

Comer School Development Program Effects:

A Ten Year Review, 1986-1996



Yale Child Study Center

**SCHOOL
DEVELOPMENT
PROGRAM**

Prepared by:

Norris M. Haynes, Ph.D.

and

Christine L. Emmons, Ph.D.

This review was made possible with the support of the Rockefeller Foundation.

February 1997

A very positive external review has been done. It is now being put into final form and will be sent to you in the near future.

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We wish to acknowledge the significant contributions of Beverly Crowther and Elizabeth Neuse in the preparation of this report. Preparation of this report was made possible by a grant from the Rockefeller Foundation.

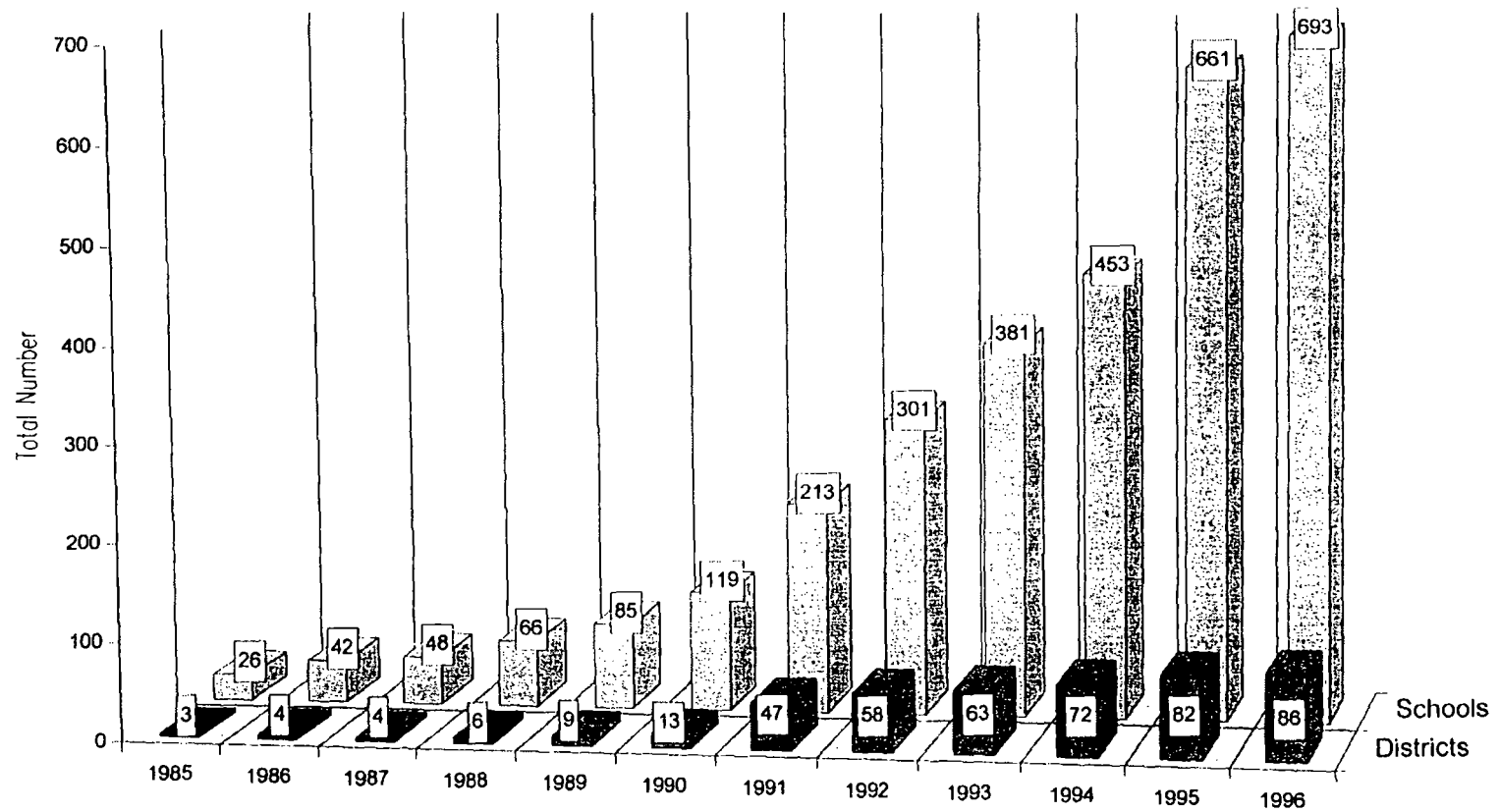
The Comer School Development Program (SDP) was developed by James P. Comer, MD, as a child-centered school improvement process to help children progress fully on all developmental pathways: physical, cognitive, psychological, language, social, and ethical. The SDP seeks to improve relationships among and between adults and children through nine key elements: three teams (School Planning and Management Team, Student and Staff Support Team, and Parent Team); three operations (Comprehensive School Plan, Staff Development, and Assessment and Modification), three guiding principles (Consensus, No-fault, and Collaboration). When these nine elements are in place and functioning well, a healthy, supportive school climate is established that promotes effective teaching and learning.

Because the SDP involves systemic, holistic and developmental school change, a variety of methods, strategies and measures is necessary to measure its impact on several different levels: district, school, parents and students.

During the past ten years, there has been a significant increase in the number of schools using the SDP. The number of districts within the SDP network grew from 3 in 1985 to 86 in 1996, and the number of schools increased from 26 to 693 (see figure 1). Additionally, the philosophy, guiding principles and mechanisms of the SDP have informed and continue to inform and influence school reform and school improvement efforts in untold numbers of schools throughout the country. This expanding use of the SDP's ideas and strategies to improve schools has had a major impact on how the SDP can now be evaluated.

In our early studies (1986-1991), comparisons between SDP and non-SDP schools and students were possible and were often conducted. Our findings showed significant differences in favor of SDP schools and students on a number of outcome measures including achievement, behavior, self-assessment, and perceptions of school and classroom climate. Given the level of saturation and the influence of the SDP in schools across the country, however, evaluation designs comparing SDP and non-SDP schools are becoming difficult, if not impossible. The most plausible approach now is to determine the level of implementation

**Figure 1: School Development Program:
Increase in Participation by Schools and Districts, 1985-1996**



of SDP-like processes in each school and then to examine the relationship of the implementation level and the quality of SDP processes to school-level student outcomes.

In this summary of SDP effects, we share preliminary results from recent studies examining the relationship between the level and quality of program implementation and school-level student outcomes. Additionally, we present data from our national SDP database showing the improvements and changes in SDP schools over several years. We also provide results from our earlier studies, when comparisons between SDP and non-SDP schools and students were more plausible. The summary is organized in terms of: (a) Academic Achievement, (b) Behavior and School Adjustment, (c) School and Classroom Climate, and (d) Self Concept.

A. Academic Achievement

Recent data analyses from ongoing studies in a New York district indicate significant program effects on student achievement. For 16 SDP schools in the district, we calculated an SDP effectiveness score based on an SDP implementation questionnaire and ranked each school as low, medium or high. We then examined the differences in student achievement among the three groups of SDP schools. We found that in the high implementing schools, higher percentages of students scored at or above the 50th percentile on the Degrees of Reading Power (DRP) Test and on the math portion of the California Achievement Test (CAT-5) than in the low implementing schools (see figure 2). Among the high implementing schools, 56 percent of students scored at or above the 50th percentile in reading and 61 percent in mathematics. Among the medium implementing schools, 48 percent scored at or above the 50th percentile in reading and 52 percent in math. Among the low implementing schools, only 36 percent scored at or above the 50th percentile in reading and 40 percent in math.

