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Solving the Education Puzzle

In *CHOICES* Third Quarter 1993, Kevin McNamara and Bob Jones graphically present the education puzzle. As they demonstrate, despite increases in real per-pupil public school spending and decreases in public school pupil/teacher ratios, student performance as measured by SAT scores declined.

McNamara and Jones offer some possible explanations for this contrary finding: the SAT may not be the best measure of student performance, schools may be inefficient users of resources, and social changes may overwhelm what's going on in the classroom. Here I present information to support McNamara and Jones' suggested answers to the education puzzle.

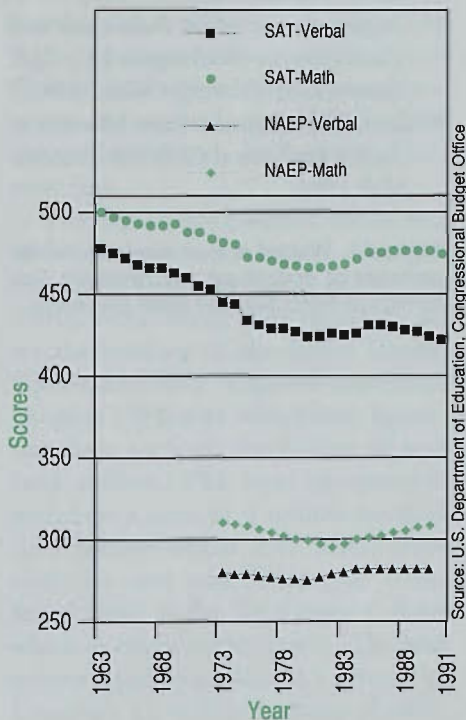


Figure 1. Measures of student achievement

Output

The SAT does not represent the performance of all students because only college bound students take that exam. The National Assessment of Educational Progress (NAEP) test better represents all students. Since 1973, a nationally representative sample of nine-, thirteen-, and seventeen-year-old students have taken the NAEP.

Both SAT verbal and math scores trended downward since 1973, but math scores have partially recovered. In contrast, NAEP verbal and math scores fell in the 1970s but fully recovered in the 1980s (figure 1).

These trends indicate the performance problem in public education during the past twenty years lies mainly with verbal skills of college bound students.

Inputs—spending

Although real per-pupil spending in public schools rose impressively over the past thirty years, instructional spending increased much less (figure 2) because an increasing share of spending supported non-instructional functions. In 1960, these functions received 32 percent of total per-pupil spending; by 1990, some 40 percent went for noninstructional purposes.

Schools have shifted spending in other ways. In the past two decades, schools made a concerted effort to assist handicapped and educationally disadvantaged students; in 1988, public schools spent \$24 billion nationwide for these students. Schools spent almost twice as much per handicapped and disadvantaged student as per other students. This spending is probably related to the

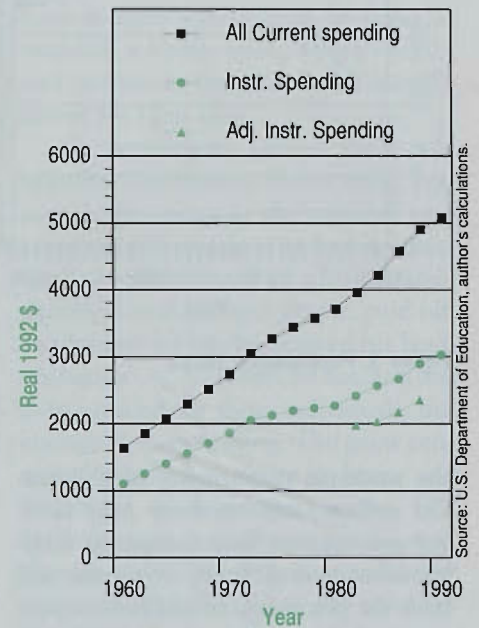


Figure 2. Measures of real instructional spending per pupil

improvement in standardized test scores recorded by handicapped and special students. However, when we subtract spending for handicapped and disadvantaged students, instructional spending per other pupil is noticeably lower, as shown in figure 2.

