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ABSTRACT

The material in this article is part of a larger study of resource inputs and achievement outputs of Philadelphia's public school students being conducted by the Department of Research of the Federal Reserve Bank of Philadelphia. The affects of various school inputs (teacher quality and equipment, for example), socioeconomic inputs (family income and race, for example), and school climate inputs (the number of disruptive incidents and the proportion of low-achievers) are being analyzed in relation to changes in pupil achievement over a period of years. Inputs important to low-achievers will be sorted from inputs important to high-achievers. Similarly, sorting will be done by race and income levels. The findings presented here suggest that, in comparison with the Washington, D.C. public school allocations condemned by the U. S. District Court in 1967-71, the Philadelphia School District comes out very well indeed. On the average, where policy dictated equal distribution, the disadvantaged received resources equal to those received by the advantaged. Moreover, where policy delegated more resources to the advantaged, with the important exception of federal funds, they received them. The results differed, however, for some resources, some levels of schooling, and some disadvantaged groups. (Author/JM)

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On our cover: Cliveden, located at 6401 Germantown Avenue, is one of Philadelphia's outstanding Georgian mansions. It was built between 1763 and 1767 as a countryseat by Benjamin Chew (1722-1810), one of Philadelphia's distinguished lawyers and political leaders. The mansion was occupied by British troops during the Battle of Germantown on October 4, 1777. In June 1972 through the generosity of Chew's descendants Cliveden was transferred to the National Trust for Historic Preservation. (Photograph for Historic American Buildings Survey by Jack E. Boucher and courtesy of the National Trust for Historic Preservation, Washington, D. C.)

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Philadelphia's School Resources And the Disadvantaged*

By Anita A. Summers and Barbara L. Wolfe

Through the centuries, education has been regarded as the link between the individual and society. Plato and Aristotle saw education as essential to a stable political order. In the Middle Ages, education was seen to be essential to the unity of church and state. At the turn of this century, immigrants to America saw education as the path to assimilation and success. And today, many citizens regard education as the most powerful force to reduce the inequities experienced by minorities. It is not at all surprising, therefore, that the issue of who gets how much school resources receives much attention.

A host of sensitive questions has been unleashed. Are Black students in larger classes than non-Blacks? Do low-income students receive all or a lion's share of Federal funds? Are Spanish-speaking students taught by the most inexperienced teachers? The list of such questions is virtually inexhaustible. So are the concerns of parents and policymakers—the former, because of their concern over equality of educational opportunity and how much that goal costs; the latter, because their performance record of allocating school resources is on the line.

*The major findings of this article were presented at the 93rd Annual Meeting of the Citizens' Committee on Public Education in Philadelphia on June 13, 1973, at the PSFS Building. This material is part of a larger study of resource inputs and achievement outputs of Philadelphia's public school students, being conducted by the Department of Research of the Federal Reserve Bank of Philadelphia. The effects of various school inputs (teacher quality and equipment, for example), socioeconomic inputs (family income and race, for example), and school climate inputs (the number of disruptive incidents and the proportion of low-achievers) are being analyzed in relation to changes in pupil achievement over a period of years. Inputs important to low achievers will be sorted from inputs important to high-achievers. Similarly, sorting will be done by race and by income levels.

The famous Coleman report[1] found that within school districts, and even within regions, resources were equally distributed between the advantaged and the disadvantaged. The important *Hobson* v. *Hansen* decisions[2] in Washington, D.C., in which a school system was ordered to make per pupil expenditures among the schools more equal, was based on evidence that resources were unequally distributed—between the poor and the rich, between Blacks and Whites. How has the Philadelphia School District performed?

Did Black, Spanish-speaking, and low-income students get more, the same, or less resources than others in Philadelphia's public schools? The educational report card for 1970–71 indicates a well-above-passing grade. *On the average* for all three levels of public education, the School District's performance in resource allocation shows that where policy dictated equal distribution, the disadvantaged received resources equal to those received by the advantaged. Moreover, where policy delegated more resources to the advantaged, with the important exception of Federal funds, they received them. The results differed, however, for some resources, some levels of schooling, and some disadvantaged groups.

RESOURCE DISTRIBUTION AND EQUALITY OF OPPORTUNITY

Parents and policymakers may think resource distribution, because it is visible and measurable, adequately measures equality of educational opportunity. But clearly it does not.

