

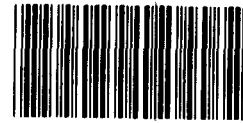
GAO

Report to Chairman, Committee on  
Education and Labor,  
House of Representatives

March 1993

# COMPENSATORY EDUCATION

## Difficulties in Measuring Comparability of Resources Within School Districts



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Human Resources Division

B-250574

March 11, 1993

The Honorable William D. Ford  
Chairman, Committee on Education and Labor  
House of Representatives

Dear Mr. Chairman:

The Chapter 1 program is the backbone of federal elementary and secondary education efforts. In fiscal year 1992, Chapter 1 gave about \$6.1 billion to states and districts to provide supplemental educational services for an estimated 6.5 million students who are educationally disadvantaged.<sup>1</sup> These services are to improve the education opportunities of educationally disadvantaged children by helping them attain grade-level proficiency and increase achievement in basic and more advanced skills that all children are expected to master. The school districts usually provide additional services—in reading, mathematics, and language arts—based on the needs of the students.

The Chapter 1 comparability provision is a key program component. It seeks to ensure that school districts (1) continue to provide basic services to poor schools with large concentrations of Chapter 1-eligible children and (2) use Chapter 1 funds only to supplement those basic services funded by nonfederal sources. The provision says that basic services must be comparable in poor and non-poor schools. In preparing for the 1993 reauthorization of the Chapter 1 program, you requested that we assess school district compliance with current comparability requirements and provide information on alternative ways to measure comparability. This report responds to your request.

## Background

To receive Chapter 1 funds, the Elementary and Secondary Education Act of 1965, 20 U.S.C. 2701, et. seq., as amended, requires that state and local funds be distributed so that, "taken as a whole," a district's services are comparable between schools.<sup>2</sup> The law does not specify what constitutes "comparability," but states that a district would be deemed to be in compliance if it has (1) a districtwide salary schedule, (2) a policy to ensure equivalence between schools in teachers, administrators, and auxiliary personnel; and (3) a policy to ensure equivalence between

<sup>1</sup>An educationally disadvantaged student is one whose educational attainment is below the level appropriate for his or her age, as measured by objective criteria, such as standardized tests.

<sup>2</sup>The law allows the exemption of certain types of funds, such as those from state compensatory education programs that are similar to Chapter 1, from the comparability calculations.

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schools in the provision of curriculum materials and instructional supplies.

Department of Education regulations that implement the Chapter 1 comparability provision allow districts to use the measures in the law or establish and implement other measures for determining compliance, including single measures such as a ratio of students to instructional staff or average instructional staff salary expenditures. Under the Department's regulations, a Chapter 1 school is considered to meet comparability requirements if it does not vary more than 10 percent from the average for non-Chapter 1 schools within the school district. For example, if the average ratio of students to instructional staff is 20 to 1 for a district's non-Chapter 1 schools, the ratio at each Chapter 1 school would have to be no higher than 22 to 1.

To determine compliance with the Department's Chapter 1 comparability regulations, we examined Chapter 1 comparability reports and supporting documentation for the school year 1990-91 in eight judgmentally selected school districts in four states—Colorado, Florida, Michigan, and North Carolina. All districts were relatively large: each exceeded 13,000 students; two were in urban centers. Economic conditions varied widely among the districts, with average poverty levels ranging from 10 to 54 percent.<sup>3</sup> In addition, economic conditions varied within each school district. For example, the population of poor students in one district's schools ranged from 3 to 98 percent.

We also sought to obtain data on a broader range of education-related resources than required in the regulations, in order to consider alternative ways to measure comparability. We reviewed the law, as well as the literature, and spoke with education experts to identify resources, such as teacher experience and instructional supplies, that could be used to measure the comparability of educational services school districts provide. To the extent data on such resources were available at the eight school districts, we compared Chapter 1 schools with non-Chapter 1 schools. For each school district, we conducted two analyses of comparability: for each resource, we compared (1) each Chapter 1 school with the average for all non-Chapter 1 schools, the method set forth in Department regulations, and (2) the average for all Chapter 1 schools with the average for all non-Chapter 1 schools, providing a broad view of

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<sup>3</sup>School districts measure poverty by using the best available data for identifying children from low-income families. They may use data on children from families receiving Aid to Families With Dependent Children, families whose children are eligible under the National School Lunch Program, or other appropriate data.

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resource comparisons. (See app. I for further details on our scope and methodology, descriptive data on each district, and the resources for which we attempted to gather data to measure comparability.)

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## Results in Brief

Changes to Chapter 1 within-district comparability requirements need to be considered in the context of the overall debate on national education standards. Current regulatory requirements are not as comprehensive as called for in the legislative language. However, experts and education officials disagree about how best to measure comparability and what added burden broadened criteria would place on school districts. Further, although our data show some Chapter 1 schools rank below non-Chapter 1 schools on some resource measures, there is no clear agreement on what such differences mean. Finally, the ongoing national debate about national standards includes a discussion of school capacity, or resource standards, which could have a profound impact on resource distribution policies and practices.

Districts we visited were in compliance with the Department's regulatory requirements for comparability. Each district used the same single measure—ratio of students to instructional staff—to demonstrate compliance. Other district data were generally not available, however, to allow a more comprehensive assessment. When data were available, they indicated in many cases that Chapter 1 schools had lower ratios of students to staff than non-Chapter 1 schools, but often were worse off in other measures, such as teachers' salaries and experience. For selected types of school supplies and equipment, such as library books and computers, the results varied among the school districts.

The Chapter 1 comparability provision appears to have been a positive force, helping to advance the equitable distribution of state and local resources among schools within districts and, thus, ensure the supplemental nature of Chapter 1 expenditures. The importance of this objective argues for continued attention to this provision. The officials and experts we talked to supported retaining some type of Chapter 1 comparability requirement; they disagreed, however, about the usefulness of assessing comparability on a more comprehensive basis.

Most of the officials and experts agreed that all of the resources included in our review could be considered in a comprehensive assessment of comparability. But they debated the significance of the individual measures and of the differences that might be found between schools.

Requiring comparability for additional resources, some believed, would be an unwarranted burden on districts because of (1) questions about the significance of differences in individual resources between schools and (2) the lack of strong evidence of inequitable resource distribution within districts. Others believe ensuring comparability and, therefore, equitable resource distribution, are essential and worth the added burden.

Discussions about changing the Chapter 1 comparability requirements, however, need to be conducted in the context of the greater national debate now under way on the need for national education standards and the relationship of such standards to school resources. Changes to Chapter 1 within-district comparability requirements should reflect clarified national intentions about measuring school capacity.

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## Principal Findings

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### Eight School Districts Comply With Department's Regulations

The eight districts we visited were in compliance with the Department's regulations. Most districts nationwide, as well as the eight districts we visited, use a ratio of students to instructional staff as a measure of comparability. The Department defines instructional staff as teachers and administrators; personnel who provide direct instructional services (music, art, physical education teachers, guidance counselors, speech therapists, librarians, and instructional aides); and other personnel who provide services that support instruction (social workers, psychologists, and instructional secretaries). To determine compliance in each district, the ratio of students to instructional staff for each Chapter 1 school is compared with the average of all non-Chapter 1 schools.

Our analysis showed that each of the eight districts had documented compliance with the ratio of students to instructional staff: seven were in compliance at the beginning of school year 1990-91, and one adjusted school staffing early in the school year to become in compliance. Our additional analysis showed that on average, in all eight districts, Chapter 1 schools had an equal or greater number of instructional staff per student than non-Chapter 1 schools (see fig. II.1, p. 18).

Compliance with the federal comparability requirement is monitored at both the federal and state levels. State education agencies review most school districts on a 3-year cycle, with the largest districts generally visited

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yearly. To ensure the adequacy of state reviews, the Department monitors the largest states annually and the others every other year. Most school districts use the ratio of students to instructional staff for comparability purposes, monitoring officials said, and are required to document their comparability calculations. Department officials said they have found relatively few problems over the last few years.