In examining the data from another perspective, we found that there were significant correlations among the 16 schools between the SDP effectiveness scores and student outcomes. The correlations ranged between .50 and .80 and were significant at a .05 level of confidence. The relationship between SDP effectiveness and student achievement is shown in figures 3 and 4, in which each school is represented by a box. The figures show plots of the schools' SDP effectiveness score, which ranged from 5 to 20, and the percentage of students at or above the national average in reading or math achievement. As the SDP implementation scores increase,

Percent of Students at or above the National Average
by Level of SDP Effectiveness

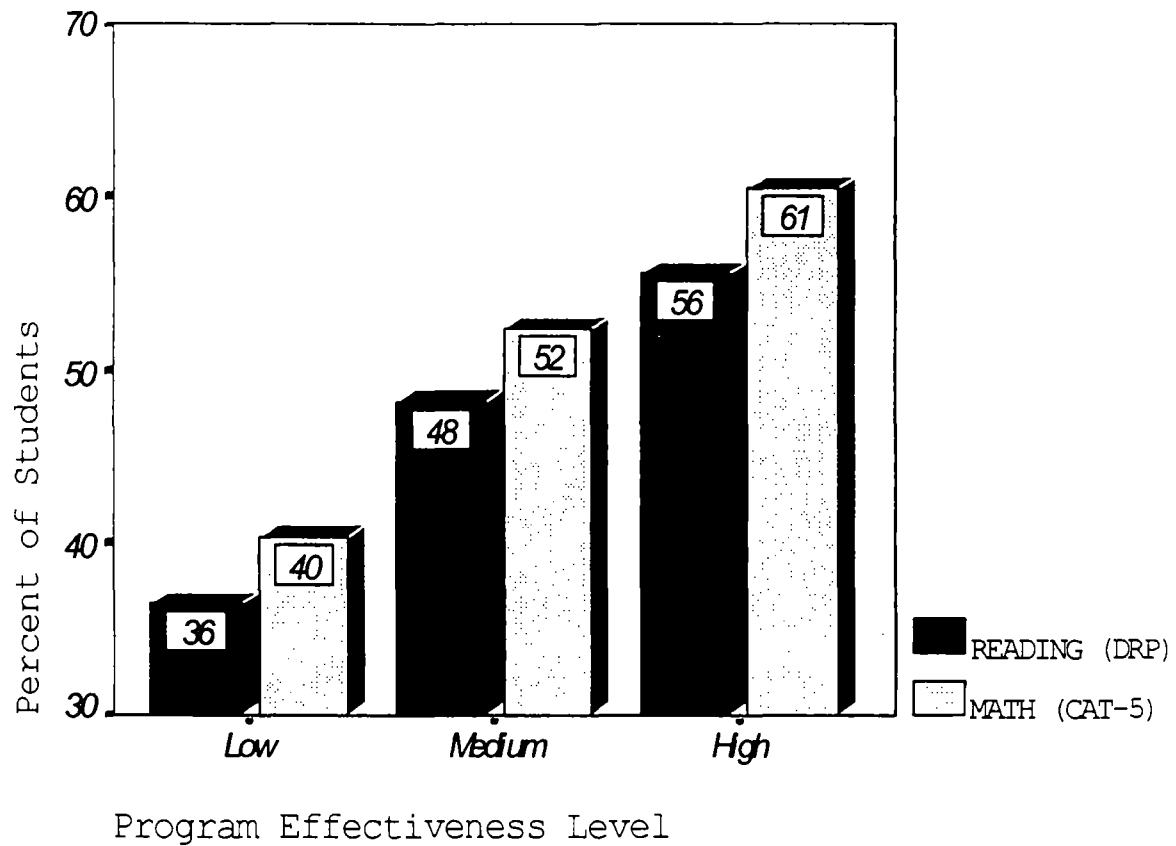


Figure 2: Differences in student achievement at or above the national average in reading and math among five high, five medium, and six low implementing SDP schools in a New York City school district.

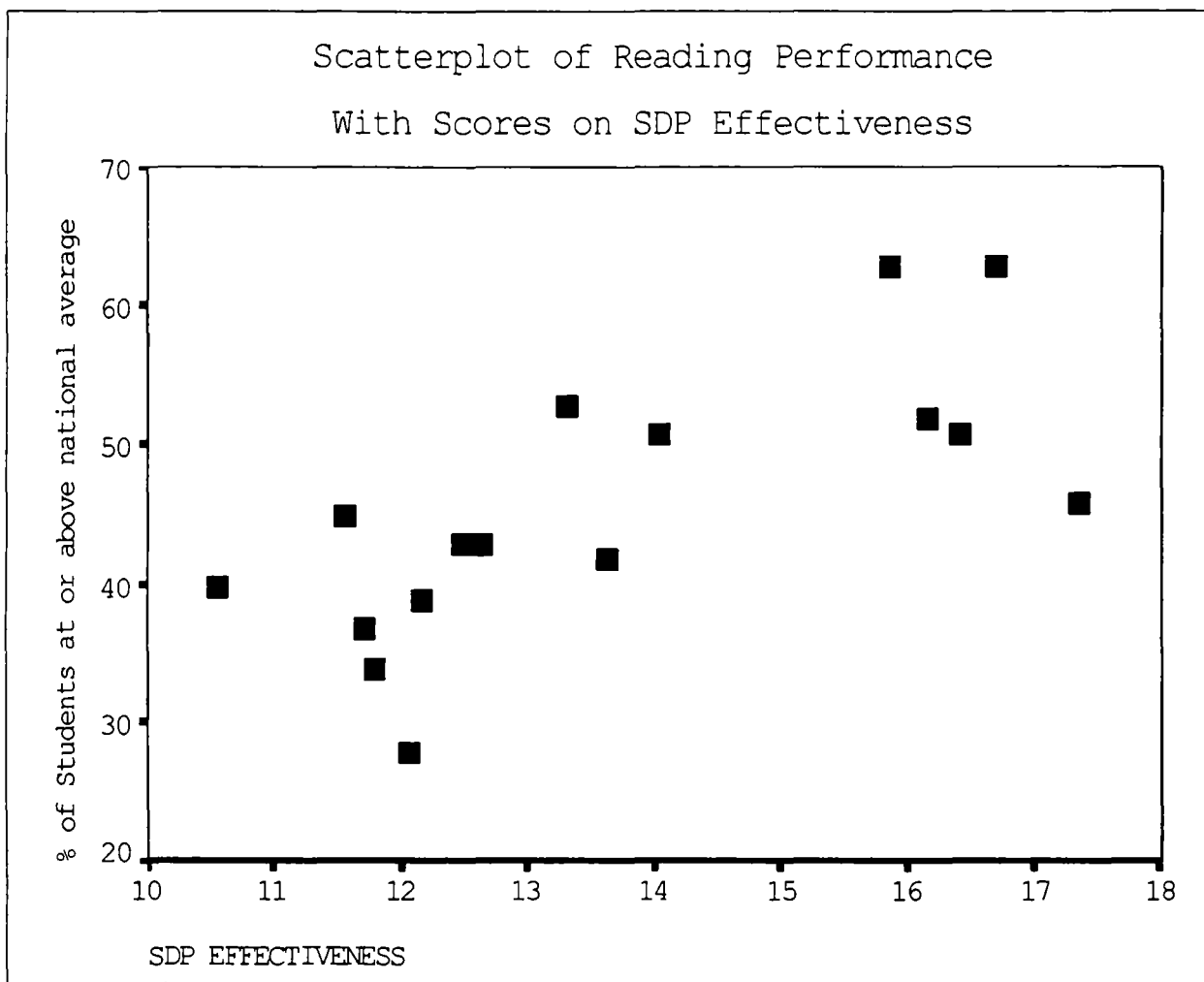


Figure 3: Percentage of students at or above the national average in reading achievement by SDP effectiveness rating of schools.

