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# Reducing class size misses mark

By WALLACE HUFFMAN

School quality is very much on the minds of Iowans and many others. Real (constant-dollar) spending per pupil in Iowa public K-12 schools has increased



steadily since 1960 up to 1992-93 when it flattened out. Per-pupil real expenditures are an eye-popping 2.8 times larger than in 1960, and the

pupil-teacher ratio has declined about 34 percent — mostly between 1970 and 1990.

These statistics indicate an increase in the intensity of teachers' time relative to students' time in schools over the past 3½ decades. However, over the same period, the achievement of students has hardly changed and, by some measures, may have declined. Thus, these statistics suggest broadly a dramatic decline in the efficiency of schooling or a significant deterioration in the other major input into schooling: the students' contribution.

## How They Teach

Teaching methods can be arrayed on a continuum from "traditional" to "progressive," and they have changed over time. Under traditional teaching methods, learning is directed by teachers, typically in whole-class learning activities for classes of relatively equal-ability students. Teaching is systematically focused on important subjects and learning is broad-based and cumulative.

Under progressive teaching, teaching is primarily child-centered learning by discovery, frequently with mixed-ability students sharing information. Little or no emphasis is placed on teaching or learning important basic knowledge, including phonics, grammar, punctuation and arithmetic in the elementary grades or on information organized around subjects. Teachers' expectations of students are reflected in informal grading standards, no regularly assigned homework and no formal or standardized testing.

Through the early 1960s, teaching methods were best described as traditional and during the 1970s and 1980s progressive teaching methods swept the country. Progressive methods were pushed by teaching colleges and school administrators, although they had not been rigorously tested. In fact, the 1990s have been a period of steady experimenting with teaching methods by school administrators in a quest for successful school reform.

The changes in public schools over the past three decades, including the decline in average class size and shift toward more progressive teaching methods, have resulted in reduced student learning from teachers directly, less teacher-directed study by students outside of schools and more student learning through interactions with relatively uninformed peers.

With roughly 30 years over which to accumulate strong evidence on teaching methods, the empirical evidence remains weak for widespread use of progressive vs. relatively traditional practices in schools. In fact, new research at the University of California-San Diego shows a strong, positive effect of the traditional teaching methods of stringent grading standards and assigned homework. For example, in middle- and secondary-school mathematics, assigned homework is especially effective in improving achievement, one hour of homework substituting almost perfectly for one hour of in-class time. Furthermore, it is cumulative and increases significantly the probability of a high-school graduate going on to college.

## Role of Education

Presumably the primary role of schooling is to enhance the performance of its "graduates." What evidence do we have that reducing class size in fact benefits students or society collectively? A review of a large number of studies on school class sizes shows a small share providing any positive effects on students' achievement.

Furthermore, if we examine the effect of smaller class size on later earnings of adults, the additional costs — in terms of teachers and facilities to accommodate the reduction — exceed the increase in earnings of the former students; the social rate of return is negative. In contrast, the economic return to an additional year of education is much higher, perhaps 7 or 8 percent.

## An Extra Year

Hence, the return to society from investing an additional \$10 million of state funds per year in Iowa education will be higher from spending it on an additional year of schooling of Iowa young people than on additional teachers to reduce class size.

Increasing educational expenditures can be a good investment of public resources, but some options are better than others. Reducing class size, which increases average costs, can be expected to have little or no direct impact on the later performance of graduates in the labor market. In contrast, if teachers' expectations of students are increased, using stringent grading standards and assigning homework, there is little added cost in teachers' time or public funds.

It also increases students' time allocated to homework and studying outside of school, which have been shown to lead to greater average student achievement.

Overall, significant additional Iowa expenditures on education can be expected to have a much larger impact on the performance of graduates when spent on increasing their years of schooling completed rather than on increasing the average cost per year completed, including reducing class size.

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