

THE EFFECT OF POVERTY ON OUR SCHOOL CHILDREN

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We are constantly bombarded by complaints concerning the “poor condition of public education in the U.S.” “Inner city schools are failing.” “The teachers are not doing their job.” “We must force the schools to be accountable.” Accountability is a word which is constantly bandied about.

As a consequence there is a constant stream of opinions from many sources on how to improve public education in the United States. They think that what they propose *ought* to improve education, therefore it will. These persons have good anecdotal evidence to back them up, but unfortunately it is only anecdotal.

What we must do is to locate the actual research, get the facts, then proceed from there. This I will do.

A BEGINNING SNAPSHOT

I begin with my own analysis of children in all the school districts in Portage and Summit Counties in Ohio. Fig. 1, is a graph of average scores on the Ohio tenth grade math achievement test, for children in each school district, plotted against average family income in each school district. You see a good straight line, with a correlation coefficient of 0.85. (A correlation coefficient of exactly 1 indicates that all points fall on the line; a correlation coefficient of zero indicates no correlation whatsoever between the variables being plotted.) In sociological research, a correlation coefficient greater than 0.50 is considered quite significant. The square of the correlation coefficient indicates the fraction of the dependent variable (score on the test) which is due to the independent variable (average family income). The square of 0.85, which is 0.72, signifies that about 72% of performance of these children in school is determined by

family income. This is definitely in the significant range. It is quite clear that high family income correlates well with average performance in school, at least on this particular Ohio Math Achievement Test. This graph has limitations. It refers only to a particular group of students, on a single test, on a given date, in a fairly limited number of schools. But this piqued my curiosity, so, being a scientist, I began a search of the literature.