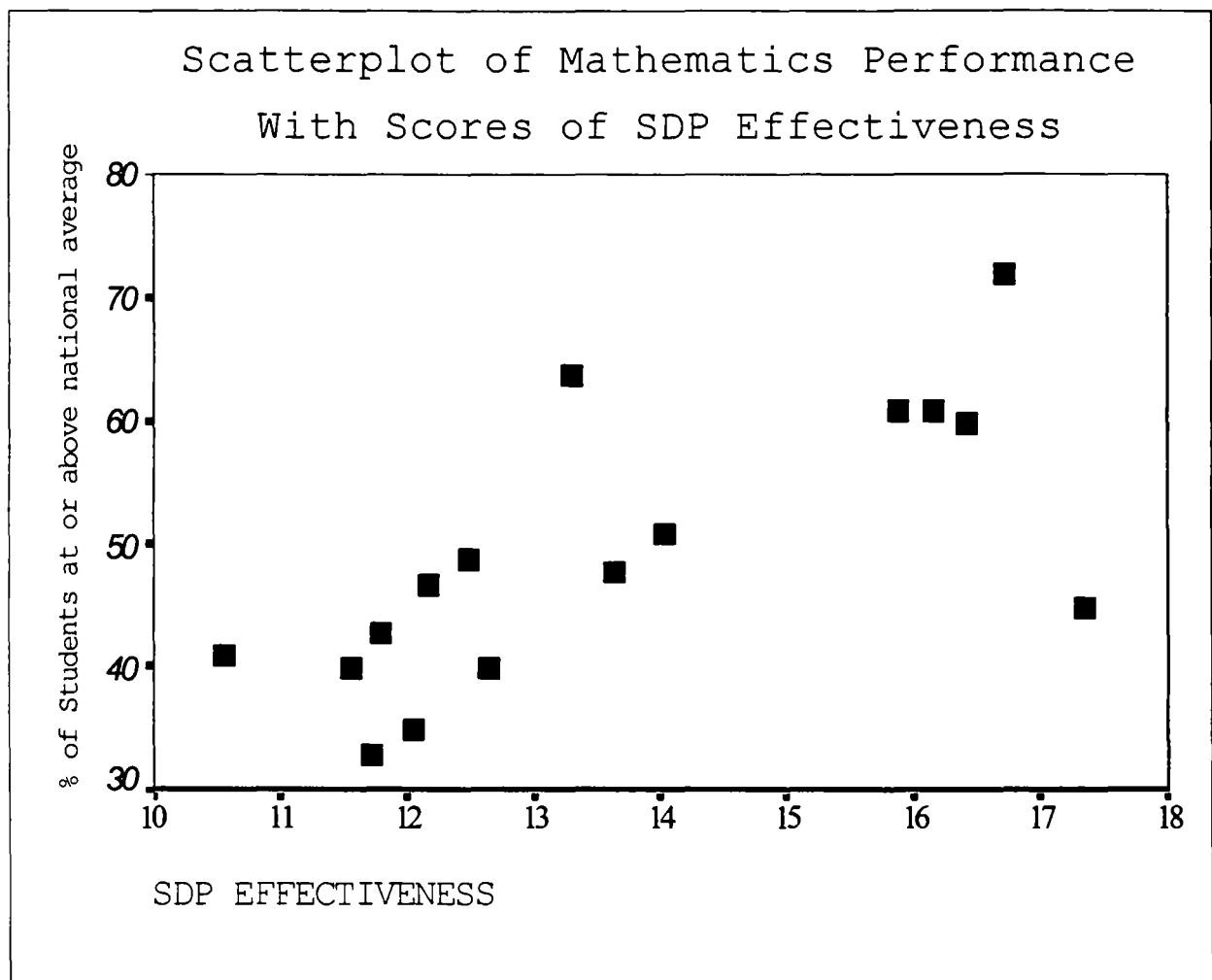


Figure 4: Percentage of students at or above the national average in math achievement by SDP effectiveness rating of schools.

the corresponding percentages of students at or above the national average also tend to increase.

Among the schools studied in the New York district, School A was the only elementary school implementing the SDP before 1995, having started in the 1992-93 school year. Of the schools, we found that SDP School A in 1995 had the third highest SDP effectiveness score, 16.4 points out of a possible 20. We examined the profile of this SDP school in relationship to the district as a whole and to New York City schools. In 1992-93, when School A started implementing the SDP, the percentage of students scoring at or above the 50th percentile in the Degrees of Reading Power assessment was 45, somewhat below that of New York City, 47 percent. In the school year 1994-95, the percentage rose to 51, exceeding the city's percentage of 47. In 1992-93, the percentage of students scoring at or above the 50th percentile in math on the CAT-5 was 55 at SDP School A, compared to 54 percent for the city. In 1994-95, the percentage of students at or above the 50th percentile in mathematics increased to 60 for SDP School A, compared to 58 percent for the city. In 1995-96, the percentage in mathematics for SDP School A increased again to 67. (See figures 5 & 6.)

During the baseline year 1993-94, when the SDP implementation began in the school district as a whole, 58 percent of the students in SDP School A scored at or above the minimum level in reading on the state competency test, similar to the 60 percent of students in the district overall. Already by the 1994-95 school year, the percent of students in SDP School A scoring above the minimum level increased to 70, a 12 point jump, while the district percentage went down 5 points to 55. In 1995-96, the percentage in SDP School A increased 3 points to 73 percent, while the district as a whole decreased 3 points to 52 percent. Between 1993-94 school year and 1995-96 school year, SDP School A experienced a 15 point increase in the percent of students scoring at or above the minimum competency level in Reading, while the district as a whole recorded a 8 point decrease (see figure 7).

In mathematics, SDP School A also registered substantial increases in the percentages of students scoring at or above the minimum competency level. In 1993-94, 86 percent of the students scored at or above the minimum level, slightly above the 84 percent for the district. By 1994-95, 94 percent of students in SDP School A scored at or above the minimum level (an

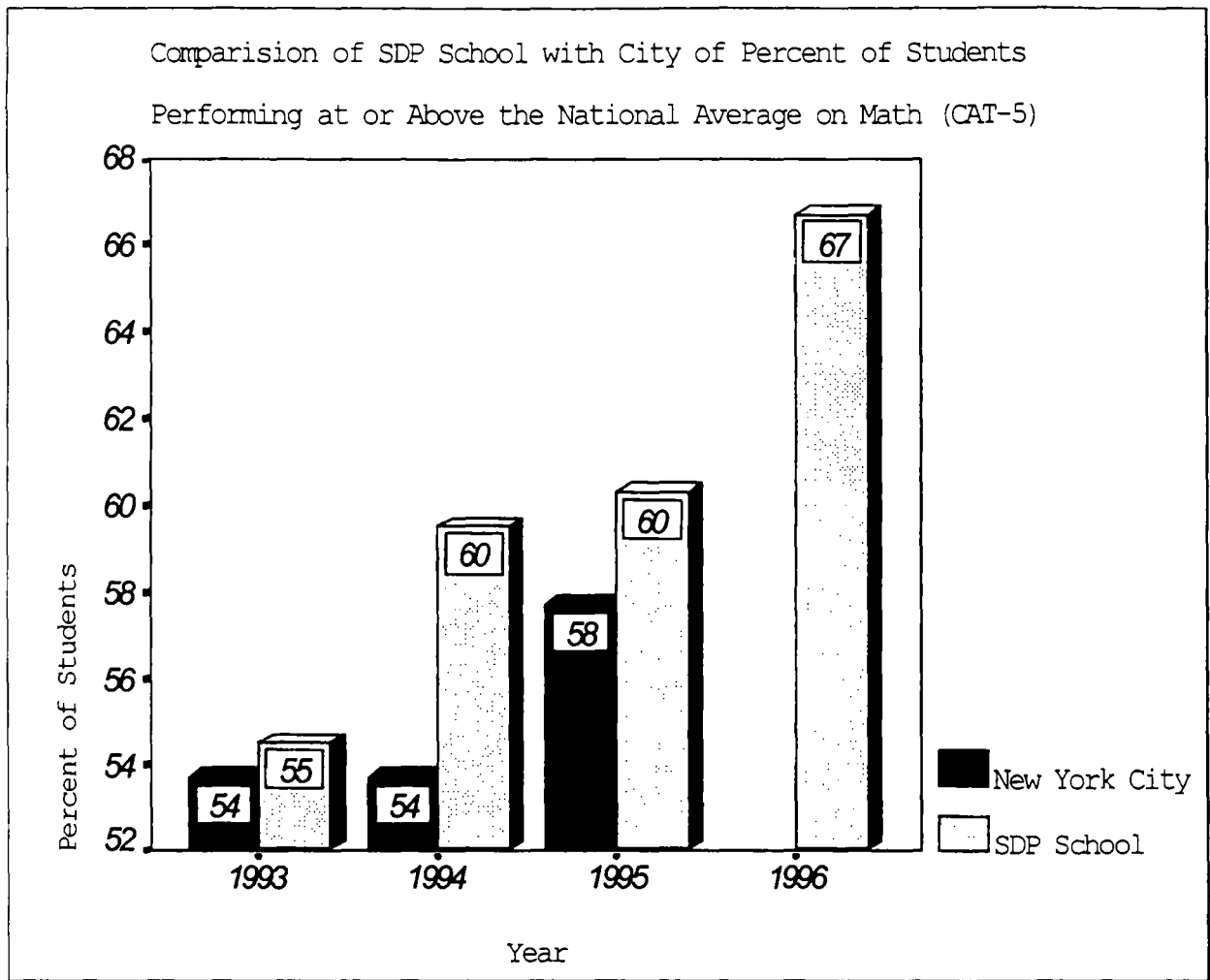


Figure 5: Comparison of the percentage of students at or above the national average in math achievement scores (CAT-5) for SDP school and New York City schools from 1993 to 1996.

