selected	990	37.8	1626	62.2	2325	15.35	.72
Special Education							
Grade 9							
Random	251	64.0	141	36.0	390	15.22	.63
Selected	214	59.3	147	40.7	361	15.31	.58
Grade 10							
Random	153	61.2	97	38.8	250	16.05	.61
Selected	122	63.5	70	36.5	190	16.15	.58

meaningful differences in mean age between random and selected groups in general education. Special education students were, on average, somewhat older than their general education counterparts in both ninth and tenth grades, an unsurprising finding.

Table 3 presents the distribution of entitled bilingual pupils as of fall, 1987. The rates of entitlement were in the four to seven percent range among general education students and were slightly higher for selected than for random students. The rates of bilingual entitlement were higher among special education pupils, ranging from about seven to 15 percent, higher among the selected than among the random students. This appears to reflect the Division of High Schools' effort to develop bilingual programs in Educational Options high schools and select students for them.

TABLE 3

Bilingual Entitlement
General and Special Education Students
Educational Options Program, 1987-88

	N	Percent
General Education		
Grade 9		
Random	230	4.5%
Selected	277	6.7
Grade 10		
Random	126	4.1
Selected	179	6.8
Special Education		
Grade 9		
Random	32	8.2
Selected	40	11.1
Grade 10		
Random	19	7.6
Selected	28	14.6

Attendance data for the 1987-88 year are presented in Table 4. Average attendance for general education pupils ranged from 83 percent to 90 percent. Average annual attendance among the selected students of both grades was five percent higher than average attendance among the random students. Average annual attendance among special education pupils ranged from 74 percent to 82 percent. There was no substantive difference between the random and selected special education ninth graders and only a four percent difference between the tenth grade special education groups.

Although pre-program attendance data for these students were calculated differently, their junior high attendance patterns were similar to those observed in 1987-88. Program-selected students had an average of 7.5 days absent per term, for an estimated yearly attendance of 92 percent. Randomly assigned students were absent an average of 12.5 days per tem in 1986-87, for an estimated yearly attendance of 86. It thus appears that pre-program differences in attendance were not very large, but were carried over into the students' first year in an Educational Options program.

As applications for admission to the Educational Options 1987-88 entering class had to be completed in November 1986, students were chosen on the basis of their spring 1986 reading scores. Scores on the city-wide test were thus available for three years: 1986, 1987, and 1988, which permitted assessment of trends in reading achievement for random and selected groups.

TABLE 4

Average Attendance
General and Special Education Students
Educational Options Program, 1987-88

	Selected			Random		
	N	Mean	S.D.	N	Mean	S.D.
General Education						
Grade 9						
Fall, 1987	3,900	90.4	13.6	4,815	86.3	16.8
Spring, 1988	3,781	87.9	18.5	4,587	82.7	22.4
Full Year	3,741	89.4	14.8	4,537	85.1	17.8
Grade 10						
Fall, 1987	2,474	90.3	14.0	2,885	86.3	16.7
Spring, 1988	2,359	88.2	17.5	2,693	83.5	21.7
Full Year	2,338	89.6	14.1	2,676	85.4	17.3
Special Education						
Grade 9						
Fall, 1987	344	80.0	22.3	370	79.6	20.3
Spring, 1988	326	76.2	27.8	349	75.1	26.7
Full Year	322	78.0	23.5	342	77.7	21.7
Grade 10						
Fall, 1987	182	81.6	19.5	228	78.3	19.1
Spring, 1988	171	79.4	22.1	213	74.4	27.0
Full Year	169	80.7	18.8	211	76.7	20.9

Note: Semester averages do not sum to yearly averages because of the varying number of students enrolled each semester.

Table 5 presents mean reading scores on the DRP for all three years. Among ninth grade general education students, selected pupils had an average mid-instructional score on the 1986 DRP which was approximately two points higher than that of the randomly assigned ninth graders. This difference was maintained over the three years. Among tenth grade general education pupils, the average scores of the selected pupils from 1986 through 1988 were approximately one raw score point above those of the random students.

The differences found between random and selected special education pupils were in the opposite direction to that observed among general education pupils. The average scores of the randomly assigned pupils were slightly higher than those of the selected pupils.[3] Among special education ninth graders, the 1986 difference was four points and the 1988 difference was two points. The difference in the means among special education tenth graders was four points in 1986 and three points in 1988.

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[3] Division of High Schools staff indicated that this might have been an outcome of the automated selection process. The random cohort is chosen first from the applicant list. The computer selects students to approximate the 16-68-16 distribution by culling from the range of readers in the applicant pool. As there are few high-scoring special education applicants, they would probably be chosen for the random group, leaving fewer in the pool from which the selected group would then be chosen.