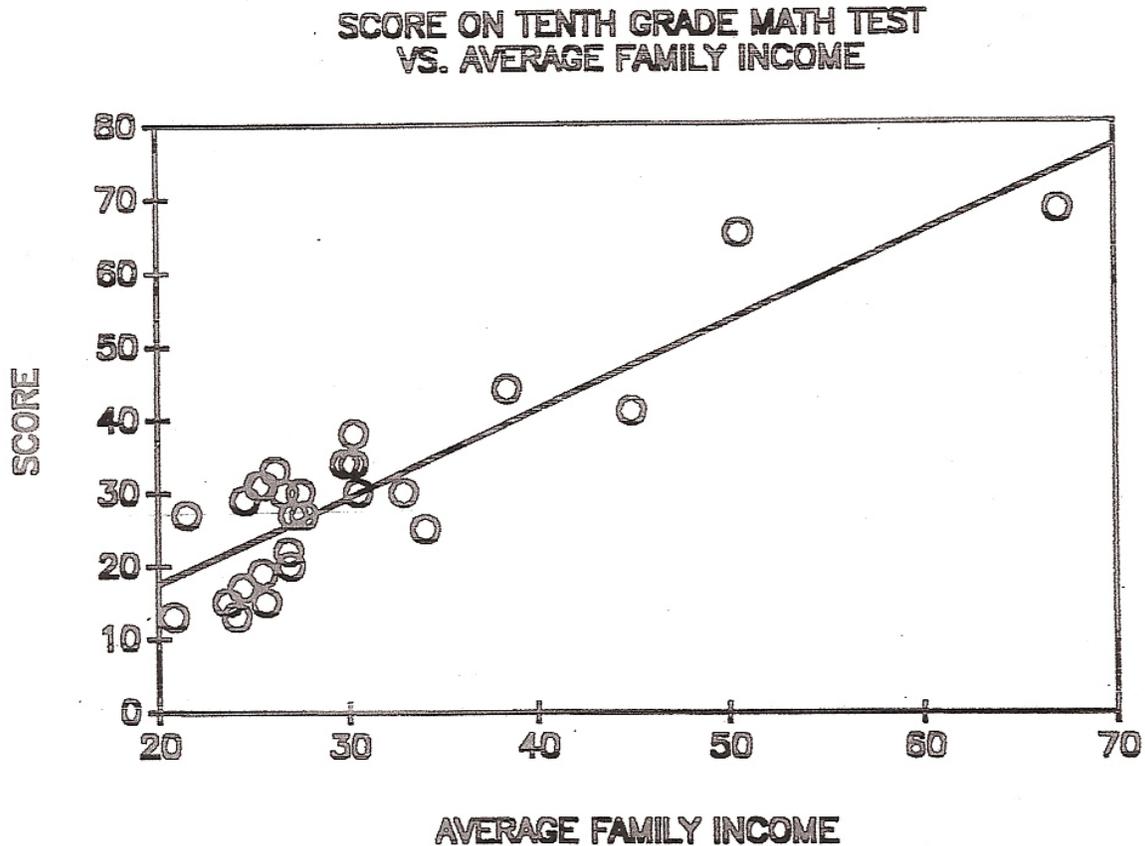


Fig. 1. Percent of students (in a school district) who scored 64 or higher on a universal scoring curve designed to compare standardized (math) tests, as a function of average family income in the district. (Portage & Summit Counties)

Before we leave this graph, please note that the lowest family income is \$20,000 per year. This is an important fact, and I will consider it now. Fig. 2 is a chart depicting average family incomes of African-Americans and whites. It is very clear that slightly over 20% of the whites have incomes under \$20,000 per year, whereas almost half of the African-Americans are below this amount.

Therefore almost half of the African-Americans are below the minimum on the graph in Fig. 1. Yet there is no evidence, "The Bell Curve" of Herrnstein and Murray notwithstanding, that blacks are less intelligent than whites. At this stage the evidence indicates that degree of success of children in school is an economic phenomenon, although you will see important exceptions later.