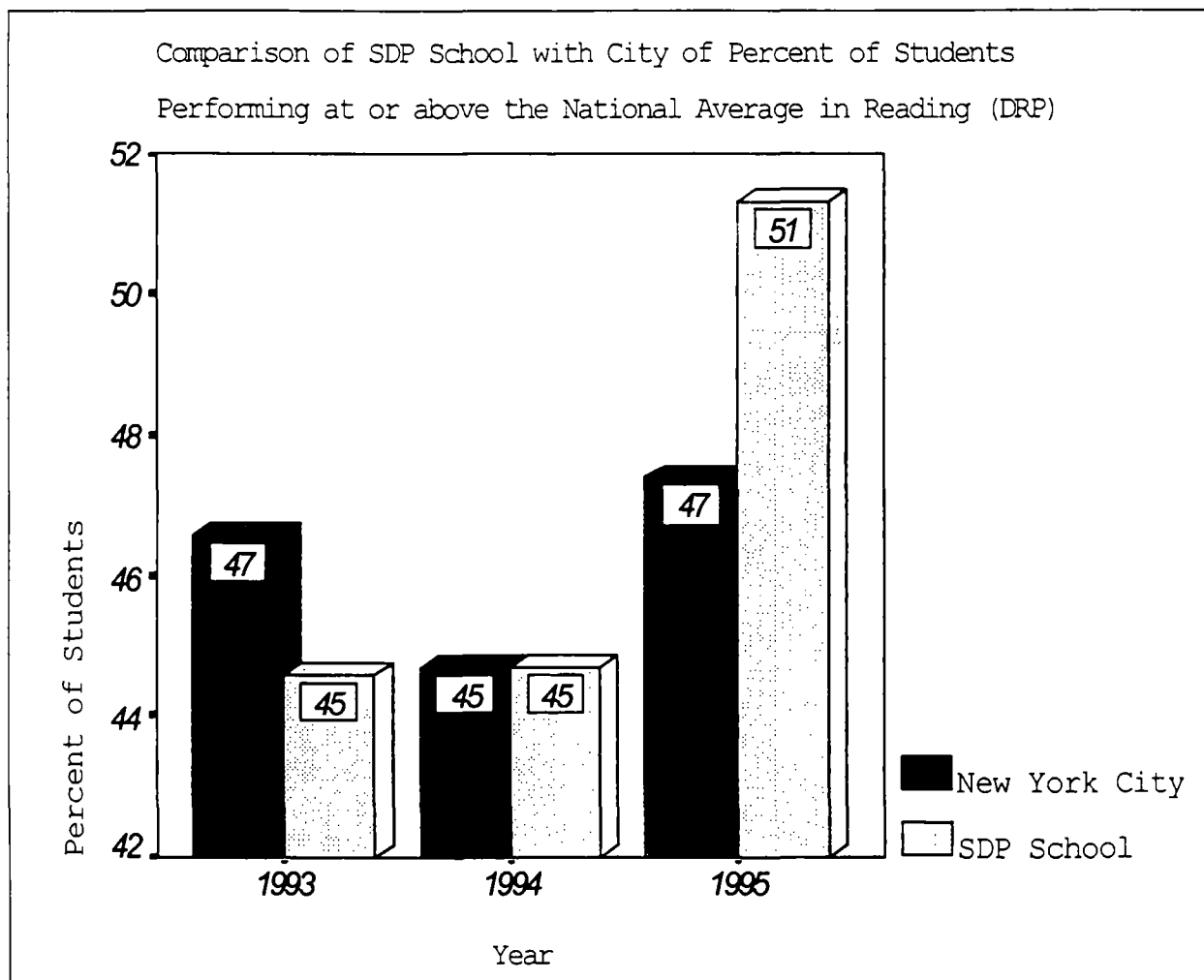


Figure 6: Comparison of percentage of students at or above the national average in Degrees of Reading Power scores for SDP school and New York City schools from 1993 to 1995.

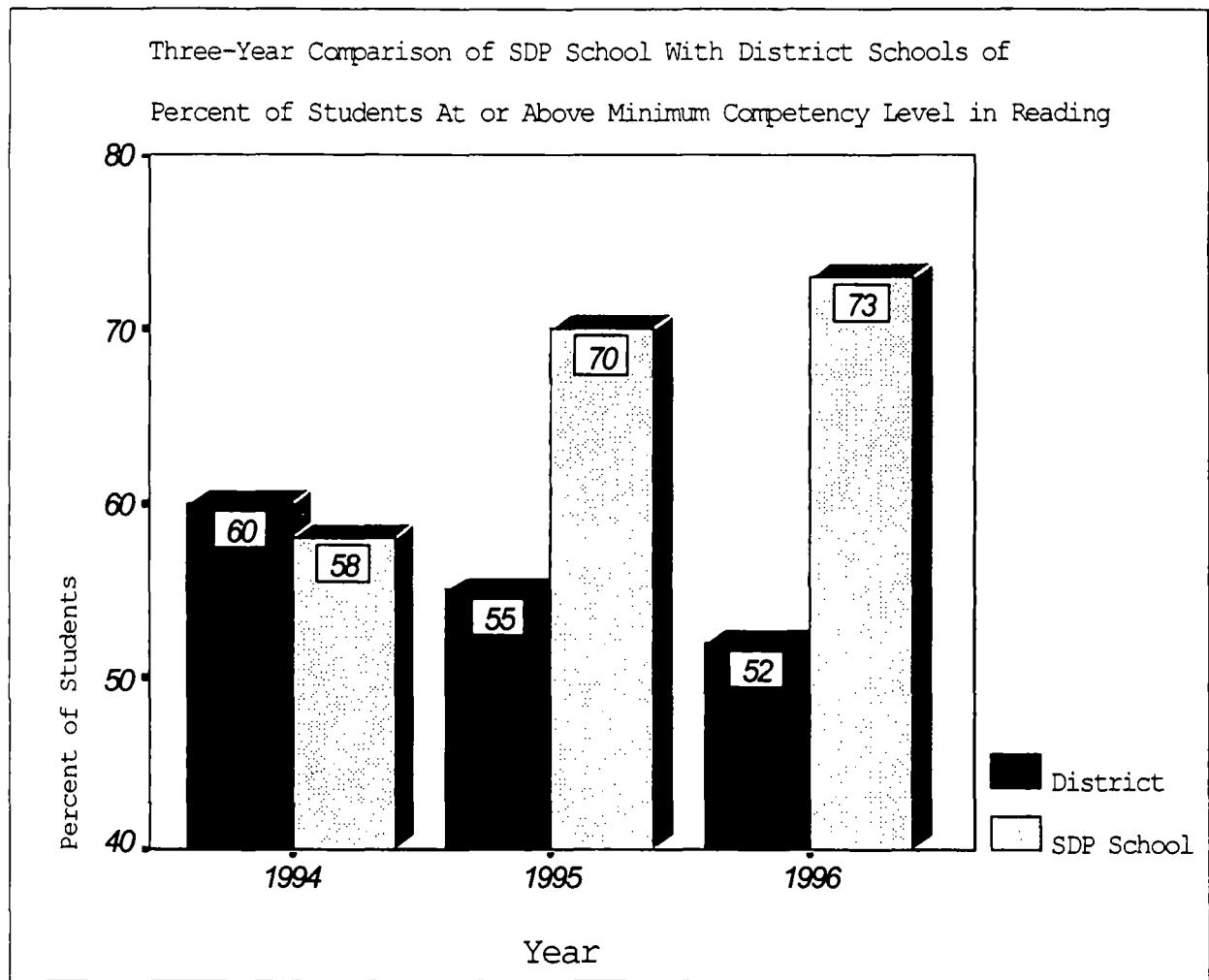


Figure 7: Comparison of SDP school with district schools showing percent of students scoring at or above the minimum competency level in reading from 1994 to 1996

8 point increase), compared to 85 percent (a 1 point increase) for the district. By 1995-96, a remarkable 97 percent at SDP School A scored at or above the minimum level (a 3 point increase), compared to 86 percent for the district as a whole (a 1 point increase). Thus, for the three year period, SDP School A reported a 13 point increase in the number of students scoring at the minimum level in mathematics compared to 2 point increase for the district as a whole (see figure 8).

We have established a national database of SDP district and school level demographic and performance data. This database enables us to keep track of the progress in measures of student performance that many districts and schools in the SDP network across the country are making over time. Specifically, the database includes data on overall student achievement, school attendance rates, and suspensions. The data are provided by the school districts; some may now be accessed directly through the Internet.