TABLE 5

Degrees of Reading Power Scores, 1986-1988
Mean Mid-Instructional Scores and Average Percentiles
General and Special Education Students
Educational Options Program, 1987-88

	1986 DRP Unit Score			1987 DRP Unit Score			1988 DRP Unit Score		
	Mean	SD	N	Mean	SD	N	Mean	SD	N
General Education									
Grade 9									
Random	60.8	10.6	4191	65.0	10.3	4294	67.9	11.9	3993
Selected	62.9	11.1	3195	66.9	10.8	3286	70.0	12.1	3396
Grade 10									
Random	66.2	10.9	2818	72.2	12.6	2832	72.9	12.6	2437
Selected	67.0	12.2	2324	73.6	13.8	2401	74.0	13.7	2185
Special Education									
Grade 9									
Random	48.2	10.7	360	52.3	11.1	351	52.5	11.5	250
Selected	43.8	8.6	328	49.6	10.4	323	49.6	9.2	252
Grade 10									
Random	51.8	10.8	228	55.7	10.9	220	55.9	10.3	159
Selected	47.5	9.7	177	52.3	9.4	171	52.0	9.6	127

One interesting aspect of the three-year reading analysis involved the average percentiles[4] on the DRP. Whereas the raw score analysis indicates a continued rise for nearly all groups between 1986 and 1988, analysis of the reading results in terms of mean national percentiles yields different findings. With one exception, all groups showed a rise in average national percentile from 1986 to 1987. But all groups then declined, in terms of average national percentile, from 1987 to 1988. This would seem to indicate that overall, the Educational Options students did not show the expected progress in reading as indicated by the test norms during their first year in Educational Options schools and programs.

Mean reading scores for each category (i.e., average, above grade level, or below) of the general education pupils are presented in Table 6. The low achievers made larger average gains between the 1986 and 1988 testings than did the high achievers, although they remained behind in absolute performance.

Mathematics achievement data are presented in Table 7. Somewhat higher percentages of selected ninth graders in general education attempted and passed both the Regents' Competency Test and the ninth grade mathematics regents' examination than was true for the random ninth graders. Very small percentages of random and selected ninth graders attempted the tenth grade

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[4]Since the DRP's distribution of Normal Curve Equivalents is truncated at the 78th N.C.E., examination of the average N.C.E.s might have resulted in a misleading picture of achievement.

TABLE 6

Degrees of Reading Power Scores, 1986-1988
Mean Mid-Instructional Scores
General Education Students by Category
Educational Options Program, 1987-88

	1986			1987			1988		
	Mean	SD	N	Mean	SD	N	Mean	SD	N
Grade 9									
Random									
Low	43.3	5.6	334	57.0	12.0	597	64.0	13.5	884
Average	58.9	6.2	3132	63.5	7.1	2994	65.6	8.6	2483
High	77.3	6.2	725	78.6	8.2	703	82.6	9.4	626
Selected									
Low	43.1	5.8	263	56.4	12.1	481	65.7	14.3	869
Average	60.5	6.4	2190	65.3	7.2	2083	67.7	8.6	1879
High	77.2	6.4	742	78.5	8.4	722	82.4	9.0	648
Grade 10									
Random									
Low	48.7	6.0	298	59.5	10.7	405	60.6	11.8	358
Average	64.9	6.0	2081	71.0	9.5	2001	72.0	9.7	1688
High	83.9	6.6	439	89.6	8.6	426	88.4	8.3	391
Selected									
Low	47.2	7.1	323	58.9	11.2	457	59.9	12.6	451
Average	66.5	6.1	1595	73.4	10.2	1547	74.5	9.8	1380
High	84.7	6.6	406	91.0	6.6	397	90.1	7.9	354

TABLE 7

Students Attempting and Passing Mathematics Tests
General and Special Education Students
Educational Options Program

	Regents' Competency Test			9th Year Regents' Exam			10th Year Regents' Exam		
	Number Attempt	Percent Attempt	Percent Passing	Number Attempt	Percent Attempt	Percent Passing	Number Attempt	Percent Attempt	Percent Passing
General Education									
Grade 9									
Random	2718	53.5%	71.5%	890	17.5%	58.3%	148	2.9%	100%
Selected	2439	59.0	81.0	1241	30.0	60.2	274	6.6	100
Grade 10									
Random	948	31.1	57.9	1050	34.5	60.8	497	16.3	100
Selected	691	26.4	66.9	1209	46.2	70.2	765	29.2	100
Special Education									
Grade 9									
Random	157	40.1	26.1	--	--	--	--	--	--
Selected	134	37.1	20.9	--	--	--	--	--	--
Grade 10									
Random	122	48.8	23.0	--	--	--	--	--	--
Selected	99	51.6	22.2	--	--	--	--	--	--

regents' examination and all who did so, passed. Among general education tenth graders, a higher percentage of random students attempted the RCT than did selected students. The passing rate was higher among the selected students, however, indicating that the selected students who took the RCT were better prepared, as a group, than were the random students who attempted it.

