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Teacher Expectations for the Disadvantaged

It is widely believed that poor children lag in school because they are members of a disadvantaged group. Experiments in a school suggest that they may also do so because that is what their teachers expect

by Robert Rosenthal and Lenore F. Jacobson

One of the central problems of American society lies in the fact that certain children suffer a handicap in their education which then persists throughout life. The "disadvantaged" child is a Negro American, a Mexican American, a Puerto Rican or any other child who lives in conditions of poverty. He is a lower-class child who performs poorly in an educational system that is staffed almost entirely by middle-class teachers.

The reason usually given for the poor performance of the disadvantaged child is simply that the child is a member of a disadvantaged group. There may well be another reason. It is that the child does poorly in school because that is what is expected of him. In other words, his shortcomings may originate not in his different ethnic, cultural and economic background but in his teachers' response to that background.

If there is any substance to this hypothesis, educators are confronted with some major questions. Have these children, who account for most of the academic failures in the U.S., shaped the expectations that their teachers have for them? Have the schools failed the children by anticipating their poor performance and thus in effect teaching them to fail? Are the massive public programs of educational assistance to such children reinforcing the assumption that they are likely to fail? Would the children do appreciably better if their teachers could be induced to expect more of them?

We have explored the effect of teacher expectations with experiments in which teachers were led to believe at the beginning of a school year that certain of their pupils could be expected to show considerable academic improvement during the year. The teachers thought the predictions were based on tests that had been administered to the student body toward the end of the preceding school year. In actuality the children designated as potential "spurters" had been chosen at random and not on the basis of testing. Nonetheless, intelligence tests given after the experiment had been in progress for several months indicated that on the whole the randomly chosen children had improved more than the rest.

The central concept behind our investigation was that of the "self-fulfilling prophecy." The essence of this concept is that one person's prediction of another person's behavior somehow comes to be realized. The prediction may, of course, be realized only in the perception of the predictor. It is also possible, however, that the predictor's expectation is communicated to the other person, perhaps in quite subtle and unintended ways, and so has an influence on his actual behavior.

An experimenter cannot be sure that he is dealing with a self-fulfilling prophecy until he has taken steps to make certain that a prediction is not based on behavior that has already been observed. If schoolchildren who perform poorly are those expected by their teachers to perform poorly, one cannot say in the normal school situation whether the teacher's expectation was the cause of the performance or whether she simply made an accurate prognosis based on her knowledge of past performance by the particular children involved. To test for the existence of self-fulfilling prophecy the experimenter must establish conditions in which an expectation is uncontaminated by the past behavior of the subject whose performance is being predicted.

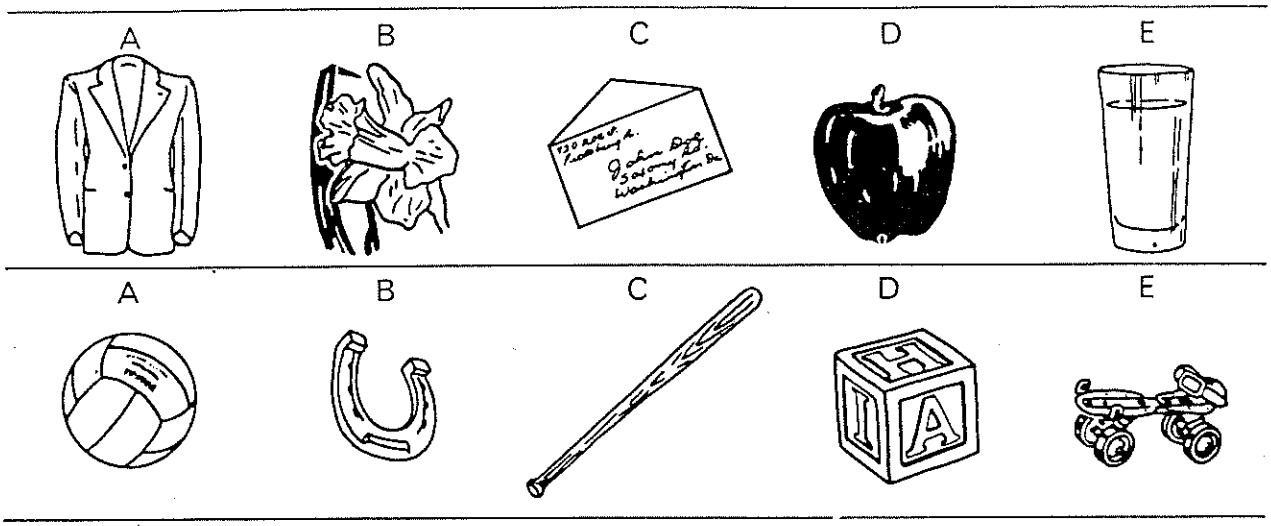
It is easy to establish such conditions in the psychological laboratory by presenting an experimenter with a group of laboratory animals and telling him what kind of behavior he can expect from them. One of us (Rosenthal) has carried out a number of experiments along this line using rats that were said to be either bright or dull. In one experiment 12 students in psychology were each given five laboratory rats of the same strain. Six of the students were told that their rats had been bred for brightness in running a maze; the other six students were told that their rats could be expected for genetic reasons to be poor at running a maze. The assignment given the students was to teach the rats to run the maze.