On a national scale, the academic gains for some SDP schools lag behind considerable positive changes in school climate and other indicators of student performance. To measure changes in school climate data and student self-concept, however, requires additional assessments on a periodic basis that are not generally available for many SDP schools. Academic improvement, especially in standardized test scores, also takes typically several years to show up. An examination of data from the national database reveals, however, that many SDP schools over the course of several years have demonstrated significant academic growth. Data for some of these SDP schools, presented below, indicate general improvement that can be attributed in part to the SDP.

SDP School B is an elementary school with close to 450 African American students, located in District B, a major metropolitan school district on the east coast. The school adopted the School Development Program in 1991. Figures 9a and 9b show steady achievement gains on the Comprehensive Test of Basic Skills in grades 3 and 6 from 1992 to 1995. Figures 9c and 9d show the comparable district-wide figures for the same period. While SDP School B, on the one hand, shows steady improvement, district-wide scores, on the other hand, remained stable.

Figures 10 and 11 show school-wide achievement gains at two elementary schools in a major metropolitan area in the southeast. Both began implementing the School Development

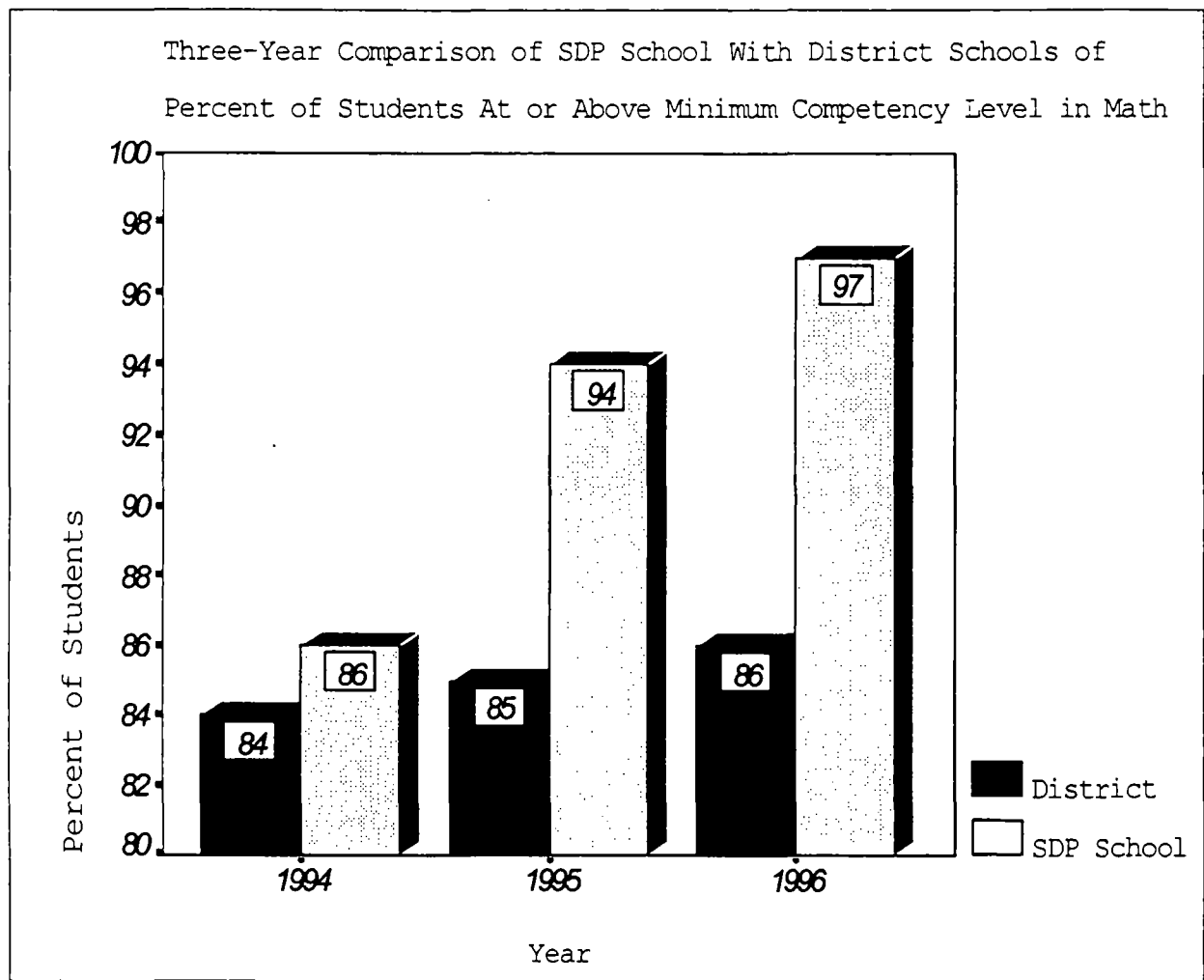
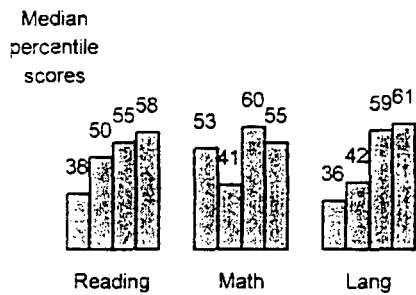
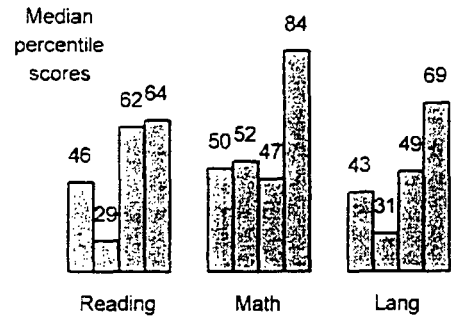


Figure 8: Comparison of SDP school with district schools showing percent of students scoring at or above the minimum competency level in math from 1994 to 1996

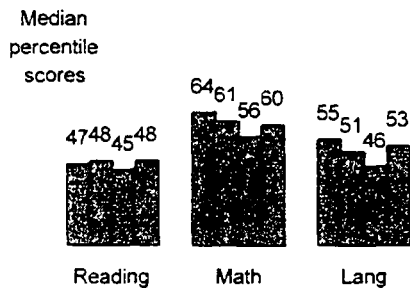
**Fig. 9a Change in achievement,
SDP School B-Grade 3, 1992-
1995**



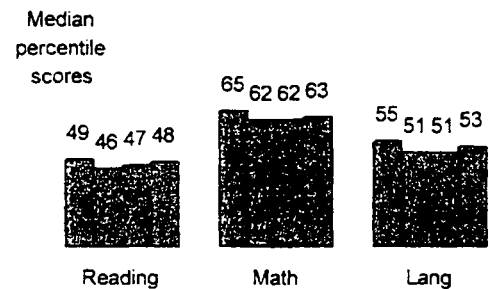
**Fig. 9b Change in achievement,
SDP School B-Grade 6, 1992-1995**



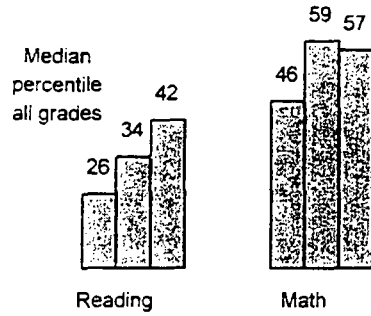
**Fig. 9c Change in achievement,
District B Grade 3, 1992-1995**



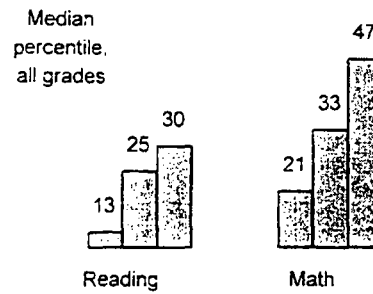
**Fig. 9d Change in achievement,
District B Grade 6, 1992-1995**



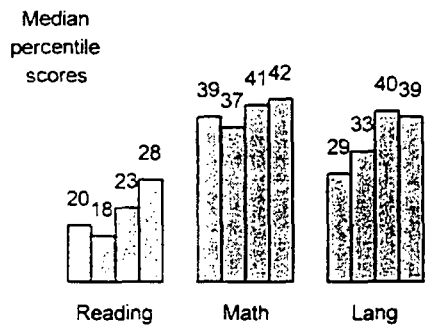
**Fig. 10 Change in achievement,
SDP School C, 1993-1995**



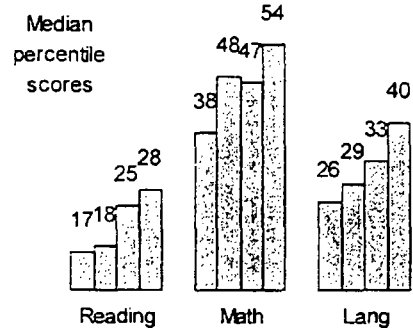
**Fig. 11 Change in achievement,
SDP School D, 1993-1995**



**Fig.12 Change in achievement,
SDP School F-Grade 8, 1993-
1996**



**Fig.13 Change in achievement,
SDP School F-Grade 9, 1993-
1996**



Program in 1992. SDP School C has over 1000 students in grades PK through 6th, with a 90% minority enrollment (77% of the students are Hispanic). About 90% receive free or reduced price lunches. SDP School D has close to 300 students in grades PK through 4; 97% of them are African-American. Virtually all students at the school receive free or reduced price lunches.