A higher percentage of selected than random tenth graders attempted and passed the ninth grade regents' examination. It should be noted that tenth graders who attempted the ninth grade regents' examination had simply taken the mathematics curriculum out of sequence. A greater percentage of selected tenth graders attempted the tenth year regents' examination. All who attempted the tenth year examination, random and selected, passed. The fact that the tenth-year mathematics regents' was passed by all students of both grades, random and selected, who attempted it suggests that it was the better-prepared students who took the courses and sat for the exam.

The rates at which special education students attempted the RCT were much like the rates of general education pupils. The passing rates among special education students, however, were considerably lower than those for general education pupils, as would be expected. There were no substantive differences in passing rates between the random and selected special education students of either grade.

Information on the number of credits earned is presented in Table 8. Included are credits earned during the 1987-88 school

TABLE 8

Credits Earned Towards Graduation
Fall 1987 and Spring 1988
Educational Options Program, 1987-88

	Selected			Random		
	N	Mean	S.D.	N	Mean	S.D.
General Education						
Grade 9						
Fall, 1987	3,774	4.5	1.9	4,615	3.8	2.1
Spring,1988	3,534	4.4	2.2	4,304	3.7	2.4
1987-88 Total	3,489	9.0	3.7	4,245	7.6	4.0
Grade 10						
Fall, 1987	2,382	4.6	2.0	2,799	4.1	2.1
Spring,1988	2,216	4.5	2.1	2,582	4.0	2.3
1987-88 Total	2,186	9.2	3.7	2,557	8.2	3.9
Special Education						
Grade 9						
Fall, 1987	322	4.0	2.1	352	3.7	2.2
Spring,1988	307	3.9	2.3	326	3.6	2.3
1987-88 Total	301	8.1	4.0	320	7.6	4.1
Grade 10						
Fall, 1987	172	4.0	2.1	216	3.5	2.3
Spring,1988	161	3.7	2.2	191	3.6	2.3
1987-88 Total	158	8.0	3.8	187	7.5	4.0

Note: Semester averages do not sum to yearly averages because of the varying number of students enrolled each semester.

year and all prior transfer credits from junior high school or, in the case of tenth graders, from another high school. Few transfer credits were recorded for entering Educational Options students in either group. By the end of 1987-88, general education pupils in both the selected ninth and selected tenth grade groups had accumulated an average of nine credits while their peers in the random groups had, on average, eight credits. Overall, special education pupils in both the ninth and tenth grades accumulated slightly fewer credits than did their general education counterparts, a not unexpected finding. The random special education pupils accumulated, on average, 7.5 credits in 1987-88 while the selected special education pupils earned an average of eight credits.

Table 9 presents the mean number of credits earned by general education students in each reading achievement category--low, average, and high. Among ninth graders, selected students in all three categories earned, on average, more credits than random students in the corresponding categories. Among tenth graders in all categories, the selected students earned, on average, about the same number of credits as the corresponding random students.

An analysis was conducted to determine the extent to which the 1987-88 entering classes of Educational Options programs fell into the 16-68-16 distribution. The statistical yardstick

TABLE 9

Mean Credits Earned
General Education Students by Category
Educational Options Program, 1987-88

	Fall 1987			Spring 1988			Full Year		
	Mean	SD	N	Mean	SD	N	Mean	SD	N
Grade 9									
Random									
Low	3.0	2.1	275	2.8	2.3	261	6.0	4.0	255
Average	3.6	2.1	2880	3.5	2.3	2714	7.3	4.0	2682
High	4.7	1.9	682	4.7	2.3	587	9.3	3.7	577
Selected									
Low	3.6	2.1	223	3.4	2.4	214	7.2	4.1	208
Average	4.4	1.9	2052	4.3	2.2	1946	8.7	3.7	1928
High	5.0	1.7	685	5.0	2.0	585	9.8	3.3	576
Grade 10									
Random									
Low	3.2	2.1	270	3.3	2.3	238	6.7	3.9	235
Average	4.0	2.0	1917	3.9	2.3	1781	8.1	3.8	1763
High	4.9	1.9	414	4.8	2.1	389	9.8	3.6	388
Selected									
Low	4.1	2.1	282	3.9	2.3	232	8.2	3.9	255
Average	4.6	1.9	1485	4.5	2.1	1384	9.2	3.6	1372
High	4.9	1.9	377	4.8	2.0	366	9.8	3.5	360

employed was the chi-square goodness-of-fit test.[5] This test provides a quantitative index of whether an obtained distribution is similar to or different from a specified distribution. The test was limited to those Educational Options programs with entering enrollments of 50 or more. The rationale for this restriction was that in small programs an imbalance of even a few pupils in one category might produce an inordinately large statistical effect which would be substantively meaningless. Limiting the test to the larger programs was deemed to be fairer.