Playground areas in schools with high proportions of Black pupils may be the same as in schools with low proportions, but that does not necessarily mean that equal opportunity for learning through play has been achieved. More resources are required to educate blind children than to educate sighted children. Yet equal resources to the blind and the sighted would certainly not represent equal educational opportunity. Similarly, equal resources to the environmentally advantaged and disadvantaged hardly represents equal educational opportunity. Ideally, what is needed is the knowledge of what package of school inputs is required for each type of child to equip him or her for educational growth. This package is not identifiable in the present state of the arts, however. So, parents, courts, and legislators keep looking at school inputs (resources) to keep tabs on equal opportunity.

Even if just inputs are studied, should each student receive the same quantity and quality of resources? Certainly not. Even for a school district of a large urban area, such as Philadelphia whose allocation-of-resource decisions are basically made centrally, sources of inequality readily suggest themselves. Many of these are within the School District's control but some are not.

Within the administration's control are resources specifically designed to go more heavily to certain categories of students. For example, expenditures on Federal programs should definitely show up as going more heavily to schools with higher proportions of low-income students. If, however, allocation decisions are made from what has been described as a "conspiratorial" model, then the "conspirators" (the Establishment) will determine who gets more resources. If rich taxpayers who want to send their children to public schools are the decision-makers, newer buildings might be occupied by student bodies with higher proportions of high-income pupils.

If allocation decisions are made in response to the most vocal voters, then, in recent years, more remedial education might be found in locations with more poor and more Blacks. All of these allocations, which might well end up less than equal, involve deliberate decision-making by the school administration.

Some allocations are uncontrollable, however. Expenditures on plant maintenance are

[1] James S. Coleman *et al.* *Equality of Educational Opportunity*. 2 vols. (Washington: Government Printing Office, 1966).

[2] *Hobson* v. *Hansen*, 269 F. Supp. 401 (D.D.C. 1967), affirmed Sub nom. *Smuck* v. *Hobson*, 408 F. 2d 175 (D.C. Cir. 1969); *Hobson* v. *Hansen*, 327 F. Supp. 844 (D.D.C. 1971).

annually determined, but obviously the age of school buildings is not. The School District is saddled, in some way, with aging plant facilities and the problems of vandalism. Both of these burdens add up to something less than an equal distribution of plant maintenance expenditures. Economists cite yet another cause of less-than-equal distribution of school resources—the structure of the teacher's labor market. School systems in union-strong cities have a set of wages, hours, and benefits for public school employees. And Philadelphia's is no exception. Teachers, on a seniority basis, may transfer from one school to another, usually from a "harder" school to an "easier" one. "Better" teachers might then be expected to be found in "better" (higher income, fewer Blacks) schools.

Scrutiny of the distribution of resources cannot isolate those explanations which fit Philadelphia. Realistically it can and does underscore the importance of those political and economic elements that are administratively controllable as well as those that are not. The inevitable result is some unequal distribution of resources. Furthermore, a close look at whether the disadvantaged have larger classes or smaller playgrounds than the advantaged will not resolve the question of whether educational opportunity is equal for both groups because it is impossible to know the relevance of either to educational achievement.

But examination of the distribution of resources can reveal what really has been happening. For one thing, it can show whether a complaint about relatively inadequate resources at one school is an exception or a pattern for the entire School District. For another, it can show whether the announced allocation policies, such as Federal funds for the poor, are being carried out. In general, it can show whether the definitions of equity handed to the School District by the voters, the courts, and the legislature are being translated into resource allocation.

HOW CAN RESOURCE DISTRIBUTION BE MEASURED?

Examining the distribution of resources to the disadvantaged requires more than the anecdotal observations of public hearings and press clippings. It requires scrutiny of the resources in each and every school in relation to the proportion of disadvantaged in each of those schools.

The Numbers. Budgets provide the most readily available resource measures for individual schools. But these expenditure figures do not distinguish quality variations from quantity variations. If some schools spend less on science laboratories per pupil than others, does it mean that the former are more efficient, or that they have lower quality laboratories, or both? Whenever possible, using the per pupil size of the laboratories or the number of library books per pupil clearly is preferable. Both dollar and physical measures suffer, of course, because probably important "affective resources," such as the charisma of teachers, are excluded. But measuring these objectively is difficult, if not impossible.