Figures 12 and 13 reflect achievement gains in Grades 8 and 9 over the last four years at a junior high school in a metropolitan district on the west coast. The school has a student body of almost 1000 students, composed of 20% African-Americans, 20% Hispanics, and 60% Asians. It began implementing the SDP in 1993.

Earlier evidence (Comer, 1988) also showed similar substantial academic growth among schools using the SDP. In 1988, Prince George's County Public Schools reported significantly higher gains for math, reading and language on the California Achievement Test (CAT) for schools that were using the SDP, than the district as a whole. At the third grade level, SDP schools gained 18 percentile points in mathematics, 9 percentile points in reading and 17 percentile points in language. The district gains were 11, 4, and 9 percentile points in mathematics, reading and language, respectively. At the fifth grade level, SDP schools recorded 21, 7 and 12 percentile points gains in mathematics, reading and language, respectively, compared to gains of 11, 4 and 7 percentile points for the district as a whole (see figures 14 & 15).

Analyses of achievement data in Benton Harbor, Michigan, showed similar trends. Schools that were using the SDP recorded significant four-year gains, between 7.5 and 11.0 percentile points in reading and mathematics, at the fourth, fifth and sixth grades, exceeding gains registered for the district as a whole. Program schools also registered higher gains in mathematics and reading than the district as a whole in terms of the percentage of students obtaining 75 percent or more of the objectives on the California Achievement Test (CAT).

In a study of long-term SDP effects on students' achievement and grades in New Haven, Connecticut, Haynes (1988) found substantial differences between students who attended SDP elementary schools and a comparison group from non-SDP schools. The follow-up study was conducted two to four years later when the students were attending the same middle school.

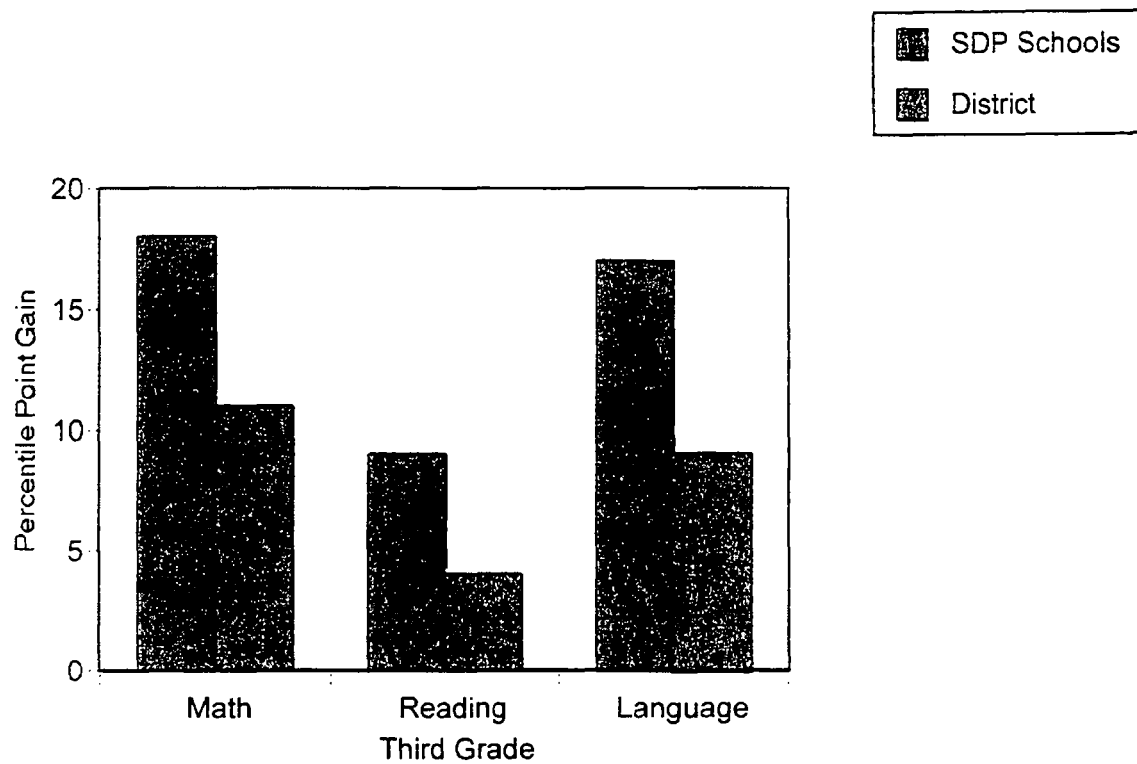


Figure 14: Grade 3 Average Percentile Gains, 1985-1987
California Achievement Test Scores

Source: Comer, J.P. (1988). Educating poor minority children. Scientific American, 259 (5), pp. 42-48.

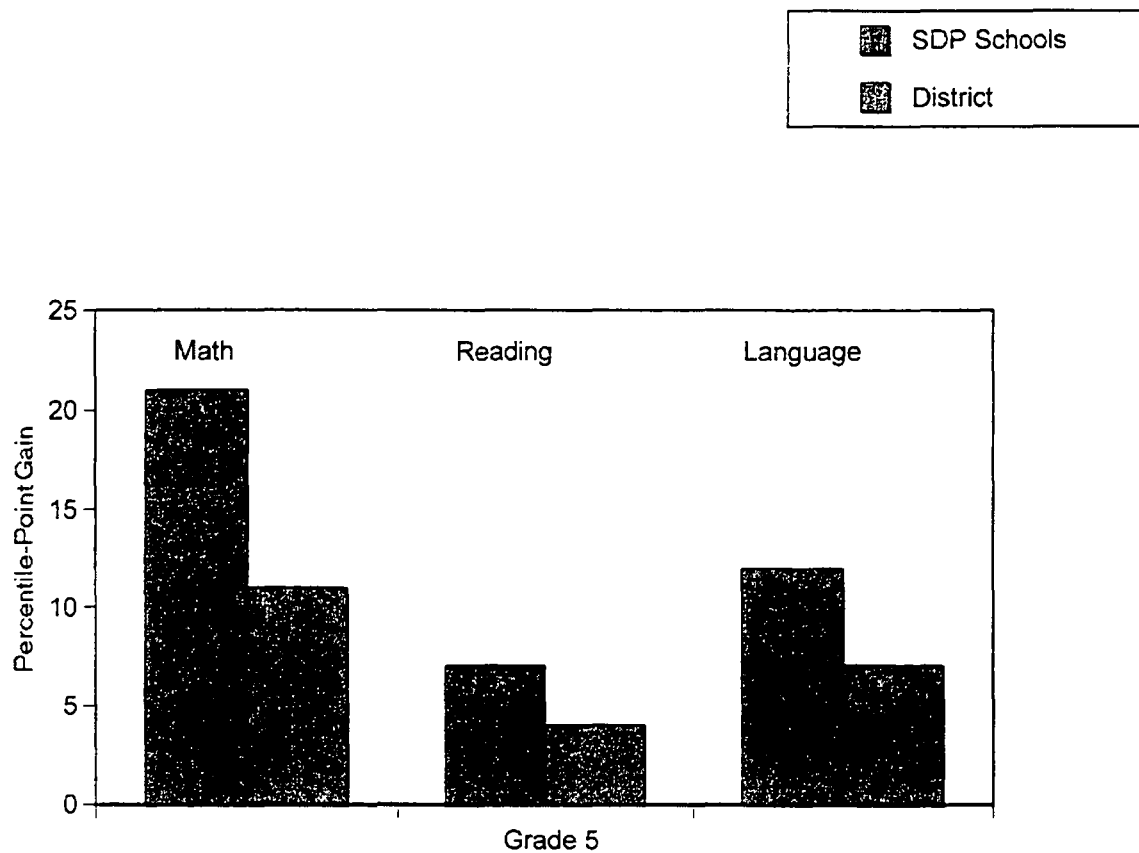


Figure 15 : Grade 5 Average Percentile Gains, 1985-1987
California Achievement Test

Source: Comer, J.P. (1988). Educating poor minority children. Scientific American, 259 , (5), pp. 42-48.