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### Lack of Data Hampers Comparability Assessment

The statute calls for measuring comparability based on multiple resources, rather than only one as the regulations currently allow. The ratio of students to instructional staff, for example, does not assess comparability in such areas as salaries or materials and supplies; these are additional resources that could be used in determining whether services are comparable when "taken as a whole." To assess district comparability more comprehensively, we identified 17 resources, other than the ratio of students to instructional staff, that could be used as proxies for comparability. These resources fall into three categories: (1) ratios of students to specific types of staff,<sup>4</sup> (2) proxies for teacher quality, and (3) supplies, equipment, and other expenditures. (See fig. I.1 for the resources included in our review.)

We could not determine if the districts we visited had evenly distributed all of these categories of resources because the districts did not keep school-level records on many of these resources.<sup>5</sup> Most districts had data on staff and teachers. Few had data on supplies, equipment, and other expenditures. Data that were available indicated that on average, Chapter 1 schools' ratios of students to staff were almost always better than those at non-Chapter 1 schools. But Chapter 1 schools were not always better off if we used the proxies for teacher quality (such as salaries and experience) or supplies, equipment, and other expenditures.

The following sections summarize our analysis of data that were available in the eight districts we visited (see app. II for a detailed discussion).

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<sup>4</sup>These ratios include the individual components of the student-instructional staff ratio, such as teachers, aides, administrators, and educational specialists.

<sup>5</sup>Absent districtwide data on individual school resources, data must be collected at the school level to assess the extent of comparability, or noncomparability, for resources in Chapter 1 schools. Such data collection is a costly undertaking. As part of an ongoing Chapter 1 study, the Department of Education is collecting data at the school level that will allow a comparison of resources for selected schools within selected districts. These data will provide additional understanding of resource distribution, but the study will be limited in scope and not nationally generalizable.

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**Ratios of Students to Staff**

These ratios include the individual components of the student-instructional staff ratio, such as teachers, aides, and administrators. Analysis of the major components shows that on average, staff resources at Chapter 1 schools were almost always more plentiful than at non-Chapter 1 schools. For example, seven of the eight school districts had an average ratio of students per classroom teacher that was the same or better by 1 to 11 students than the average non-Chapter 1 school. The average ratio of students per classroom teacher in the Chapter 1 schools in the remaining district exceeded the non-Chapter 1 average by less than 10 percent.

Although on average they were better off, individual Chapter 1 schools in some districts were worse off than the average non-Chapter 1 school, sometimes by more than 10 percent. For example, in one district, two of six Chapter 1 schools were worse off than the average non-Chapter 1 school for the ratio of students per classroom teacher; one school had 18 percent more students per teacher and the other 23 percent more students per teacher than the average non-Chapter 1 school.

**Teacher Quality and Supplies,  
Equipment, and Other  
Expenditures**

At the districts, the limited amount of school data available on proxies for teacher quality and supplies, equipment, and other expenditures precluded a comprehensive assessment of whether districts distributed resources comparably. Data that were available, however, tended to show that Chapter 1 schools were worse off for the measures used as proxies for teacher quality. In four of the five districts that had data on teacher experience, Chapter 1 schools on average had less-experienced teachers than non-Chapter 1 schools. This experience difference exceeded 10 percent in one of the four districts, where teachers in the average non-Chapter 1 school had about 36 percent more experience than teachers in the average Chapter 1 school (15 years versus 11 years). The proportion of teachers with master's degrees was also lower in the average Chapter 1 school in all five districts for which data were available; in four of the five districts, the difference exceeded 10 percent. For supplies, equipment, and other expenditures, the results were mixed. For example, in the four districts for which data on the average number of students per computer were available, Chapter 1 schools were worse off than the average non-Chapter 1 school in two districts and better off in two.



## Officials and Experts Disagree About Need for More Comprehensive Measures of Comparability

Officials and experts we met with credited the enactment of the comparability provision as a key factor in improving the equitable distribution of state and local resources among schools. Most saw a need to continue comparability as part of Chapter 1. But their views differ on whether the assessment should be based on measures other than the ratio of students to instructional staff used in most districts.

No federal, state, or local education official we spoke with sees the need to broaden the resources covered to assess Chapter 1 comparability. These officials argue that there is little agreement on what measures are most appropriate for comparability. For example, equality in the number of teachers or textbooks does not ensure comparability in their quality. Likewise, the importance of differences between Chapter 1 and non-Chapter 1 schools is not clear. For example, in the eight districts, the lowest average teacher experience in Chapter 1 schools was about 10 years and the highest average in non-Chapter 1 schools was about 17 years. Yet there is little evidence, one study found, that teacher experience beyond the first 5 years correlates with student achievement.<sup>6</sup> In addition, some district officials were concerned that adding measures would reduce district and school flexibility in resource distribution and instructional program design at a time when school-based management<sup>7</sup> is becoming an accepted path to reform.

Compliance with the comparability provision also has practical limits. Officials said it is reasonable to see variation between individual schools because of constant changes in student and teacher populations. They said that a school's resources could be comparable with others early in the year but less than comparable later in the year, as school enrollments change. Such changes occur more often in Chapter 1 than in non-Chapter 1 schools, officials said, as the students in those schools are often poor and change residences more frequently.

<sup>6</sup>Richard J. Murnane, *The Impact of School Resources on the Learning of Inner City Children* (Ballinger, 1975), p. 78. Studies over the years, however, have shown conflicting results about the relation of teacher experience to student achievement: see Eric A. Hanushek, "The Economics of Schooling: Production and Efficiency in Public Schools," *Journal of Economic Literature*, Vol. XXIV (1986), pp. 1141-77.

<sup>7</sup>School-based management systems can vary substantially, but basically, in these systems, decisions on resource distribution are made at the individual school, based on the need of the students at that school. Officials were concerned about broadening comparability requirements because if schools choose different mixes of resources, schools could be out of compliance on one or more of them. For example, an individual school's management, teachers, and parents may decide that they need more computers and fewer teachers. This decision may make the ratio of students to instructional staff higher than the average for non-Chapter 1 schools and thus out of compliance with the comparability requirement. Yet the overall instructional program at the school may be comparable with the instructional program at the average non-Chapter 1 school.

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Some officials also questioned the benefit of added comparability requirements when compared with what, they said, could be significant burden. Current practices, they pointed out, include the most significant resource, instructional staff. Absent convincing evidence of great inequities within districts, they said, the increased burden of added requirements would not ensure a more equitable resource distribution. The scope of our work did not include a detailed assessment of the burden involved in maintaining comparability for a more comprehensive set of resources. The burden could differ significantly, however, between districts. For example, some district officials said it would be very costly to change existing information systems to maintain data on school resources of the type included in our study.

Spokespersons for some advocacy and professional groups, however, believe burden is less of an issue than equity. Even though proving equal distribution of resources may be costly, they argue, it is worth the cost to ensure that every child receives an adequate education. They see a need to increase comparability requirements to better ensure comparable distribution of many kinds of resources among Chapter 1 and non-Chapter 1 schools.

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### National Education Debate May Influence Comparability Requirement

The ongoing national debate on how to improve the quality of our education system may result in developing new ways to address issues of school resources in general and of comparability more specifically. The National Education Goals Panel<sup>8</sup> concluded that national standards are needed against which to measure the performance of individuals as well as school systems. To address this need, the Panel worked with the Congress to establish the National Council on Education Standards and Testing. The Council identified a number of components that should be included in standards developed at the national and state levels. Among them was a "school delivery standard" for use in assessing a school's resource capacity and performance. The Council's report states that, among other things, school delivery standards should allow a determination of whether a school "delivers" to all of its students the opportunity to achieve. The report suggests that the standards would address resource issues, such as the adequacy of teacher training and instructional materials.

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<sup>8</sup>In 1990, the National Education Goals Panel was created to measure progress over the next 10 years toward meeting the nation's education goals. The Panel includes six governors, four members of the administration, and four members of the Congress.

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Agency Comments

In commenting on a draft of this report, the Department of Education said that the comparability requirement is important in ensuring that Chapter 1 schools receive their fair share of state and local resources. The Department said that for many of the reasons cited in our report, it would be inappropriate to tighten comparability requirements at this time.


Whether or not the provision is changed, the Department said that its current regulations, which allow school districts to use just one measure for comparability purposes, meet the requirements of the law. We believe, however, that by requiring that districts provide comparable services "taken as a whole," the Congress intended a more comprehensive assessment of student services. This conclusion is supported by (1) the statutory provision that a district would be deemed in compliance if it established comparability in three areas—instructional staff, teacher salaries, and supplies and equipment—and (2) statements in the legislative history indicating that assessment on a series of factors was contemplated. The Department's comments appear in full in appendix III.