The Relationships. The distribution of resources has been examined in relation to three groups of pupils generally regarded as disadvantaged—Blacks, Spanish-speaking, and low-income. All three levels of public education have been studied.

The number of dollars or physical units for each resource for each school was measured against the proportions of the disadvantaged groups. This procedure helps explain what proportions of the differences from one elementary school to another in Federal funds per pupil, for example, is related to differences in the proportion of low-income pupils. If differences in these expenditures are not related to the proportion of low-income students in the schools, then one must look elsewhere for the explanation, perhaps, to the relative strength of different parent groups. However, if a substantial proportion is explained, then the differences in Federal funds expenditures per pupil might be "caused" by the proportion of low-income students in the school. That is, if a higher proportion of

low-income students is associated with larger amounts of Federal funds per student, then cause and effect are suggested. (See Appendix tables for details on each of the resources examined.)

Whether or not the relationship is the desired one depends upon the objectives—compensatory or neutral—of the school administration regarding each of the different resources.[1] When the objective is compensatory, then the disadvantaged will get relatively more resources—they will be compensated for their "handicaps." Federally funded expenditures are clearly intended to be compensatory.

When the objective is to be neutral, then Blacks and Whites and the poor and the rich will receive equally from the school system. Most school resources, of course, are intended to be neutral in allocation. The interesting point here is whether they are, in fact, dispensed neutrally. Are there significantly more pupils per teacher in schools with high proportions of disadvantaged? Are the expenditures per pupil on libraries higher, lower, or the same among schools with widely differing proportions of disadvantaged?

A neat statistic for summing up all of the individual findings would simplify the problem of drawing conclusions. But no such statistic exists, and the conclusions must flow from the statistical significance of separate calculations and a judgment about the weight of evidence.

RESOURCE DISTRIBUTION: THE FACTS

Action usually followed edict in the "neutral" distribution of resources at all three levels of Philadelphia's public schools. However, this was less true with compensatory funds.

Among Elementary Schools. In elementary schools, neutrally intended resources were, *on balance*, distributed neutrally. Where there were more Blacks, Spanish-speaking, and low-income students, there were more vacant teaching positions, fewer experienced teachers, and a more intensely used school building. Offsetting this, more dollars were spent on each pupil and classes were smaller. The most significant finding, perhaps, was that Federal funds, compensatory in intent, went somewhat more to the schools with more Blacks and low-income pupils—but barely so. And these students were in schools with fewer high-achievers, more low-achievers, and more disruptive incidents. (More details are in Box 1 and Table 1 in the Appendix.)

Among Junior High Schools. *On balance*, neutrally intended resources, again, were parceled out equally to all sorts of junior high students. Where there were more Spanish-speaking and low-income students, the condition of the school buildings was poorer and the science laboratories more crowded. Further, where there were more Blacks and low-income students, there were more vacant teaching positions and less experienced teachers. Offsetting this, these students were also in schools where more money was spent per pupil, classes were smaller, and per pupil counseling and remedial education expenditures were greater. Federal funds, however, designed to be compensatory, did not flow in larger amounts to the schools with more disadvantaged *than to those with less*. As in the case of the elementary school students, the disadvantaged were in schools with more low-achievers and fewer high-achievers, though they were not, to any real extent, in schools with more vandalism and physical violence. (More details are in Box 2 and Table 2 in the Appendix.)

Among Senior High Schools. Among senior high students, too, neutrally intended resources were dispensed equally, *on balance*. Where there were more Blacks, Spanish-speaking, and low-income students, there were more vacant teaching positions and somewhat less experienced teachers. Where there were schools with

[1] Some characteristics of schools—for example the proportion of pupils below the 16th percentile in the Iowa Achievement tests—are essentially outside the School District's control. As part of the school climate, the distribution of these characteristics has been examined.