Of those Educational Options programs admitting 50 or more ninth graders, fully 70 percent (42 out of 60) deviated from the 16-68-16 distribution to a statistically significant extent ($p < .05$). In 22 of these, low-achieving students were over-represented and high-achieving students were under-represented vis-a-vis the 16-68-16 rule. High achievers were over-represented in 19 of these programs. Of the Educational Options programs admitting 50 or more tenth graders, 31 percent (10 out of 32) deviated from the 16-68-16 distribution to a statistically significant extent ($p < .05$). In seven of these, low-achieving students were over-represented and high-achieving students under-represented. High achievers were over-represented in three programs.

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[5] See, for example, S. Weinberg and K. Goldberg, Basic Statistics for Education and the Behavioral Sciences, Boston: Houghton Mifflin, 1979, pp. 428.

The overall percentages of the random and selected groups which fell within each of the cutoff points are presented, by grade, in Table 10. Low achievers were generally over-represented among both the random and selected groups, with a resulting decrease in average achievers. The notable exception was among random tenth graders, whose distribution was very close to the 16-68-16 distribution. Low-achieving students were disproportionately represented among special education students, as would be expected. When the chi square test was applied to the total distributions of random and selected pupils by grade without regard to the general/special education distinction, the results showed that all four groups departed from the specified 16-68-16 rule of distribution. In all but the selected ninth graders, low achievers were over-represented and high achievers were under-represented.

These findings present a complex picture concerning adherence to the 16-68-16 distribution. Many educational options programs deviated from the distribution to a significant degree and, overall, so did both ninth and tenth-grade entering classes. No conclusion about the reason for deviation from the 16-68-16 rule can be arrived at without examination of the pool of applicants, i.e., all junior high school students who applied to educational options programs. Such an undertaking is beyond the scope of this evaluation. This question will be examined through school-level interviews undertaken as part of the 1988-89 program review.

TABLE 10

Distribution of Low, Average, and High Achievers on 1986 DRP
General and Special Education Students
Educational Options Program, 1987-88

	Below Average N	Below Average Pct	Average N	Average Pct	Above Average N	Above Average Pct
General Education						
Grade 9						
Random	1228	24.2%	3132	61.6%	725	14.3%
Selected	1199	24.0	2190	53.0	742	18.0
Subtotal	2427	26.3	5322	57.7	1467	15.9
Grade 10						
Random	526	17.3	2081	68.3	439	14.4
Selected	615	23.5	1595	61.0	406	15.5
Subtotal	1141	20.2	3676	64.9	845	14.9
Special Education						
Grade 9						
Random	194	49.5	189	48.2	9	2.3
Selected	271	75.1	89	24.7	1	0.3
Subtotal	465	61.8	278	36.9	10	0.1
Grade 10						
Random	151	60.4	98	39.2	1	0.4
Selected	152	79.2	40	20.8	--	---
Subtotal	303	68.6	138	31.2	1	0.0

CONCLUSIONS AND RECOMMENDATIONS

There was little meaningful difference in aggregate attributes between the random and selected groups of general education pupils admitted to the specialized high school programs in 1987-88. Neither rates at which students left the New York City public school system, nor percentages of entitled bilingual students, nor mean ages, were demonstrably different.

Mean raw scores on the DRP were very similar for the random and selected groups on the 1986 reading test, by which applicants were categorized as below, at, or above average. Generally speaking, the initial difference was maintained through the spring 1988, reading test.

There were few substantive differences between the random and selected groups was in the mean number of credits earned. The selected students accrued, on average, over one credit more than their randomly assigned peers. This is not necessarily meaningful, although it might become so if the random students continue to accrue credits toward graduation at a slower rate during their entire high school careers, thus falling behind the selected students. Whether this will happen remains to be seen in future evaluations.

The groups of selected general education students manifested somewhat higher achievement in mathematics than did the random groups. Their attendance was slightly higher as well, paralleling their pre-program patterns. However, both groups had good attendance, with a five-point difference between them.

The population of a significant proportion of Education Options programs did not follow a 16-68-16 distribution in 1987-88. It is not possible at this time to ascertain the reasons for this. Some of the programs may have had a shortage of above-average applicants and a surfeit of average or low-achieving applicants. This may have been particularly true for the lesser known programs or those seen as less desirable. Given the fact that students apply to as many as eight programs, it may also be the case that although program "seats" may be offered to students following the 16-68-16 distribution, students accepting seats may demonstrate a different achievement pattern. This question will be further investigated in the course of the 1988-89 continuation study.

The sole recommendation at present is for continued examination of the 1987-88 cohort of Educational Options students. Only a longitudinal evaluation will disclose any differential functioning which may emerge as the students progress through high school.