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We carried out our review between December 1991 and September 1992 in accordance with generally accepted government auditing standards. Information from the eight districts cannot be generalized to other districts.

We are sending copies of this report to other congressional committees, the Secretary of Education, and other interested parties. Should you wish to discuss its contents, please call me on (202) 512-7014. Other major contributors are listed in appendix IV.

Sincerely yours,



Linda G. Morra  
Director, Education and  
Employment Issues

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# Contents

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Letter		1
Appendix I Scope and Methodology		12
Appendix II Assessing School Comparability Using Multiple Measures	Comparison of Individual Chapter 1 Schools With the Average Non-Chapter 1 School Comparison of Average Chapter 1 School With Average Non-Chapter 1 School	16 16 17
Appendix III Comments From the Department of Education		31
Appendix IV Major Contributors to This Report		33
Tables	Table I.1: Range of Poverty Among Individual Schools Table I.2: Additional Comparability Measures Considered Table I.3: Selected Characteristics of School Districts Visited Table II.1: District Data Availability for Various Resources to Measure Comparability Table II.2: Number of Chapter 1 Schools More Than 10 Percent Worse Off Than the Average Non-Chapter 1 School	13 14 15 16 17
Figures	Figure II.1: Students per Instructional Staff Ratio Better in Average Chapter 1 School Figure II.2a: Student-Classroom Teacher Ratio Generally Better in Average Chapter 1 School Figure II.2b: Student-Teacher Aide Ratio Better in Average Chapter 1 School	18 19 20

---

Figure II.2c: Student-Administrative Staff Ratio Generally Better in Average Chapter 1 School	21
Figure II.2d: Student-Educational Specialist Ratio Generally Better in Average Chapter 1 School	22
Figure II.3a: Teachers in Chapter 1 Schools Had Same or Lower Average Salaries Compared With Teachers in Non-Chapter 1 Schools	23
Figure II.3b: Average Non-Chapter 1 School Had a Higher Percentage of Teachers With Master's Degrees	24
Figure II.3c: Teachers in Average Non-Chapter 1 School Had More Experience	25
Figure II.3d: Teachers in Chapter 1 Schools Absent as Much or More Than Teachers in Non-Chapter 1 Schools	26
Figure II.4a: Chapter 1 Schools Generally Averaged as Many Library Books per Student as Non-Chapter 1 Schools	28
Figure II.4b: Chapter 1 Schools Sometimes Have Higher, Sometimes Lower, Ratio of Students to Computers	29

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# Scope and Methodology

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We reviewed research on comparability and interviewed knowledgeable education professionals about the following: advantages and disadvantages of the comparability provision, alternative measures for assessing comparability, and alternative regulatory strategies that could ensure compliance while imposing minimum administrative burden on school districts. We interviewed officials in the Department of Education as well as representatives of these organizations: American Federation of Teachers, National Education Association, National Congress of Parents and Teachers, National Association for the Advancement of Colored People-Legal Defense Fund, Council of Chief State School Officers, and the Council of Great City Schools.

We also interviewed school and district officials, as well as reviewed data on resource distribution in eight school districts in four states—Colorado, Florida, Michigan, and North Carolina. The districts were judgmentally selected and varied in several ways. First, all of the districts were relatively large: each was in the top 4 percent of the nation's school districts in terms of student enrollments, ranging from about 13,000 to about 300,000 students; in fiscal year 1991, Chapter 1 expenditures for all the districts ranged from about \$840,000 to about \$65 million. Second, economic conditions varied, as measured by the percentage of students from low-income families.<sup>1</sup> Third, districts employed different Chapter 1 educational strategies: For example, some districts used "pull-out programs," in which Chapter 1 students are removed from their regular classrooms for part of the day to receive supplemental services, while others used computer home loan programs or special pre-kindergarten programs. Fourth, the districts varied in administrative structure. The two urban centers (Dade County, Florida, and Detroit, Michigan) were divided into administrative subdistricts, usually with each one having its own Chapter 1 coordinator; the other six school districts were not so divided. Finally, economic conditions varied within each of the school districts. For example, the percentage of low-income students in individual schools in Dade County (including Miami) ranged from 3 to 98 percent. (See table I.1).

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<sup>1</sup>Most of the eight districts we visited used school lunch data for this purpose.

**Appendix I  
Scope and Methodology**

**Table I.1: Range of Poverty Among Individual Schools**

School district	Percent range		Average percent all schools
	Low	High	
Dade County, Florida	3	98	45
Detroit, Michigan	33	87	54
Wake County, North Carolina	6	60	18
El Paso-11, Colorado	0	68	17
Grand Rapids, Michigan	5	99	38
Adams-12, Colorado	2	51	14
New Bern-Craven County, North Carolina	18	62	39
Dearborn, Michigan	7	32	10

Note: The range refers to percentage of students meeting district-selected poverty definition.

To determine if districts complied with the Department's comparability requirements, we reviewed the records school districts maintained to document compliance, traced the data used in the comparability calculations back to school-level records, and verified that the comparability calculations for school year 1990-91 were accurate.

On the basis of information from the literature and professionals we spoke to, we identified measures—in addition to those required by the regulations—that could be used to measure comparability on a broader basis (see table I.2).

**Table I.2: Additional Comparability Measures Considered**

Student-to-staff ratio for	Classroom teachers
	Teacher aides
	Administrators
	Educational specialists
Teacher quality	Average salary
	Master's degrees
	Years of experience
	Number teaching outside of area of certification
	Absenteeism rate
	Turnover rate
Supplies, equipment, and other expenditures	Library books per student
	Students per computer
	Software
	Textbooks per student
	Amount spent for other supplies
	Amount of private or nonprofit aid per student
	Expenditure per student

At the eight school districts, we gathered data on these measures, to the extent available, for all elementary schools<sup>2</sup> and made comparisons between Chapter 1 and non-Chapter 1 schools. The law does not prescribe a specific method for calculating compliance with the comparability requirement. We did two key analyses to compare schools. First, we compared the measure for each Chapter 1 school with the average for non-Chapter 1 schools and allowed a 10-percent variation—the same approach allowed by the Department's regulations. For example, if an individual Chapter 1 school had a student-to-teacher ratio of 21 to 1 and the average non-Chapter 1 ratio was 20 to 1, the Chapter 1 school would be considered comparable since it was within 10 percent of the average

<sup>2</sup>We limited our analysis to elementary schools (grades 1 through 6) because they were the primary focus of the Chapter 1 program in the districts visited.



**Appendix I  
Scope and Methodology**

non-Chapter 1 ratio. Second, to show a more general picture of the district's overall resource distribution, we compared the average for each of the measures for Chapter 1 schools with the average for non-Chapter 1 schools.

Selected district characteristics are shown in table I.3.

**Table I.3: Selected Characteristics of School Districts Visited**

Characteristic	School Districts							
	Dade County, Florida <sup>a</sup>	Detroit, Michigan	Wake County, North Carolina <sup>b</sup>	El Paso County, Colorado <sup>c</sup>	Grand Rapids, Michigan	Adams-12, Colorado <sup>d</sup>	New Bern-Craven County, North Carolina <sup>e</sup>	Dearborn, Michigan <sup>f</sup>
<b>Districtwide</b>								
Expenditures (school year 1991) <sup>g</sup>	\$1,894,076	\$945,317	\$336,900	\$128,943	\$149,268	\$101,033	\$69,104	\$75,361
Number of students	292,411	168,956	65,958	30,070	22,248	20,898	14,248	13,380
Number of schools	271	247	84	52	52	32	19	23
Percentage of students from low-income families	45	54	18	17	38	14	39	10
<b>Chapter 1</b>								
Expenditures (school year 1991) <sup>g</sup>	\$42,064	\$65,450	\$3,018	\$2,558	\$4,052	\$842	\$1,651	\$952
Schools	85	218	52	20	24	8	15	6
Students	35,086	87,940	4,303	1,765	2,188	929	1,463	348
Grades served	Pre-K <sup>h</sup> to 6	Pre-K to 12	Pre-K to 8	Pre-K to 6	Pre-K to 8	Pre-K to 6	K to 8	Pre-K to 3

<sup>a</sup>Includes Miami.