BOX 1

ELEMENTARY SCHOOL RESOURCES AND THE DISADVANTAGED

For Black Students. For Black students, the *net* effect of the distribution of resources intended to be neutral appear to have been, in fact, neutral. Some neutrally intended items were distributed in a significantly compensatory direction—there were fewer pupils per teacher in schools with high proportions of Blacks, for example. Some neutrally intended items were distributed in a significantly counter-compensatory direction—there were, for example, higher proportions of teacher vacancies in school with higher proportions of Blacks. In all instances, however, the variation in neutrally intended resource outlay from school to school was not attributable, to any great extent, to the proportion of Blacks in the school. Variability from school to school did, indeed, exist—but not much of that was attributable to there being a larger or smaller proportion of Blacks in the school.

Some resource allocations were made, of course, with the deliberate intent to be compensatory. Such items—Federal funds and expenditures on remedial reading, for example—were, in fact, distributed in such a way that schools with high proportions of Blacks received more than other schools. Variability from school to school for these compensatory resources was, of course, intentional. But, here again, most of the variation was attributable to factors other than the proportion of Blacks—though, in the case of the Federally funded expenditures on an Educational Improvement Program, as much as 25 percent was attributable to the proportion of Blacks.

For Spanish-Speaking Students. For Spanish-speaking students, also, the *net* effect of resources intended to be neutral appear to have been, in fact, neutral. No strong items emerge where the school-to-school variation had a compensatory or non-compensatory direction which was explainable, to any large extent, by the proportion of Spanish-speaking students. It was true, however, that schools with higher proportions of Spanish-speaking students had significantly less experienced teachers (as measured by longevity salary per teacher), but, even there, the Spanish-speaking density accounted for only a little more than 7 percent of the variation in experience from school to school. Resources intended to be distributed in a compensatory fashion went to the Spanish-speaking students in a compensatory way, but barely so.

For Low-Income Students. For low-income students, the neutrally intended items were close to being neutrally distributed, but with some compensatory bias. Schools with higher proportions of low-income pupils had fewer pupils per teacher and fewer pupils per other professional staff—though they also had higher proportions of teacher vacancies and higher capacity utilization.

For the low-income students, the analysis of the distributions of compensatory funds revealed a result of particular importance. Federal funds were designed to be allocated to the poor. The variation from school to school in the amount per pupil of Federal funds should, therefore, have been almost entirely explainable by the variation in the proportion of low-income pupils. Something close to 100 percent should be the proportion of variation in Federal funds distribution attributable to variation in the density of low-income pupils in schools—rather than the 3.2 percent that emerged from the statistical analysis of elementary school pupils in 1970–71.

BOX 2

JUNIOR HIGH SCHOOL RESOURCES AND THE DISADVANTAGED

For Black Students. For these students, the net effect of the distribution of resources intended to be neutral appear to have been, in fact, neutral. Some neutrally intended items were distributed in a significantly compensatory direction—there were smaller classes, for example, in schools with higher percentages of Black students. Some neutrally intended items were counter-compensatory in their distribution—there were, for example, less experienced teachers and more vacant teaching positions in schools with proportionately more Blacks. The nature of the statistical results suggests that, at the junior high school level, higher proportions of Black students in some schools were an important "explanation" for these schools having more teacher vacancies, less experienced teachers, and smaller classes.

Remedial education expenditures, designed to be compensatory, did go more to densely Black schools—but the distribution of Federal funds did not indicate that any more went, on a per pupil basis, to schools with proportionately more Blacks.

For Spanish-Speaking Students. For these students, neutrally-intended resources appear to have been distributed essentially that way. Most of these items had a slightly compensatory direction, but barely so. However, schools with proportionately higher numbers of Spanish-speaking students were, on the average, rated in somewhat poorer condition and were older. Compensatory funds did not appear to go in larger amounts to schools with more Spanish-speaking students.

For Low-Income Students. For low-income students, the neutrally intended items were close to being neutrally distributed, with some counter-compensatory bias. Schools with higher proportions of low-income pupils had more money spent per pupil, but, in these schools, more vacant teacher positions existed and science labs were more crowded.