Inputs—teachers

Pupil/teacher ratios have fallen, but again, in the past twenty years, an increasing number of teachers teach handicapped, special education, and low income students in small groups. The adjusted pupil/teacher ratio, which omits the handicapped and other special students and their associated teachers, is about two pupils higher than the unadjusted or gross ratio (figure 3).

Social influences

Substantial evidence shows that the socioeconomic status of families affects

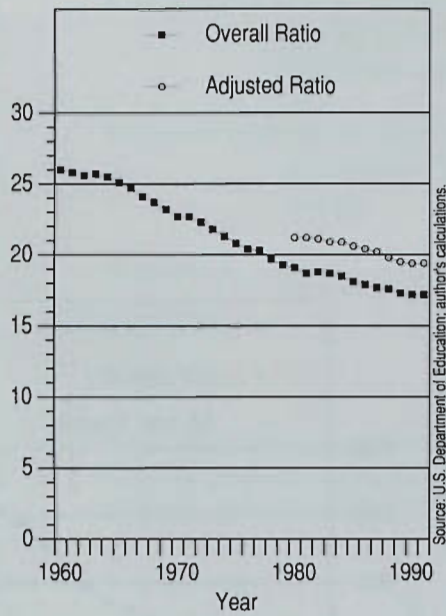


Figure 3. Pupil/teacher ratios

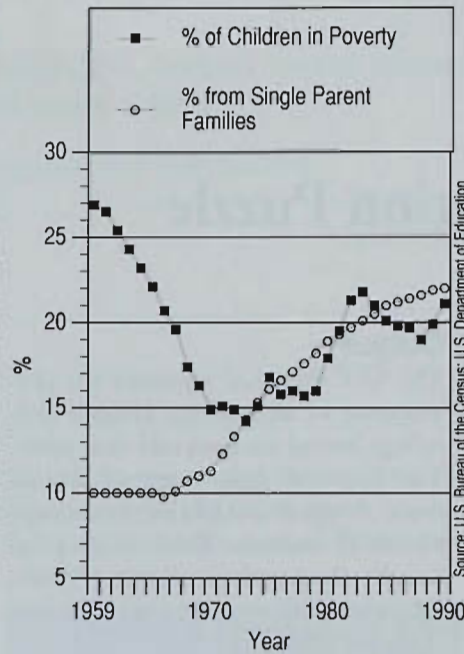


Figure 4. Changes in socioeconomic status of children

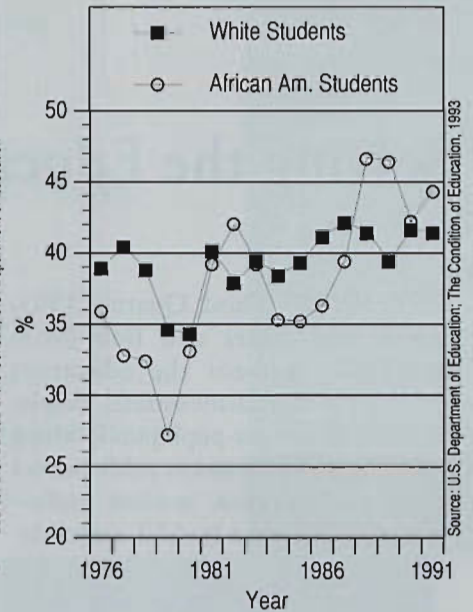


Figure 5. Percentage of high school seniors reporting thefts

the academic performance of children. On average, students from poor families and students from one-parent families have more difficulty in school, and both the percentage of children in poverty and the percentage of children in one-parent families have trended upward in the past twenty years (figure 4).

Other evidence suggests that the classroom environment has deteriorated, which makes learning more difficult. For example, the percentage of students reporting school theft of their property trended upward in the 1980s (figure 5).

Puzzle solution in summary

The solution to the education puzzle is

this. First, the achievement record of students overall is better than commonly perceived. Second, although resources to public education have increased, increasing shares of the resources go to noninstructional inputs and to special students. At the same time, students have become more difficult to teach due to their family characteristics and to the school environment. ■

■ For more information

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