<sup>b</sup>Includes Raleigh.

<sup>c</sup>School District II, includes Colorado Springs.

<sup>d</sup>Includes Thornton and Northglenn, northeast suburbs of Denver.

<sup>e</sup>Includes New Bern, in eastern rural North Carolina.

<sup>f</sup>A western suburb of Detroit.

<sup>g</sup>Dollars in thousands.

<sup>h</sup>K = Kindergarten.

# Assessing School Comparability Using Multiple Measures

Districts do not keep sufficient school-level data to assess comparability comprehensively. The eight school districts we visited generally had school-level data on specific ratios of students to staff, but data on various teacher-quality measures were less often available and data on supplies and equipment and other measures were seldom available. (See table II.1.)

**Table II.1: District Data Availability for Various Resources to Measure Comparability**

Comparability measures	Districts with data available
<b>Student-to-staff ratios</b>	
Students per classroom teacher	8
Students per teacher aide	8
Students per administrator	8
Students per educational specialist	6
<b>Teacher quality</b>	
Average teacher salary	7
Teachers with master's degrees	5
Teachers' years of experience	5
Teachers teaching outside area of certification	5
Teacher absenteeism rate	4
Teacher turnover rate	1
<b>Supplies, equipment, and other expenditures</b>	
Library books per student	6
Students per computer	4
Amount spent for other supplies	1
Textbooks per student	1
Amount of private or nonprofit aid per student	1
Software	0
Expenditure per student	2

## Comparison of Individual Chapter 1 Schools With the Average Non-Chapter 1 School

Individual Chapter 1 schools in each of the districts we visited were more than 10 percent worse off than the average non-Chapter 1 school for one or more resources<sup>1</sup> (See table II.2). For example, two of Dearborn's six Chapter 1 schools were worse off than the average non-Chapter 1 school for the ratio of students per classroom teacher. One school had 18 percent more students per teacher and the other 23 percent more than the average non-Chapter 1 school. Likewise, 30 of Detroit's 67 Chapter 1 schools were

<sup>1</sup>Detroit and New Bern-Craven operated districtwide Chapter 1 programs; therefore, almost all schools were in the Chapter 1 program. For determining comparability, the individual schools with the higher poverty rates were compared with the average for the 50 percent of schools with the lower poverty rates.

**Appendix II  
Assessing School Comparability Using  
Multiple Measures**

more than 10 to 59 percent worse off than the average non-Chapter 1 school for the percentage of teachers with master's degrees. In addition, of the 23 Chapter 1 schools in Grand Rapids for which information was available, 17 were 4 to 75 percent worse off than the average non-Chapter 1 school for the number of library books per student. Data in the following table and figures include only the resources for which four or more districts provided information.

**Table II.2: Number of Chapter 1 Schools More Than 10 Percent Worse Off Than the Average Non-Chapter 1 School**

Comparability measures	School districts							
	Dade County	Detroit	Wake County	El Paso II	Grand Rapids	Adams - 12	New Bern-Craven County	Dearborn
Number of Chapter 1 schools	85	67	41	20	24	7	6	6
<b>Student-staff ratios</b>								
Students per:								
Classroom teacher	2	7	1	1	0	0	0	2
Teacher aide	0	4	6	1	6	1	0	0
Administrator	39	15	2	0	10	0	0	3
Educational specialist	29	8	3	3	a	a	0	1
<b>Teacher quality</b>								
Teachers:								
Average salary	6	0	a	3	0	0	1	2
Master's degrees	50	30	a	14	a	a	5	5
Years of experience	48	29	a	5	a	a	2	5
Teaching outside of area of certification	49	a	a	3	a	a	0	0
Absenteeism rate	9	a	a	10	a	a	4	5
<b>Supplies, equipment, and other expenditures</b>								
Library books per student	57	a	19	8	16	3	0	a
Students per computer	19	a	7	a	a	0	2	a

\*Information not available.

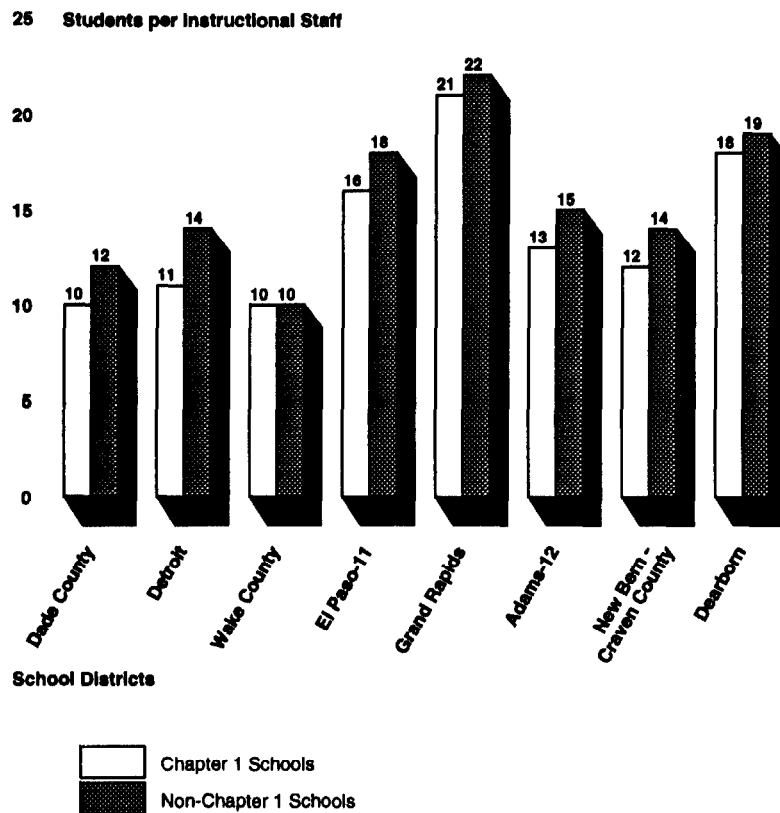
## Comparison of Average Chapter 1 School With Average Non-Chapter 1 School

The following sections provide a more general assessment of resource distribution in the eight districts visited. The information is based on comparisons of the average Chapter 1 school with the average non-Chapter 1 school in each district.

Comparison for Average  
 Ratios of Students to Staff

Overall, the average ratio of students to instructional staff for all eight districts' Chapter 1 schools was equal to or better than the average ratio in the non-Chapter 1 schools, as shown in figure II.1.

Figure II.1: Students Per Instructional Staff Ratio Better in Average Chapter 1 School



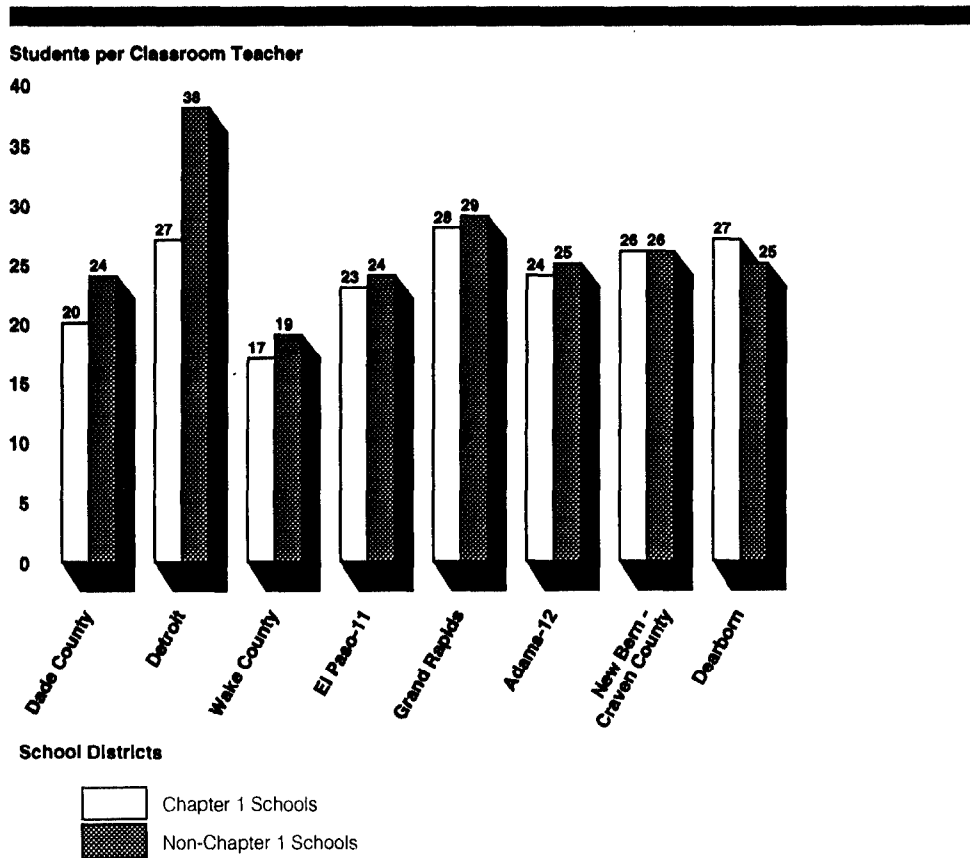
Analysis of the major components of the student-instructional staff ratio shows that on average, staff resources at Chapter 1 schools were almost always more plentiful than at non-Chapter 1 schools. Major components include (1) classroom teachers, (2) teacher aides, (3) administrative personnel (principals and support personnel), and (4) educational specialists (school social workers, psychologists, and guidance counselors).