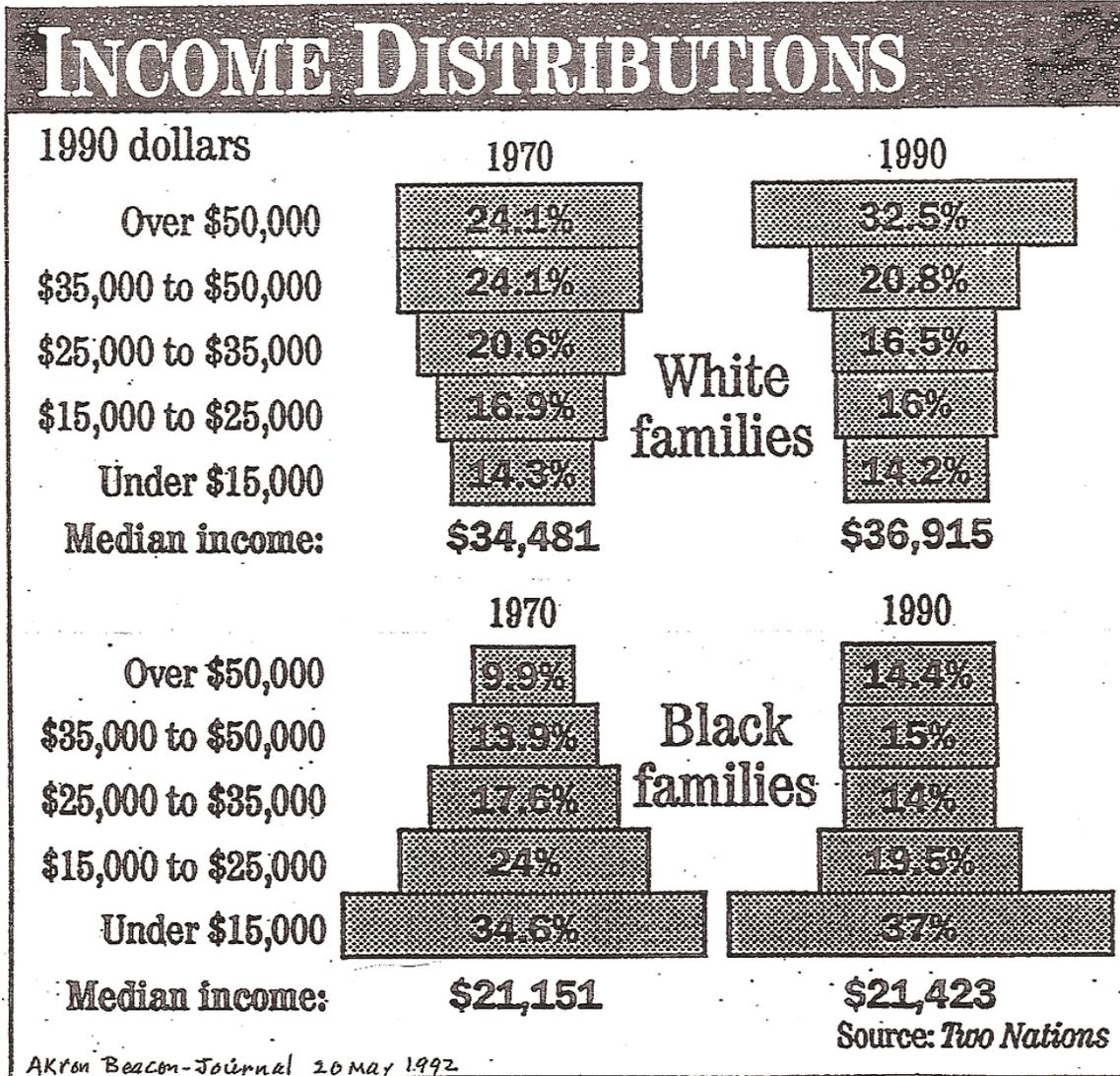


Fig. 2. Comparative income levels of blacks and whites, 1970 and 1990.

THE BIGGER PICTURE

The previous graph applies only to the school districts in two counties, and only to a single achievement test, and one grouping of students taking it. This type of research has been extended to many more school districts by the definitive research of Randy Hoover. This thorough study, shown in Fig. 3, examined scores on the Ohio Proficiency Test (OPT) in 593 of the 611 school districts in Ohio. The data include all sections of the 1997 fourth-grade, sixth-grade, ninth-grade, and twelfth-grade OPT tests. The data were analyzed by linear regression. Instead of using only median family income, Prof. Hoover included other information: percent of students receiving free or reduced lunches, percent of students receiving aid to dependent children, and the percent of students listed by the State of Ohio as being in a state of Economic Disadvantage. From these factors he created his Presage Factor.

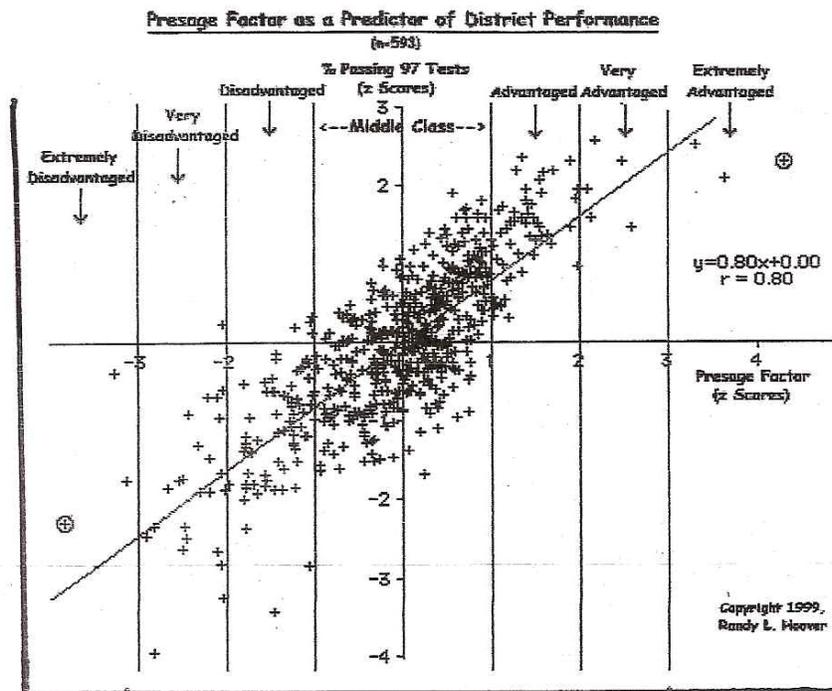


Fig. 3. Percent passing proficiency tests, as a function of socio-economic status of families. Socio-economic status is measured by the presage factor (see text for definition).