Using a measure of effect size, Becker and Hedges (1992) computed the differences to be as large as $\frac{1}{2}$ standard deviation in the New Haven study and $\frac{2}{3}$ standard deviation in the Benton Harbor study. When standardized test scores were examined, SDP students scored an average of one half standard deviation higher than their non-SDP peers on the Iowa Test of Basic Skills, math and language sections.

Recent data (Haynes, Emmons, Gebreyesus, and Ben-Avie, 1996) from an inner city elementary school in New Haven, Connecticut, one of the best implementing SDP schools located in one of the poorest areas in the city, indicated significant achievement gains for third graders in mathematics and language, following adoption of the program in 1987. These data are presented in Figure 16.

B. Behavior and School Adjustment

Table 1 displays improvements in attendance rates at three SDP elementary schools in a large metropolitan school district on the east coast, as well as the average attendance rate for all elementary schools in the district for comparison. The student body at each of these schools is African-American, and enrollment ranges from 330 (School S) to 400 (School U). All schools began implementing the School Development Program in the fall of 1990. The data show that the three SDP schools increased remarkably their average attendance over the six years, bringing their previously low attendance rates up to and above the average of elementary schools in the district.

Table 2 displays parallel improvements in attendance and promotion rates at four other elementary schools in this district, also shown in comparison to district-wide figures. With the exception of School X, the schools have larger enrollments (450-550) than the preceding group; students are predominantly African-American. These four schools began implementing SDP in 1991. The data show that attendance and promotion rates for the four schools between 1991 and 1996 generally increased to levels as high or higher than the district as a whole. The two schools, X and Y, that matched the district average in 1991, remarkably exceeded the district by several percentage points in 1995 in both attendance and promotion rates. School Y's attendance average suffered in 1995-96 but its promotion rate continued to increase.

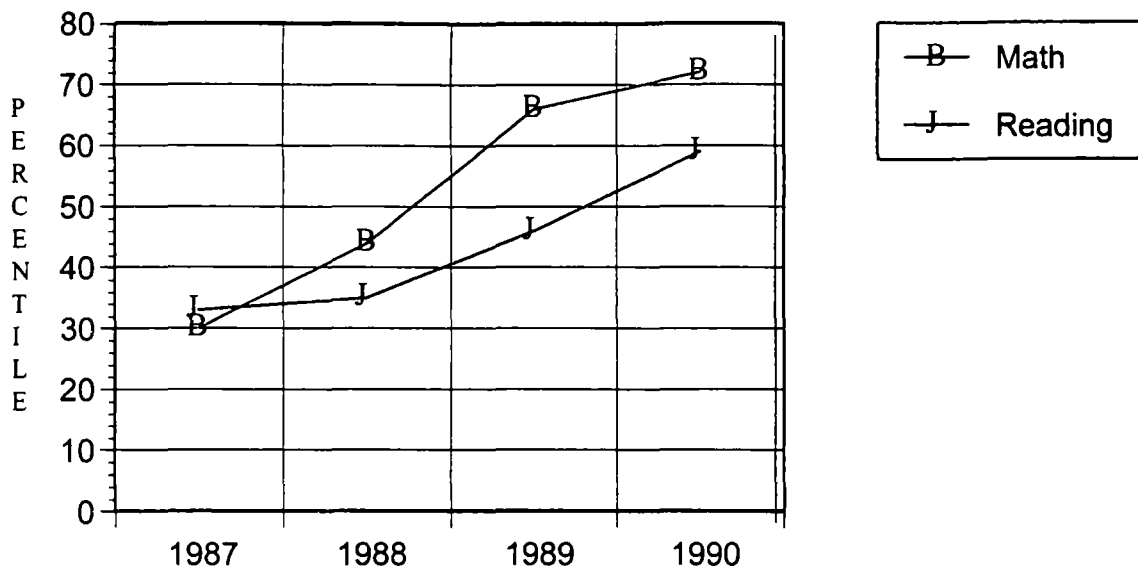


Figure 16: MAT-6 results 1987-1990, grade 3, New Haven SDP Elementary School.
(Source: Comer, J. P., Haynes, N. M., Joyner, E. T., and Ben-Avie, M. (Eds.)(1996).
Rallying the whole village: The Comer process for reforming education. New York:
Teachers College Press, p. 132.)

Table 1. Rise in Attendance Rates, 1991-1996

<u>Year</u>	<u>District (Elem)</u>	<u>School R</u>	<u>School S</u>	<u>School U</u>
90-91	92.2	81.1	88.9	88.5
91-92	92.5	81.7	89.3	89.2
92-93	92.4	80.9	88.9	87.2
93-94	92.1	84.0	91.9	91
94-95	94.3	88.3	93.7	94.1
95-96	93.4	91.2	94.1	94.3

Table 2. Rise in Attendance and Promotion Rates, 1991-1996

<u>Year</u>	<u>District (Elem)</u>		<u>School W</u>		<u>School X</u>		<u>School Y</u>		<u>School Z</u>	
	<u>ATT</u>	<u>PROM</u>	<u>ATT</u>	<u>PROM</u>	<u>ATT</u>	<u>PROM</u>	<u>ATT</u>	<u>PROM</u>	<u>ATT</u>	<u>PROM</u>
90-91	92	91.3	89	92.7	92	91.2	93	88.8	89	85.5
91-92	93	91.5	90	88.1	95	89.8	93	92.1	89	85.9
92-93	92	92.5	90	90.6	95	93.9	92	95.5	88	83.9
93-94	92	93.4	92	95	97	99	92	95.7	86	87.3
94-95	94	93.4	95	93.1	98	95.3	96	97.9	92	94.6
95-96	93	93.2	92	95.4	96	96.3	93	100	91	86.2

Table 3 demonstrates the decline in rates of out-of-school suspensions that can be seen at some schools that have implemented the SDP. School G is an elementary school located in a metropolitan district in the south; it implemented the SDP in 1991-92. Student enrollment is between 700 and 800, and the students are nearly all African American. SDP School J is located in a large metropolitan district on the west coast. It has over 1000 students in grades K-5, 50% African American and almost 20% Asian; it began implementing the SDP in 1990. Aggregated district level data were not available. The data show very substantial declines in out-of-school suspensions between 1990-91 and 1994-95 for the two SDP schools.

In New Haven, students in SDP schools showed substantially higher levels of pro-social student behavior as measured by teacher assessment, lower rates of student absences, and a lower rate of tardiness than students in non-SDP schools (Haynes, 1994). A follow-up study of students in grade 6 at an urban middle school found modestly more favorable teacher ratings of behavior, work and social habits and attitudes in students who had attended SDP elementary schools than in students from matched non-SDP elementary schools. Rates of both absence and tardiness were lower at grades 6 and 8 among the students who attended SDP elementary schools than among students who attended non-SDP elementary schools (Haynes, 1993).

Comparisons of SDP schools with the district as a whole in Benton Harbor showed consistently lower (and markedly greater declines) in rates of corporal punishments among SDP schools, and substantial declines in rates of suspensions (Haynes, 1987). Similarly, data comparing Norfolk SDP schools to all Norfolk non-SDP schools showed that the rates of student absence were lower in SDP schools for both of the years studied.

Quasi-experimental studies conducted by Haynes, Comer, and Hamilton-Lee (1988b, 1994) reported that students in SDP schools demonstrated significantly greater positive changes in attendance, teacher assessments of their classroom behavior, attitude toward authority, and group participation, than students in non-SDP schools. Cauce, Comer, and Schwartz (1987) found that students in SDP schools reported significantly higher levels of school competence and self-competence than a matched control group of students in non-SDP schools.