Generally, the average Chapter 1 school had more classroom teachers per student than the average non-Chapter 1 school in all districts except

**Appendix II  
Assessing School Comparability Using  
Multiple Measures**

Dearborn. The difference in the student-teacher ratio in Dearborn is less than 10 percent (see fig. II.2a).

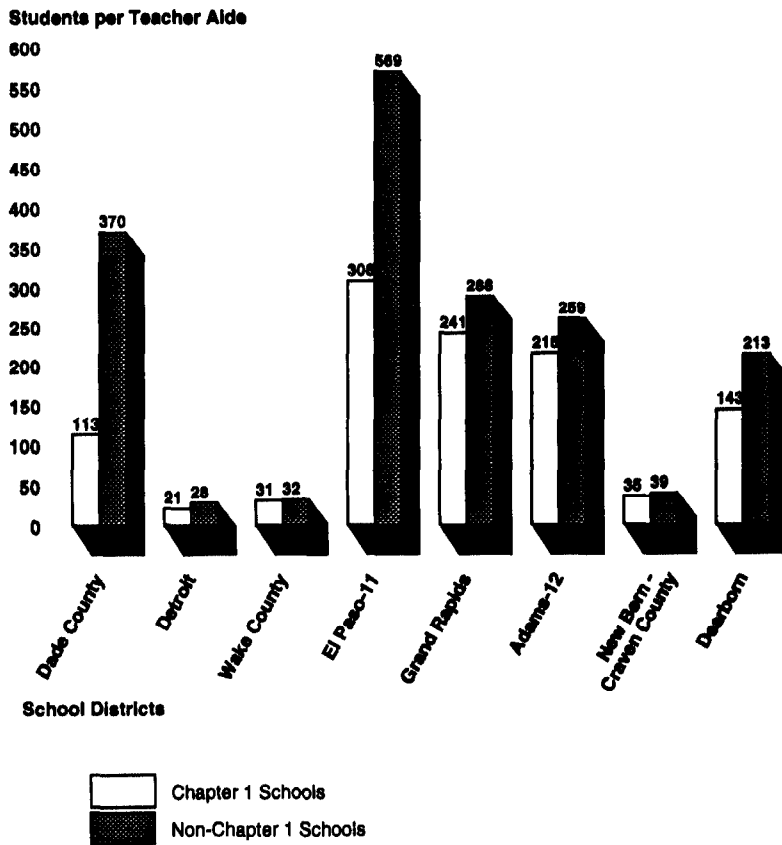
**Figure II.2a: Student-Classroom Teacher Ratio Generally Better in Average Chapter 1 School**



**Appendix II  
Assessing School Comparability Using  
Multiple Measures**

Each district's ratio of students to teacher aide was better in the average Chapter 1 school (see fig. II.2b).

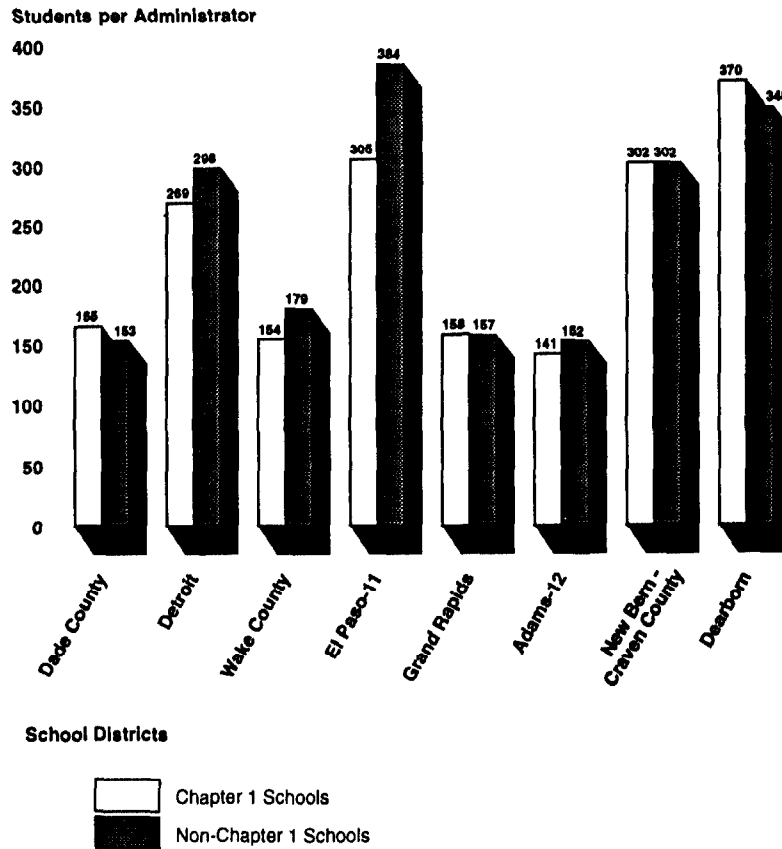
**Figure II.2b: Student-Teacher Aide Ratio Better in Average Chapter 1 School**



Appendix II  
Assessing School Comparability Using  
Multiple Measures

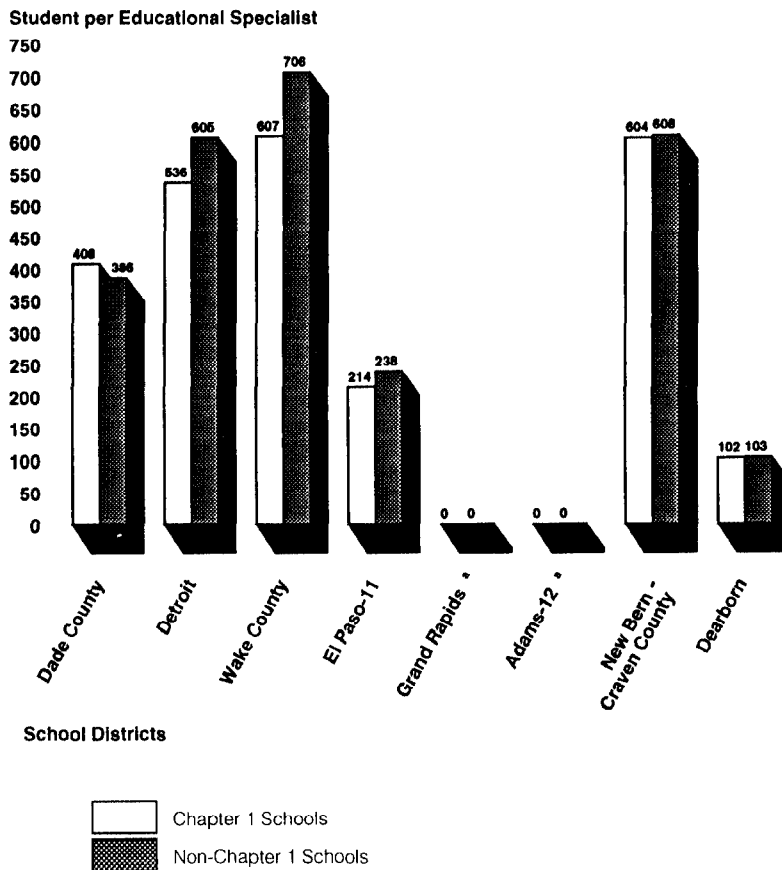
On average, in five of the eight districts, Chapter 1 schools had an equal or better ratio of administrative staff, compared with non-Chapter 1 schools. The differences in the other three districts were less than 10 percent (see fig. II.2c).