He then graphed the percent of students in a school district passing the 1997 proficiency tests versus this presage factor, which he considers a more

complete measure of Advantagement-Disadvantagement. The result is Figure 3.

This graph has a correlation coefficient of 0.80, which indicates that about 64% of the performance of pupils in school is due to effects of advantagement-disadvantagement. **The factors of the presage factor are completely beyond the control of the teachers.** Therefore two-thirds of the achievement of students in school is due to socio-economic factors which are beyond the control of the teachers. At this stage it is unclear what causes the other one-third, or whether the school districts have control of these other variables.

It is obvious from the scatter on the graph that the pupils in some districts are performing, on the average, above the expectancy indicated by the line, while others are doing poorer. Prof. Hoover then assumed that the graph represented "ideal" results, which he calls "actual district performance", and computed the position of districts above or below the line on the graph. The result is Figure 4.

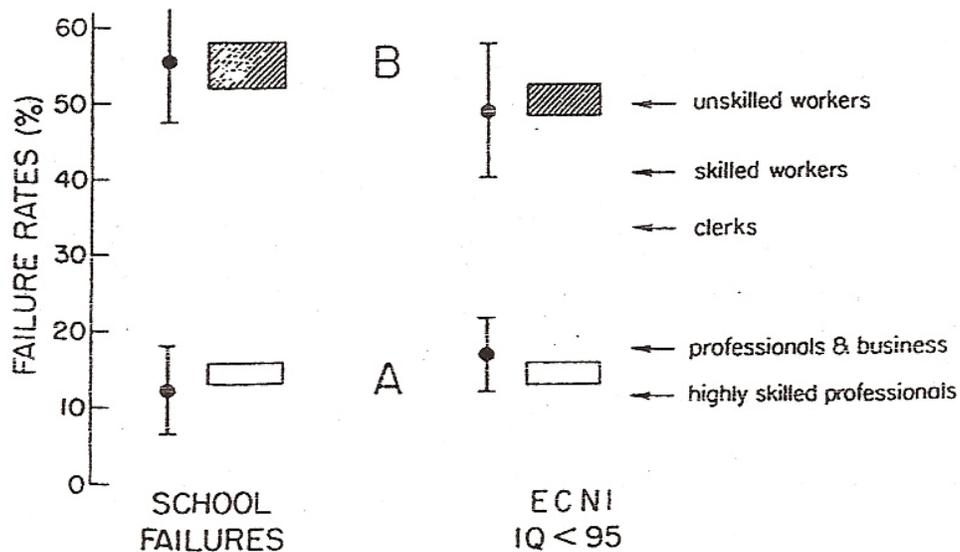


Fig. 4. School performance and IQ scores of poor children adopted into the upper middle class, compared with their siblings who remained in poor households.

This shows that there is no correlation between the degree of advantagement-disadvantagement and the relative success of the children in that district. Many disadvantaged districts are performing much better than expected, judged by the economic status of the students. Many advantaged districts are performing poorer than expected, judged by the economic status of the students. The

deviation may be due to better than average, or poorer than average, teaching in the district. Some districts may have a rather low economic index, but have high income from property taxes, from, say, an atomic energy plant located in the district. This allows the construction of very high grade school buildings, which incite higher performance by the students. These districts can pay better salaries to teachers. It is known that academic performance is enhanced by participation in extra-curricular activities. These districts, rich due to extrinsic factors, can have very good musical instruments, very good athletic facilities for all students, etc.