A somewhat unexpected conclusion emerged when the distribution of Federal funds was analyzed. The total of these funds, (designed, of course, to go to the poor) did not go to schools with many more poor than to schools with fewer poor—though one component, expenditures on counselor aides, did. Essentially, none of the variation from school to school, at the junior high level, in the distribution of Federal funds per pupil can be "explained" by variations in the proportion of low-income pupils!

more Blacks and low-income pupils, the condition of the school buildings was clearly inferior. Offsetting this, schools with these pupil characteristics also spent more dollars per pupil, had smaller classes, and used a smaller proportion of the school capacity. Compensatory-designed funds—remedial education and Federal money—were distributed as intended among the high schools. Unlike those dispensed to elementary and junior high schools, Federal funds went to those schools with higher proportions of low-income and Black pupils. School climate conditions (vandalism, the proportion of low-achieving pupils) militated against all three groups of disadvantaged pupils. But Black- and low-income-dominated schools bore the brunt of most of the adversities—older school buildings, poorer attendance, and more prevalent violence. (More details are in Box 3 and Table 3 in the Appendix.)

BOX 3

SENIOR HIGH SCHOOL RESOURCES AND THE DISADVANTAGED

For Black Students. Overall, those high school resources which were intended to be distributed neutrally were, with respect to Black students, distributed in such manner. There were more teacher vacancies and buildings in somewhat poorer condition in senior high schools with a proportionately higher Black pupil population, but many other resources tended to be somewhat favorable to this group. Federal and School District funds, which were intended to be compensatory, were clearly distributed in that way. Over 38 percent of the school-to-school variation in remedial education expenditures, 17 percent in counseling expenditures, and over 36 percent in Federal fund expenditures can be "explained" by school-to-school variation in the proportion of Black students. This distribution pattern differs considerably from that in the elementary and junior high schools.

For Spanish-Speaking Students. The distribution of neutrally intended school resources among schools, with respect to the distribution of Spanish-speaking pupils, was remarkably neutral. More items were in a compensatory direction than in a counter-compensatory one—but, not significantly so, with the one exception that capacity utilization declined as the proportion of Spanish-speaking pupils increased. Much of the variation in Federal funds among schools was directly related to the variation in the proportion of Spanish-speaking students. Other compensatory funds—remedial education, for example—were also distributed to these students in a compensatory manner. Again, this pattern differs from the compensatory funds distribution in the lower levels of schooling.

For Lower-Income Students. For low-income students, a study of the distribution of neutrally-intended resources indicates that the intentions were realized. Some items had a slightly compensatory characteristic, some had a counter-compensatory characteristic. Schools with higher proportions of low-income pupils had more teacher vacancies and were in poorer condition—but somewhat more money was spent per pupil. Compensatory funds on remedial education went more to schools with a poorer student population, and Federal funds were very strongly pointed in that direction. In elementary schools, only 3.2 percent of the school-to-school variation in Federal funds could be "explained" by the variation in the proportion of low-income pupils; in junior high schools, no portion could be so "explained"; but, at the senior high level, 45.7 percent can be "explained" in terms of the distribution of low-income students.

RESOURCE DISTRIBUTION: THE REASONS

In 1970-71, neutrally intended resources were, on the average (and for all three levels of schooling), distributed in a neutral fashion. While there were discernible tendencies for some resources to be consistently distributed in one direction or another, on balance all groups appear to have received remarkably neutral treatment.

While *overall* resources were distributed in such a way that schools with higher proportions of disadvantaged received no more than others, some nonneutral allocations emerge. Certain

inequalities, not necessarily "evil" ones, consistently surfaced.

For example, disadvantaged students, at all levels, tended to be at schools with higher percentages of vacant teacher positions. Is this evidence of a conspiratorial intent to provide a better education for the advantaged? Quite the contrary. Most likely, it reflects the state of the teachers' labor market. With wages identical at all schools and with teachers enjoying seniority exercising their right to transfer, inevitably many teachers move from "less desirable" schools to "more desirable" ones.[4] For the same reasons, schools with more disadvantaged pupils have less experienced teachers.

Disadvantaged students tended to be in schools of poorer condition. Was this because of an intent to have advantaged students in better schools because of an Establishment domination? Some vestiges of this might have existed, but the School Board membership and orientation of the administration lends little support to this explanation. Most likely, the relative shabbiness of the buildings reflected the fact that disadvantaged citizens tended, for economic reasons, to be concentrated in the oldest parts of the city, where the oldest school buildings were. The school building program of the past few years will most likely alter this finding.