Figure II.2c: Student-Administrative Staff Ratio Generally Better In Average Chapter 1 School



The average Chapter 1 school also had a better student-educational specialist ratio in most districts (see fig. II.2d). Districts often assign additional counselors and teacher aides to Chapter 1 schools, district officials said, because of the greater educational need in these schools.

**Figure II.2d: Student-Educational Specialist Ratio Generally Better in Average Chapter 1 School**



<sup>a</sup>Information not available.

**Comparison of Average Teacher-Quality Proxies**

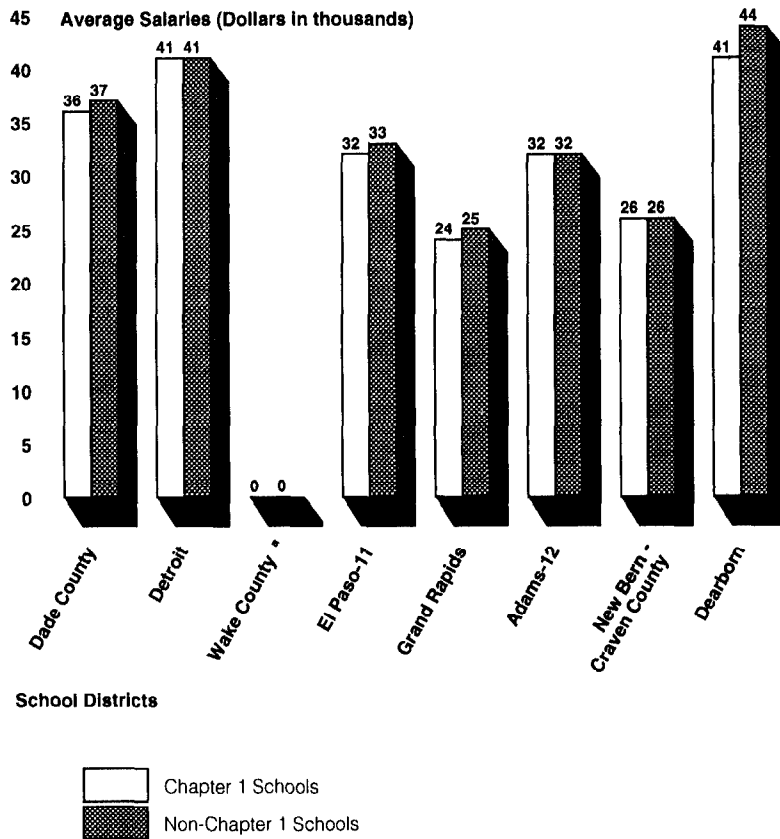
Compared with teachers in Chapter 1 schools, teachers in non-Chapter 1 schools were, on average, higher paid, more likely to have master's degrees, and more experienced. Average teacher absenteeism rates varied. The amount of the difference in two cases was less than 10 percent. However, the importance of the differences is not clear because there is little agreement as to the meaning or importance of these factors as measures of teacher quality.



**Appendix II  
Assessing School Comparability Using  
Multiple Measures**

In the seven districts for which data were available, the teachers in Chapter 1 schools had the same or lower average salaries when compared with teachers in non-Chapter 1 schools (see fig. II.3a). However, the differences were generally small. For example, for Chapter 1 teachers, the average salary in Grand Rapids was about \$24,000 and for non-Chapter 1 teachers, about \$25,000. These differences may be related to the differences in teachers' experience and master's degrees.

**Figure II.3a: Teachers in Chapter 1 Schools Had Same or Lower Average Salaries Compared With Teachers in Non-Chapter 1 Schools**



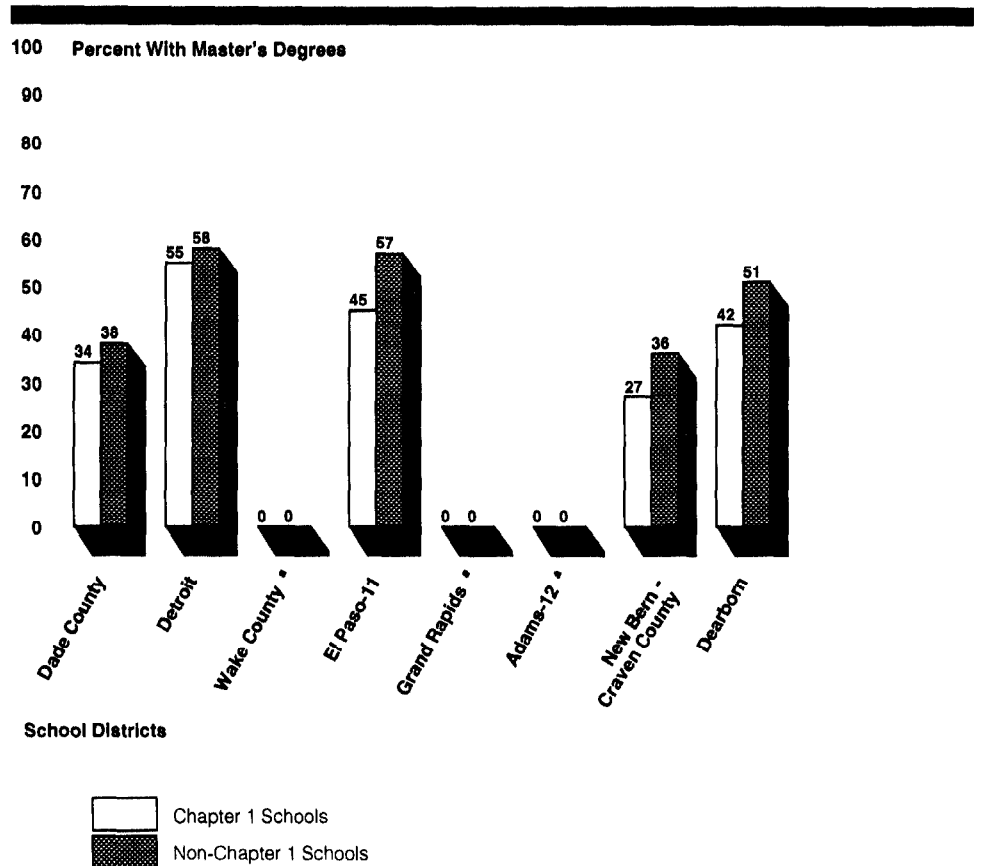
\*Information not available.

In the five districts for which there were data, the average non-Chapter 1 school had more teachers with master's degrees than the average Chapter 1 school (see fig. II.3b). For example, 42 percent of the teachers in Dearborn's Chapter 1 schools had master's degrees, compared with 51 percent of the teachers in its non-Chapter 1 schools. But having an

**Appendix II  
Assessing School Comparability Using  
Multiple Measures**

advanced degree does not necessarily mean that a teacher would be better able to cope and be effective in a Chapter 1 school environment.