A similar study was carried out by Mark Skertic , of the Cincinnati *Enquirer*, for the 1995-6 school year, and included all but four of the State's school districts. Mr. Skertic used family median income, combined with percentage of children on welfare, and the percentage of children receiving a free or reduced-price lunch as a gauge of economic status of the school district. The achievement factor was the scores on fourth-, sixth-, ninth- and twelfth-grade Ohio Proficiency Tests. The economic factors listed explained 68% of the results on the proficiency tests. Also, as expected, some schools performed poorer than expected from the economic index of the district, and some performed better than expected. My first contact with the latter was the trial in the Winton Montessori School, located in a very poor district. As the article states: "Winton Montessori...began offering preschool classes for 3 and 4 year olds. Four years later, when those students reached first grade, they posted some of the highest standardized test scores in the district." How was this done? "Through role playing and hands-on exercises, they learned skills needed to succeed in school: how to listen, work with others, accomplish tasks in a particular sequence." This lack of preparedness on the part of poor children is described in great detail by Stephanie Warsmith. Her article also emphasizes that kindergarten age is too late for these kids to begin school, and expect to do well. They start behind, and stay behind in later grades. Many, even most, will eventually drop out. The study by Adele Diamond, et al. . Their definitive study of well-designed experiments, confirms the improvement in cognitive control by well-designed, early preschool instruction. A more recent study by W. T. Gormley, et al., reports the great improvement in school readiness by children in the state of Oklahoma pre-K

program.

Not only do the proficiency tests not measure what they are supposed to, there is a down side as well, as demonstrated by Amrein and Berliner . This study showed that states which used proficiency tests had lower scores on other, more general, measures of learning achievement, such as the ACT and SAT. One possible explanation is that teachers spent much time teaching to the test.

THE QUESTION OF CAUSE AND EFFECT

As indicated earlier, these results strongly suggest, but do not actually prove, a cause and effect relationship. Yet Prof. Hoover says the following. “Rejection of the findings regarding Ohio Proficiency Test validity (accepting the State of Ohio’s interpretation of Ohio Proficiency Test results) means that we accept the position that wealth defines academic intelligence, that the wealthier the parents the more intelligent the children. This position is absurd even at a common sense level; money does not define academic intelligence or learning capabilities.”

Despite this impassioned statement of an expert teacher and researcher, it is actually possible, as some insist, that poor people are less intelligent, and the children of poor people are of lower intelligence. However, this is definitely not true. To demonstrate this I present, in Fig. 4, results of one of the most important sociological/educational studies ever carried out, published in 1978. The first thing that we need to perceive is that the relation of economic level and success in school has been known for a long time. The subjects of the research were children born into working-class families. Therefore we are dealing with a homogeneous population which is expected to do poorly in school. But some of these poor children experienced different economic environments. One group, (A), was adopted before age of one year into the upper middle class. The other group (B) was their siblings who remained in the lower class. The study compared the success in school (measured by rate of failures) of the two study groups, as well as IQ scores. As expected from the norms, the study group of children from the lower class, who remained in the lower class, had the low success rate and low IQs typical of children born into the lower class. In great

contrast, their *siblings, who had been adopted into the upper middle class at an early age, achieved almost exactly the much higher success rate and IQs of children born into that stratum of society. The conclusion is undeniable. Innate average intelligence is not a matter of social class.* The basic intelligence of children is the same, on the average, in all classes. **The family environment is the chief factor which determines performance in school.**

OTHER FACTORS INFLUENCING SUCCESS IN SCHOOL

The study of Hoover examines other factors in addition to socio-economic status of a family which affect performance of students. He states: "Teacher salary, having a master's degree or higher, years of teaching experience, and extra academic opportunities stand out as variables contributing in some degree to actual district performance." However, these factors, which are under the control of the school district, contributed only a small amount to the success rate of students, nowhere near the one-third yet to be explained.

There was essentially no correlation between spending per pupil as related to percent of students passing the OPT, except in the region of very large spending per pupil, in which case the percent passing the OPT increased. But when controlled for the presage factor, there was virtually no correlation.

There was a slight negative correlation between per cent passing the OPT and per cent of African American students. But this I have already discussed, and is no doubt associated with the lower incomes of African Americans relative to whites. (It is also possible that the proficiency tests are innately biased in favor of whites, but the great difference in incomes can explain the major part of the difference in scores.)

THE "IMMIGRANT EFFECT"

Statistically, these environmental influences account for approximately two-thirds of the performance of students in school. Obviously there are other variables which contribute, but, in general, the research has not been done to identify these. However, it is well known that the children of immigrants frequently do well in school. There is one study which examined this matter.