C. School and Classroom Climate

Data on student judgments of classroom environment generally favor SDP schools. Comer, Haynes, and Hamilton-Lee (1989) found that students in SDP schools reported significant improvements in the scores of five of the nine Trickett and Moos (1974) Classroom Environment Scale (CES) subscales as well as for the total CES. Very large SDP advantages were observed for Innovation, Order and Organization, and Teacher Support subscales, with smaller advantages for Involvement and Affiliation. Students in the four non-SDP comparison schools reported significant improvements in only two of the subscales. Lower Competition subscale scores for the SDP schools are possibly consistent with emphasis in the SDP schools on cooperation and the cooperative nature of the SDP intervention. The negative effects for Task Orientation and Rule Clarity in the SDP schools can in part be explained by the fact that SDP students saw no change in these areas, while non-SDP students' scores on these subscales increased.

Haynes (1990) found that CES scores were almost half of a standard deviation higher for SDP students than non-SDP students in New Haven. Similar results reported by Comer et al. (1986a) appeared positive, although they were not as explicit. More detail is available in the report by Haynes (1989), which shows a more positive overall assessment of climate in the SDP schools.

Results based on an early version of the SDP School Climate Scale (Haynes, 1989) showed that parents' assessments of school climate showed significant positive gains for the SDP schools. Parents of children in non-SDP schools reported significant negative changes in their assessments of the climate in their schools. The resulting effect size of 1.04 indicates a large, significant difference in the assessments. Information on parent participation (Haynes, 1989) was mixed, with higher percentages of Benton Harbor's SDP parents participating in school activities, but lower percentages going to parent-teacher conferences.

D. Self Concept

Becker and Hedges (1992) summarized results of SDP effects on self-concept in their review of SDP effectiveness, primarily in Benton Harbor, MI, and Prince Georges County, MD. Their report includes results from Joyner's (1990) study of New Haven middle schools

and two Benton Harbor study clusters, based on elementary school samples. Comparisons (to matched schools) showed overwhelming advantages for students in the SDP schools. SDP students scored less than the comparison students on only one subscale (physical self-concept) in one location, and the difference was small. Most differences favored SDP schools, and some were quite large. Unusually favorable results were found in Joyner's New Haven study (1990) with an effect size of 3.05. Haynes and Comer (1990) reported no effect size smaller than three-fourths of a standard deviation.

Becker and Hedges (1992) also reported that results for other self-concept measures were also positive, although all effect sizes were smaller than one. The self and school competence scales used by Cauce, Comer and Schwartz (1987), for example, showed significant positive program effects, representing shifts from the 50th percentile to between the 75th and 80th percentile for the program group. These results are attributable at least in part to the SDP.

In a study by Haynes and Comer (1990), students in SDP schools in the fourth and sixth grades were compared with non-SDP students on six self-concept dimensions on the Piers-Harris Self Concept Scale. Both groups of students were also compared with the national normative sample on total self-concept. Students in SDP schools showed significantly greater increases on all self-concept dimensions and on total self-concept, compared to students in non-SDP schools. Students in SDP schools also scored higher than the national average (see figures 17 and 18).

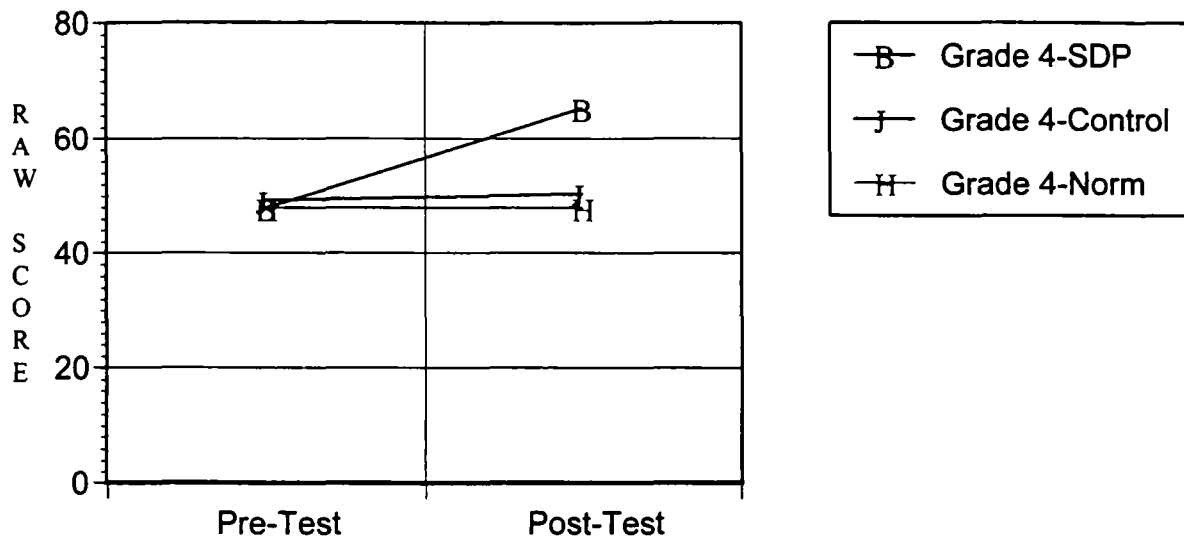
Conclusion

The Comer School Development Program is an effective process for improving schools. It is not a magic solution but a commonsense approach to school reform that is grounded in sound child development principles. Our continuing documentation shows that significant positive effects on school-level student performance are achieved when the SDP is implemented well. Some of the lowest achieving schools that have adopted and consistently implemented the SDP have shown remarkable improvement in outcomes, demonstrating the potential of the SDP. Consistent implementation of the SDP leads to the renewed dedication and commitment of all the adults in children's lives, making our schools caring, sensitive, and challenging learning communities.

Table 3. Decline in Number of Out-of-School Suspensions, 1990-1995

<u>Year</u>	<u>School G</u>	<u>School J</u>
89-90	*	54
90-91	25	30
91-92	39	29
92-93	8	30
93-94	16	14
94-95	6	0

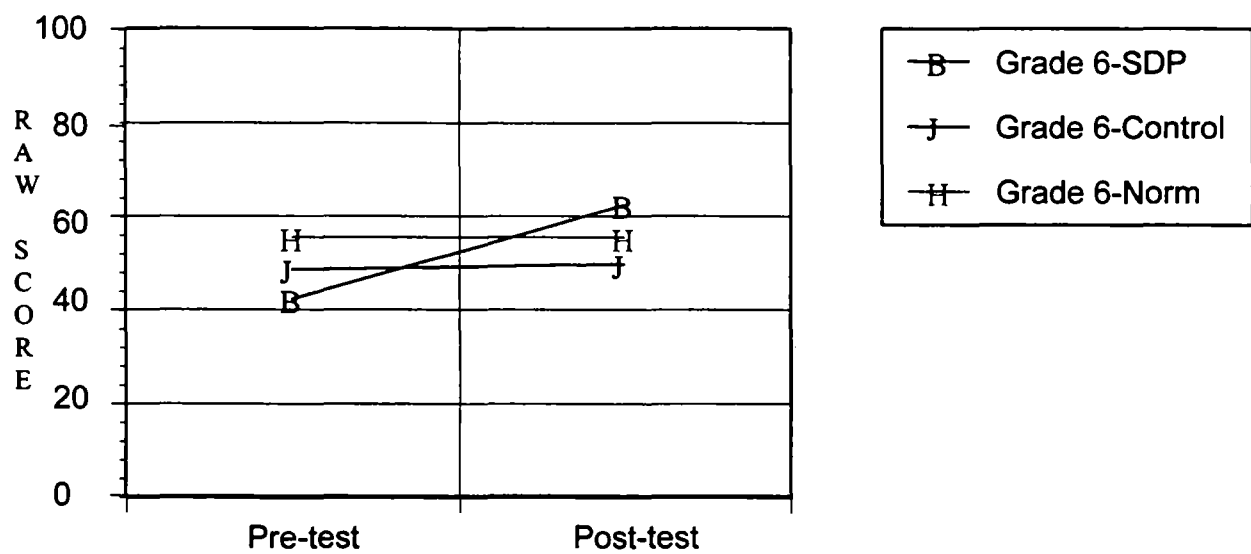
* Indicates data unavailable.



Note: Highest possible score is 80

Figure 17: Comparison of mean total self-concept scores for fourth grade SDP, non-SDP students, and normative group, 1990

Source: Haynes, N.M. and Comer, J.P. (1990). The effects of a Development Program on self-concept. The Yale Journal of Biology and Medicine, 63, pp. 275-283.



Note: Highest possible score is 80.

Figure 18: Comparison of mean total self-concept scores for 6th grade SDP students, Non-SDP students, and normative group, 1990.

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