**Figure II.3b: Average Non-Chapter 1 School Had a Higher Percentage of Teachers With Master's Degrees**

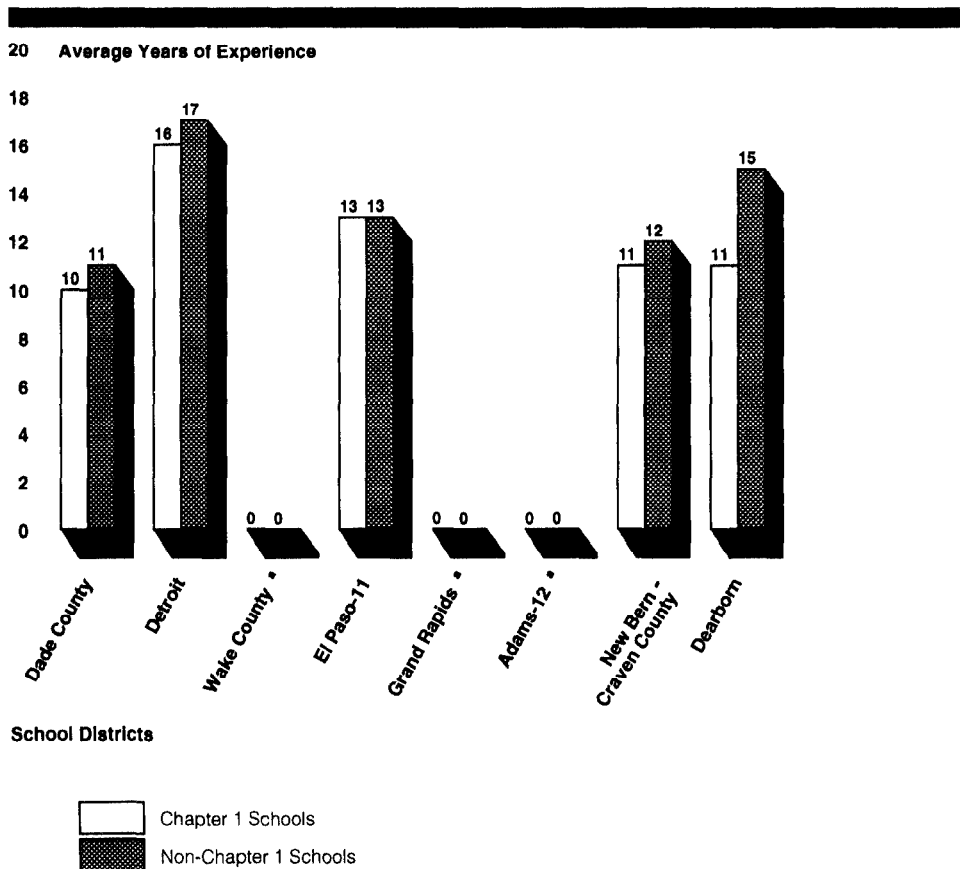


<sup>a</sup>Information not available.

On average, for the five districts that provided the data, teachers in non-Chapter 1 schools had equal or more experience, generally between 1 and 4 years more, than teachers in Chapter 1 schools (see fig. II.3c). Overall in these districts, teacher experience averaged 10 years or more at Chapter 1 schools. Teacher union contracts often allow individual teachers to choose, based on seniority, where they want to teach; it appears that the more experienced teachers are choosing to teach in the non-Chapter 1 schools.

**Appendix II  
Assessing School Comparability Using  
Multiple Measures**

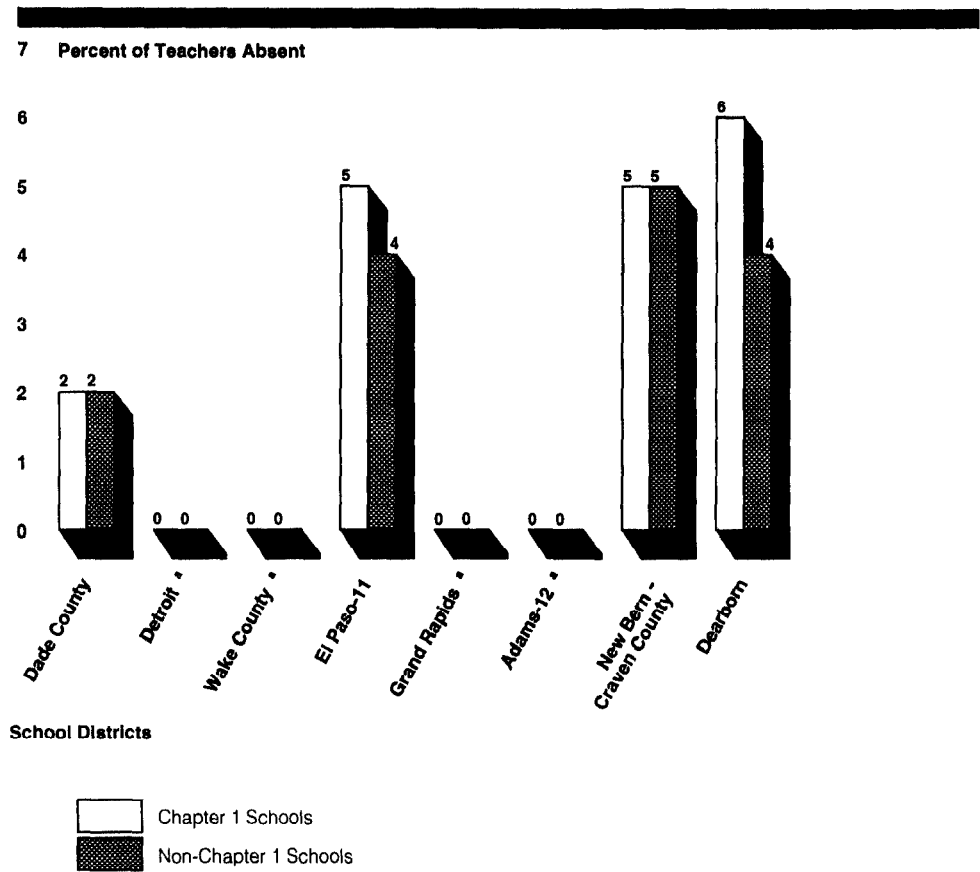
**Figure II.3c: Teachers in Average  
Non-Chapter 1 School Had More  
Experience**



<sup>a</sup>Information not available

In two of the four districts for which data were available, average teacher absenteeism rates were higher in Chapter 1 schools (see fig. II.3d). For example, Dearborn's teacher absenteeism rate was about 6 percent in Chapter 1 schools and 4 percent in non-Chapter 1 schools. In the other two districts, the rates were about the same.

Figure II.3d: Teachers in Chapter 1 Schools Absent as Much or More Than Teachers in Non-Chapter 1 Schools



<sup>a</sup>Information not available.

Five districts provided data on the number of teachers working outside their areas of certification (teaching in subject areas for which they have not passed state requirements). In these districts, the data showed no substantive difference between Chapter 1 and non-Chapter 1 schools.

These proxy measures of teacher quality, by themselves, district and Department officials said, would not be clear evidence that the quality of teachers in Chapter 1 schools is lower than in non-Chapter 1 schools. On the other hand, representatives of some professional and advocacy groups believe that these differences indicate an imbalance in the educational services being provided in Chapter 1 schools.

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**Comparison of Average  
Supplies, Equipment, and  
Other Expenditures**

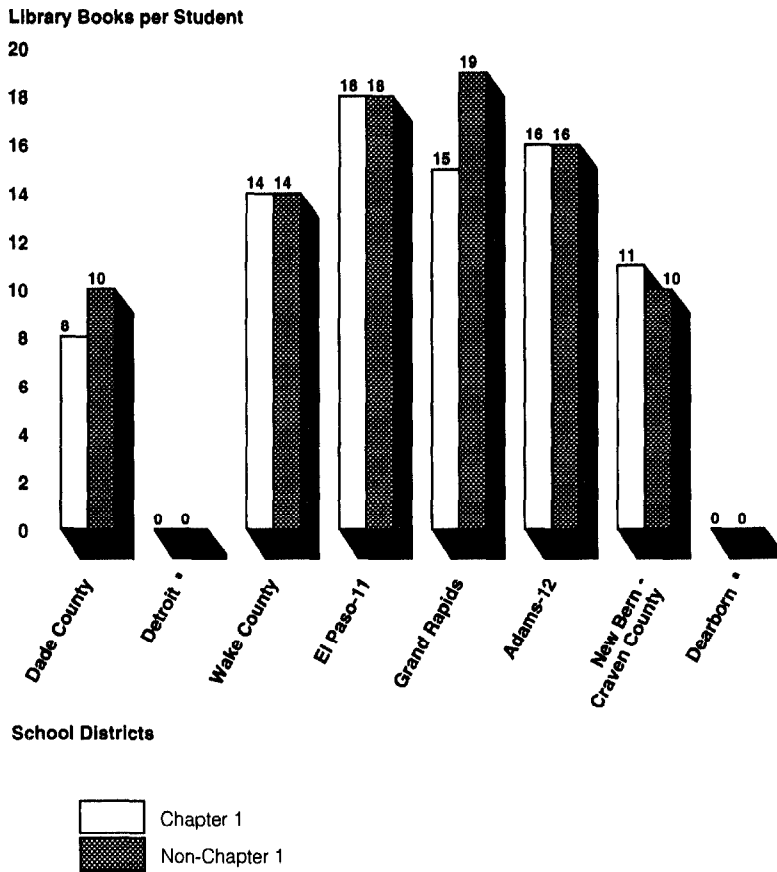
School districts were able to provide little data on supplies, equipment, and other expenditures. Most school districts had information on only two—library books and computers. Generally, school officials did not have data for individual schools on supplies, textbooks, and software. They said these items are usually purchased in bulk, stored at a central warehouse, and distributed as needed. Records are not usually maintained at the district level showing how much is distributed to individual schools.