This research describes the great accomplishments in school of children of poor Indo-Chinese immigrants into the U.S. The researchers found that these children, although from very poor families, were tremendously high achievers. Virtually all were in the upper half of their classes, and very many in the upper quartile. These children did especially well in math, as compared with the other students. I attribute this to the idea that math was, in a sense, a foreign language for both groups. At first the investigators were baffled. Eventually they found that the explanation was the home environment of the children. In the evening the entire family sat around the kitchen table and tackled the homework of all the children. The parents were very supportive, and encouraged high accomplishment in school. Older siblings helped the younger ones. At first glance one might conclude that these results contradict and nullify the previous research which points to the important influence of family income. ("Well, if these poor kids can do it, any child can do well in school.") Actually it serves to confirm the extreme importance of family environment. We must realize that this group of parents was a special, self-selected subgroup of poor people. They were so highly motivated that they were willing to tear themselves away from their native homes and neighbors, and move to a strange, far-away country, possibly in a leaky boat. This high motivation of the parents was transmitted to their children. I shall speculate, and opine that in most cases the "immigrant effect" applies to cases in which *both* parents, as a unit, joined in the migration. I do not have the reference, but the immigrant effect fades away in about three generations.

ANALYSIS

We have reached an extremely important fact. It is clear that **home environment is the chief factor influencing success of children in school**. Statistically, socio-economic status of the family is the major factor. It is clear that we must focus on the home environment to improve public education in the U.S. There are two approaches. The first is to **augment the home environment by external changes and improvements**. The second is to **change the home environment itself**. The latter is actually simple, but not easy, mainly because it requires a transformation in the way we consider the family. I will consider both these avenues in the next section.

We now know also that the following assertion is absolutely true: All men are created equal. However, immediately after birth they become unequal. Some “men” are male, some female. Some men are white, some African-American. *A few are rich, many are poor. In the case of the poor, my study has demonstrated conclusively: **the poor are not poor because they are dumb; they are dumb because they are poor.*** A poor child, on entering school (and even later) is, in the vast majority of cases, *academically handicapped*, just as other children are physically handicapped. We will accomplish significant improvement in public education only when this inescapable actuality is accepted by all concerned, especially state boards of education, state legislatures, the U.S. Congress and the President . Like Chicken Little, most of these entities are currently running madly around, shouting: “The schools are failing, the schools are failing.” The research reported here shows that it is not the schools which are failing, but our society which is failing to treat our children fairly. (We already know this, from other facts. About 20% of children live below the poverty level. Most of these children do not have medical care.) There is a persistent myth that we in the U.S. treat our children well. That is exactly what it is: a myth. About one in seven citizens of the U.S. Is without medical insurance. This is truly unforgivable in this country, by far the richest nation on Earth. I insist we need a huge change in our attitudes.

Everybody accepts the fact that we need to build ramps and wider doors for the physically handicapped. We also need to build “ramps” and “wider doors” for academically handicapped children. What may these “ramps” and “wider doors” consist of? That is the subject of the following sections.

HOW DO WE IMPROVE PUBLIC EDUCATION?

A. NEAR TERM CHANGES

There are obvious things which can be done very quickly to assist our children in school. **An obvious action is to immediately and entirely eliminate tests such as the Ohio Proficiency Test, and the equivalent in other states.** At best they are an inexact measure of family income. These are

high stakes tests. Teachers, schools, and even school districts are rated by scores of students on them. To expect kids in a poor school district to perform as well on proficiency tests, is the same as putting a small college with 2000 students in the same football league as Michigan State University. It is now clear that Pres. Bush's "No Child Left Behind" is wrong headed. (The name is almost identical to the motto "Leave No Child Behind" of the Children's Defense Fund.) But it is still based on the "test and destroy" of proficiency tests. In almost all cases, the "failing schools" will be found in poor school districts, which will then be taken over by an entity which knows nothing about the reason for the "failure", and will be penalized. This is another form of blaming the victim.

The next phase is to start intervention on behalf of at-risk children (mostly poor) at a very early age. (This is proven by the excellent results by the Montessori pupils, and by the study done in France.) This "ramp" augments the home life of the children.