Disadvantaged students tended to be at schools where more money was spent per pupil and where classes were smaller. Undoubtedly, this inequality reflects the efforts of the school administration to respond to the strongly articulated demands of the disadvantaged. Where more learning difficulties existed, more remedial measures were taken

[4]More recent data reflecting teacher surpluses rather than teacher shortages might well show less or no difference in the proportion of teacher vacancies in schools with high proportions of disadvantaged and in schools with low proportions

Finally, disadvantaged students were at schools which received more compensatory funds. These, of course, were consciously allocated. Counseling and remedial education resources went more to the Black and low-income pupil concentrations. This deliberate unequal distribution of resources was not carried out as conscientiously with Federal funds, however.

In short, school resources were not equally distributed among Philadelphia schools for a number of reasons. For one thing, some funds were intentionally not distributed in this way. For another, there were longstanding conditions related to the urban population distribution about which the School District can do little. Not to be overlooked, too, were the mechanisms by which teachers choose their schools and their salaries.

CONCLUSIONS

In comparison with the Washington, D. C. public school allocations, condemned by the U. S. District Court in the *Hobson* v. *Hansen* cases of 1967, 1969, and 1971, the Philadelphia School District, then, comes out very well indeed. There was, on balance, equality in the distribution of neutrally intended resources. School District administrators would not have been found wanting in terms of this major legal yardstick for determining intradistrict equality.

The absence or presence of equality, however, is hardly synonymous with the absence or presence of equity. The "just" distribution is for the citizens, the courts, and the legislators to decide. Clearly, an absolutely equal distribution of resources to students of varying sociological and economic backgrounds would not provide this. Presumably, the "just" distribution is the one which results in an equal opportunity to achieve an educated state for all.

Appendix

BACKGROUND OF TABLES

The major detailed conclusions about the relationship between the distribution of resources and the distribution of the disadvantaged among the Philadelphia public schools are summarized in the three boxes in the body of the article. They derive from statistical calculations made for each level of schooling, the results of which are given in more detail in Tables 1, 2, and 3. The results use these particular data, classification of resources, and statistical procedures:

Data: For each elementary, junior high, and senior high school in the Philadelphia School District, data were compiled for many resources—instructional salary per pupil, condition of school buildings, Federal funds per pupil, for example. For each of the schools, data on the proportion of Black students, the proportion of Spanish-speaking students, and the proportion of low-income students—the disadvantaged—were put together. This was the data base for comparing the distribution of resources with the distribution of the disadvantaged.

Classification of Resources: Resources were classified in three ways:

1. **Intended to be neutral.** These are resources which are intended to be distributed in a manner unrelated to the proportion of disadvantaged pupils. The School District does not intend that the number of pupils per teacher, or the average experience of teachers, or the expenditures per pupil on kindergarten in different schools be, in any way, determined by the proportion of Black, low-income, or Spanish-speaking pupils.

2. **Intended to be compensatory.** These are resources which are intended to go to particular groups of students to "compensate" them for their socioeconomic handicaps. Federal funds, for example, are intended to go to the poor, remedial education is intended to go to the groups disadvantaged by minimal preschool motivation and education.

3. **The world as it is.** There are many characteristics of the school environment, over which the School District has little control and impact. The proportion of low-achieving pupils, the number of disruptive incidents, and average daily attendance are examples.

Statistical Procedures: For each resource, for each level of schooling, the amount in each school was related to the percentage of Blacks, the percent of Spanish-speaking, and the percent of low-income by simple linear regressions. In each case several calculations were made:

1. **Percentage of variability explained.** How much of the elementary school-to-school variation in, for example, number of pupils per teacher was attributable to the school-to-school variation in the proportion of Black pupils? If all of it was, the statistical measure would yield a result of 100 percent (r^2 would equal 1). In fact, the result was 10.5 percent.

2. **Statistical significance of results.** An index (the T-ratio) was calculated in each case. All those results which were determined to be statistically significant are presented in the tables.