We obtained information from six districts on the average number of library books per student and from four districts on the average number of students per computer. The results of this analysis varied among districts.

The average ratio of library books per student in Chapter 1 schools was equal to or better than that in non-Chapter 1 schools in four districts, but was better in the non-Chapter 1 schools in two districts. As shown in figure II.4a, the differences ranged from 2 to 4 percentage points.

**Appendix II  
Assessing School Comparability Using  
Multiple Measures**

**Figure II.4a: Chapter 1 Schools  
Generally Averaged as Many Library  
Books Per Student as  
Non-Chapter 1 Schools**

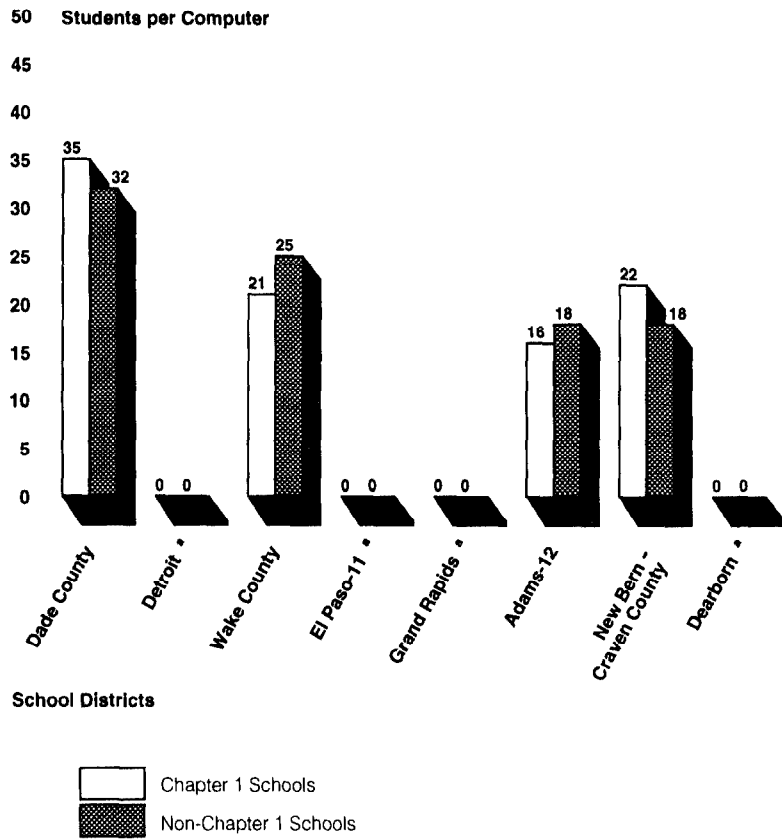


<sup>a</sup>Information not available.

The ratio of students per computer was better in the Chapter 1 schools in two districts and better in the non-Chapter 1 schools in two districts. As shown in figure II.4b, the differences were small—ranging from 2 to 4 percentage points.

**Appendix II  
Assessing School Comparability Using  
Multiple Measures**

**Figure II.4b: Chapter 1 Schools  
Sometimes Have Higher, Sometimes  
Lower, Ratio of Students to Computers**



<sup>a</sup>Information not available.

Budgets for purchasing supplies and equipment, school district officials said, were based on a per student allocation, which should result in an equal distribution among schools. They also said, however, that differences could be caused by donations of library books or computers. In addition, differences could be caused by school-level decisions that gave priority to some resources over others. For example, local school officials may decide that they need more teachers than computers. Thus, a Chapter 1 school could receive equal resources when compared with a non-Chapter 1 school, but allocate them differently.

The value of these resources as proxies for comparability is also debated. The measures do not include, for example, the difference between Chapter 1 and non-Chapter 1 schools in the age of the computers or library books. In addition, the accuracy of library book counts from school to school is

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**Appendix II  
Assessing School Comparability Using  
Multiple Measures**

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subject to question, in that some schools, for example, count entire volumes of the encyclopedia as one book.



# Comments From the Department of Education



UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF ELEMENTARY AND SECONDARY EDUCATION

THE ASSISTANT SECRETARY

Mr. Clarence C. Crawford  
Associate Director, Education  
and Employment Issues  
Human Resources Division  
United States General Accounting Office  
Washington, DC 20548

DEC 31 1992

Dear Mr. Crawford:

The Secretary has asked that I respond to your request for comments on the GAO draft report, entitled COMPENSATORY EDUCATION: Difficulties in Measuring Comparability of Education Services Within School Districts (GAO/HRD-93-37), which was transmitted to the Department of Education by your letter of December 1, 1992

We are very pleased that the eight districts GAO visited were in compliance with the Chapter 1 comparability requirements. We are also pleased that the officials and experts interviewed by GAO believe the comparability requirement is a key provision in improving the equitable distribution of state and local resources among schools. We, too, believe that the comparability requirement is important in ensuring that Chapter 1 schools receive their fair share of state and local resources.

Nevertheless, for many of the reasons identified by GAO, we agree with GAO's conclusion that it would be inappropriate for Congress to tighten the comparability requirement at this time by mandating additional measures for determining comparability. In this regard, we recommend several changes in GAO's report. First, we recommend modifying the language on page 6 that discusses the statutory and regulatory comparability requirements. We do not agree that section 1018(c) of Chapter 1 requires measuring comparability on the basis of multiple factors. Rather, we believe that section 1018(c)(2) sets out one way in which comparability may be achieved. The Department's regulations, which were promulgated after public comment and review by Congress, add two other ways and allow flexibility for additional alternatives. See 34 C.F.R. § 200.43(c). Particularly in light of the problems identified by GAO with alternate measures of comparability, we believe the flexibility currently afforded by the statutory and regulatory provisions is preferable. We have revised the language on page 6 for your consideration.

400 MARYLAND AVE., S.W. WASHINGTON, D.C. 20202-6100

**Appendix III  
Comments From the Department of  
Education**

Page 2 - Mr. Clarence C. Crawford

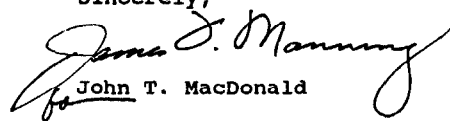
Second, we recommend strengthening the section of the report discussing the disagreement about the need for more comprehensive measures of comparability. It has been our experience that many of the alternate measures GAO considered either do not adequately measure comparability or would be so difficult to calculate that their burden would outweigh their benefit. We believe, therefore, that more of the "problems" identified with alternate measures should be presented in the report, rather than in the appendix.

For example, Appendix II makes clear the general lack of agreement regarding the appropriateness of proxy measures to assess teacher quality. Does a masters degree make a teacher better able to cope in a high poverty school? Is a difference in years of experience significant when the average, even for Chapter 1 schools, is more than ten years? Similarly, as Appendix II points out, most districts would have to revamp their recordkeeping systems to track materials and supplies at the school level. How would age and condition be measured? How would donations be computed? Moreover, in districts implementing school-based management, it may be difficult, if not impossible, to compare materials and supplies among schools that are deciding to allocate their resources differently. We suggest incorporating more of this information into the report.

We have also made some editorial suggestions. A marked up copy is enclosed.

Thank you for the opportunity to comment. My staff and I are prepared to respond to any questions you may have.

Sincerely,

  
John T. MacDonald

Enclosure

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