Head Start has been shown to be effective. (It works because it involves the parents, especially the mother.) A very obvious means to improve public schools is to expand Head Start enormously. Much of the spending must go to employing high quality, properly trained personnel. In the previously mentioned example of the Montessori school, the teachers were well-trained, and experienced in teaching young children. Likewise, teachers in Head Start must be well-trained. Activities with the children should start at age three, and be the equivalent of pre-kindergarten. The support of Head Start must continue through the eighth grade. (Remember: the kids are still living in the same unhelpful environment!) Merely giving more money to "poorly performing" schools, without a definite program in mind will do little. It is useless to throw money at a problem, if you don't know what the problem is. The problem is in the homes, not in the schools.

We need to do more research on the one-third of school-success factors, which so far have been almost neglected. I will hazard a guess that parents who read to their young children greatly improve their performance in school.

B. WHAT ABOUT VOUCHERS AND CHARTER SCHOOLS?

Let us assume that the transferees came from “failing” schools. Let us also assume that the students improved slightly. Is it educationally and financially wise to give assistance to a few students, and leave the vast majority behind in a state of “academic deprivation”? I say no. Besides, the use of vouchers is merely palliative, and does not address the major problem, which is widespread poverty.

Then there is the constitutional problem in the use of vouchers in parochial schools. The use of vouchers results in public tax money being used for religious instruction. The founders of our nation were extremely concerned about our government being involved in religion of any kind. They insisted in the Constitution that: “Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof. Vouchers used in parochial schools are contrary to this Constitutional mandate.

But just today I read of a study on the use of vouchers in the District of Columbia. The vast majority of students using vouchers were already registered in a private school, mostly Catholic parochial schools. This is an outright gift of public tax money to the Catholic Church.

The Akron Beacon Journal reported the poor performance of children in charter schools. A study by the Brookings Institution showed that “charter school students were anywhere from a half year to a full year behind their public school peers.” The fact that parents chose to send their children to charter schools indicates a higher than average desire for their children to succeed. Therefore we expect considerable improvement for kids in charter schools. This did not happen. The children did not even perform as well. **Charter schools are virtually worthless**, and merely drain money from public schools.

During all the arguments in favor of vouchers and charter schools, the word “choice” is repeated constantly. People already have a choice in schools, and have had a choice, for 200 years. They can form private schools for their children if they wish a different educational fare than in nonsectarian public schools. For all these reasons the use of vouchers and charter schools should cease immediately.

C. LONG-RANGE ENDEAVORS

Now we reach the subject of “wider doors”. One thing is quite clear. **We need to significantly increase the minimum income of citizens in the United States of America.** Until we do so we almost guarantee that some schools will show “poor performance”. Raising the income of the lower stratum of our society is a simple process, but will not be easy. It will be simple, because we have models to copy; we do not need to reinvent the wheel. For example, in Sweden only 5.1% of children live below the poverty level, as compared to 17.1% in the U.S. (This still does not allow for the fact that those 5.1% have full medical care, and probably most of the 17.1% do not.) All we need to do is to study their economic system, and copy it,

. A sick child—or a hungry child—cannot perform well in school. A sick parent cannot properly take care of children. We must have publicly supported health care for every single citizen in our country. The best and cheapest form is a single-payer system, similar to that in Canada, or France, or Sweden. They deliver very good health care; at about half our cost. One common complaint is that there are long waiting lines in Canada. This is not true. Besides, there are long lines in the U.S., but they are at the emergency rooms, where the poor get health care.

3. All able-bodied adults must have jobs available. (A spouse may or may not choose to work outside the home.) It seems to me quite evident that each and every person feels good when contributing to society. After all, we are an eminently social animal. There are many ways of creating jobs. One simple way is to reduce the work week. Vacations can be longer; some countries in Europe give a month’s vacation each year. Another way is to create public jobs. There are a phenomenal number of things in the U.S. which need to be done, but are neglected because “they are not profitable”. A clean environment is inherently profitable, in all meanings of that term. It is good economic and social policy to pour billions of dollars into a major effort to clean up our environment.

A HUGE SOURCE OF MONEY

Where do we get the money for all this? A huge source for the money to improve education in the U.S. is right at hand: military spending. Our actual bloated military spending is now over \$600 billion per year, more than the total of military spending by all other nations combined! And more than the total of all other discretionary domestic spending combined! Pres. Eisenhower warned us: "In the councils of government, we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex." .

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