INTERPRETING THE TABLES

Each table has two types of classifications—one relating to resources, one relating to the disadvantaged. Resources are classified as to whether the School District's intent was to distribute them neutrally or to distribute them in a compensatory manner—or as to whether the School District has to accept "the world as it is." If, an item intended to be neutrally distributed, is found to go more to the disadvantaged, than it is listed under a column headed compensatory, if it is found to go less to the disadvantaged, then it is listed under counter-compensatory. In Table 1, for example, the capacity utilization of elementary schools is classified as an item not intended to be affected by the proportion of disadvantaged. Was it, in fact, unrelated to the proportion of Blacks? The answer, since it is listed in the counter-compensatory column, is no—capacity utilization was higher in schools with higher proportions of Blacks. In Table 2, the number of attending pupils per laboratory in junior high schools—again, a "neutral" resource—was found to be counter-compensatory for the low-income students. Schools with higher proportion of low-income pupils had more pupils in each lab.

The second sections of each table, labeled "intended to be compensatory," contain the information about whether resources which were intended to go more to the disadvantaged, did in fact do so. Thus, expenditures on remedial education went in the direction of the Blacks and the low income at the elementary school level (Table 1), but not to the Spanish-speaking. At the junior high level, they went to the Blacks, but not to the Spanish-speaking and low-income (Table 2). And, at the senior high level, they went to all three groups (Table 3).

In the third section of the tables, one can see how some school environmental characteristics ("the world as it is") relate to the percentage of disadvantaged. In all three levels of schooling, things are worse off in schools with higher proportions of disadvantaged—there are fewer pupils above the 85th percentile, more disruptive incidents and more pupils below the 16th percentile. They are counter-compensatory in direction.

The tables contain information, not only on the direction of the distribution of resources to the disadvantaged—compensatory of counter-compensatory—but, on how much school-to-school variation in the distribution of resources is attributable to the proportion of disadvantaged. Thus, while instructional salary cost per pupil is higher in elementary schools with higher proportions of Blacks, this factor—the proportion of Blacks-only explains 3 percent of the school-to-school variation (Table 1). At the senior high school level (Table 3), 21.1 percent of the difference in the condition of the buildings is related to the difference in the proportion of Black pupils—to the disadvantage of the Blacks. Again, in Table 3, 41.8 percent of the school differences in average daily attendance is related to differences in the proportion of low-income pupils—where there are more low-income pupils, there is much lower average daily attendance.

TABLE 1

PHILADELPHIA ELEMENTARY SCHOOL CONDITIONS 1970–71, IN RELATION TO THE DISTRIBUTION OF DISADVANTAGED PUPILS

Blacks		Spanish-Speaking		Low-Income	
Compensatory Items	Counter-Compensatory Items	Compensatory Items	Counter-Compensatory Items	Compensatory Items	Counter-Compensatory Items
Intended To Be Neutral		Intended To Be Neutral		Intended To Be Neutral	
Total cost per pupil (2.2%)	% of teacher vacancies (7.0%)	General educ. support per pupil (1.9%)	% of teacher vacancies (2.4%)	Total cost per pupil (5.6%)	% of teacher vacancies (9.5%)
No. of pupils per teacher (10.5%)	Exp. per pupil on music (1.9%)	Exp. per pupil on supervision & clerical (1.8%)	Longevity salary per teacher (7.2%)	General educ. support per pupil (5.2%)	Longevity salary per teacher (1.9%)
Instructional salary per pupil (3.0%)	1972 capacity utilization (1.9%)	Condition of annex buildings (4.7%)	Exp. per pupil on Basic skills, grades 1–3 (.8%)	No. of pupils per teacher (15.4%)	
Exp. per pupil on Kindergarten (2.2%)				No. of pupils per other prof. staff (8.4%)	
				Instructional salary cost per pupil (5.6%)	
				Exp. per pupil on kindergarten (2.5%)	
				Exp. per pupil on Basic Skills, grade 6 (.6%)	
				Exp. per pupil on plant operation and maint. (2.8%)	
				Exp. per pupil on supervision and clerical (3.9%)	

TABLE 1 (continued)

PHILADELPHIA ELEMENTARY SCHOOL CONDITIONS 1970–71, IN RELATION TO THE DISTRIBUTION OF DISADVANTAGED PUPILS

Blacks		Spanish-Speaking		Low-Income	
Compensatory Items	Counter-Compensatory Items	Compensatory Items	Counter-Compensatory Items	Compensatory Items	Counter-Compensatory Items
Intended To Be Compensatory		Intended To Be Compensatory		Intended To Be Compensatory	
Exp. per pupil on remedial educ. (5.6%) Exp. on E.i.P. counseling (11.6%) Total Federal funds per pupil (3.4%)				Exp. per pupil on remedial educ. (3.6%) Exp. on E.I.P. counseling (10.4%) Total Federal funds per pupil (3.2%)	
The World As It Is		The World As It Is		The World As It Is	
	% of pupils above 85th percentile (22.2%) % of pupils below 16th percentile (38.2%) No. of disruptive incidents (15.4%)		% of pupils above 85th percentile (3.4%) % of pupils below 16th percentile (13.5%)		% of pupils above 85th percentile (29.6%) % of pupils below 16th percentile (41.6%) No. of disruptive incidents (4.8%)

NOTE: Percentages in parentheses refer to proportion of school-to-school variation in amount of resources explained by school-to-school variation in density of disadvantaged groups. All those items for which the results were statistically significant are listed.

TABLE 2

PHILADELPHIA JUNIOR HIGH SCHOOL CONDITIONS, 1970–71, IN RELATION TO THE DISTRIBUTION OF DISADVANTAGED PUPILS

Blacks		Spanish-Speaking		Low-Income	
Compensatory Items	Counter-Compensatory Items	Compensatory Items	Counter-Compensatory Items	Compensatory Items	Counter-Compensatory Items
Intended To Be Neutral		Intended To Be Neutral		Intended To Be Neutral	
General education support per pupil (35.8%)	% of teacher vacancies (58.1)			General education support per pupil (15.9%)	% of teacher vacancies (28.0%)
No. of pupils per teacher (20.8%)	Longevity salary per teacher (15.5)				No. of enrolled pupils per lab (10.5%)
					No. of attending pupils per lab (9.0%)
Intended To Be Compensatory		Intended To Be Compensatory		Intended To Be Compensatory	
Expenditure per pupil on remedial education (14.1%)				Federally funded expenditures per pupil on counselor aides (33.4%)	
Federally funded expenditures per pupil on counselor aides (12.4%)					
The World As It Is		The World As It Is		The World As It Is	
	% of pupils above 85th percentile (24.4%)		Age of building (10.8%)		% of pupils above 85th percentile (38.2%)
	% of pupils below 16th percentile (51.2%)		Average daily attendance (.2%)		% of pupils below 16th percentile (60.9%)

NOTE: Percentages in parentheses refer to proportion of school-to-school variation in amount of resource explained by school-to-school variation in density of disadvantaged group. All those items for which the results were statistically significant are listed.

Blacks		Spanish-Speaking		Low-Income	
Compensatory Items	Counter-Compensatory Items	Compensatory Items	Counter-Compensatory Items	Compensatory Items	Counter-Compensatory Items
Intended To Be Neutral		Intended To Be Neutral		Intended To Be Neutral	
	% of teacher vacancies (32.0%)	1972 capacity utilization enrollment (22.7%		Expenditure per pupil on music (16.3%)	% of teacher vacancies (17.8%)
	Condition of main building (21.1%)	1972 capacity utilization (attendance) (13.7%)			Condition of main building (31.8%)
	Condition of annex (38.8%)				
Intended To Be Compensatory		Intended To Be Compensatory		Intended To Be Compensatory	
Expenditure per pupil on remedial education (38.2%)		Expenditures per pupil on remedial education (21.5%)		Expenditure per pupil on remedial education (20.3%)	
Expenditure per pupil on counselling (17.0%)		Total Federal funds per pupil (48.9%)		Total Federal funds per pupil (45.7%)	
Total Federal funds per pupil (36.5%)		Federally funded expenditures per pupil on counselor aides (22.7%)		Federally funded expenditures per pupil on counselor aides (58.6%)	
Federally funded expenditures per pupil on counselor aides (32.2%)					
The World As It Is		The World As It Is		The World As It Is	
	Age of main building (16.4%)				Age of main building (18.3%)
	Average daily attendance (48.4%)				Average daily attendance (41.8%)
	No. of Disruptive incidents (14.6%)				

NOTE *Percentages in parentheses refer to proportion of school-to-school variation in amount of resources explained by school-to-school variation in density of disadvantaged groups. All those items for which the results were statistically significant are listed.*