From the outset the rats believed to have the higher potential proved to be the better performers. The rats thought to be dull made poor progress and some-

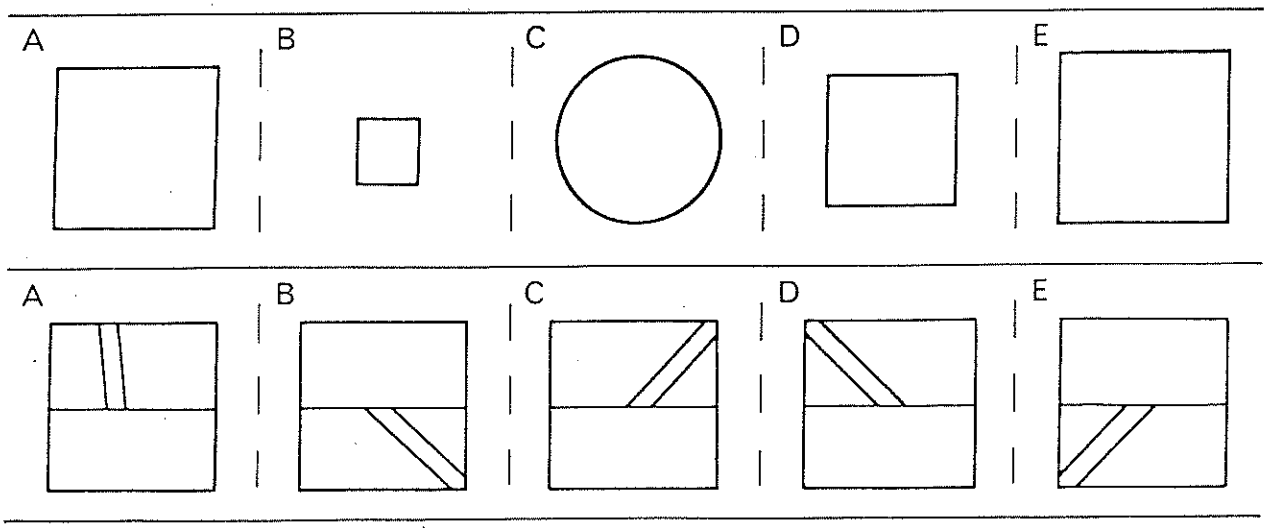
times would not even budge from the starting position in the maze. A questionnaire given after the experiment showed that the students with the allegedly brighter rats ranked their subjects as brighter, more pleasant and more likable than did the students who had the allegedly duller rats. Asked about their methods of dealing with the rats, the students with the "bright" group turned out to have been friendlier, more enthusiastic and less talkative with the animals than the students with the "dull" group had been. The students with the "bright" rats also said they handled their animals more, as well as more gently, than the students expecting poor performances did.

Our task was to establish similar conditions in a classroom situation. We wanted to create expectations that were based only on what teachers had been told, so that we could preclude the possibility of judgments based on previous observations of the children involved. It was with this objective that we set up our experiment in what we shall call Oak School, an elementary school in the South San Francisco Unified School District. To avoid the dangers of letting it be thought that some children could be expected to perform poorly we established only the expectation that certain pupils might show superior performance. Our experiments had the financial support of the National Science Foundation and the cooperation of Paul Nielsen, the superintendent of the school district.

Oak School is in an established and somewhat run-down section of a middle-sized city. The school draws some students from middle-class families but more from lower-class families. Included in the latter category are children from families receiving welfare payments, from low-income families and from Mexican-American families. The



VERBAL ABILITY of children in kindergarten and first grade was tested with questions of this type in the Flanagan Tests of General Ability. In the drawings at top the children were asked to cross out the thing that can be eaten; in the bottom drawings the task was to mark "the thing that is used to hit a ball." The tests are published by Science Research Associates, Inc., of Chicago.



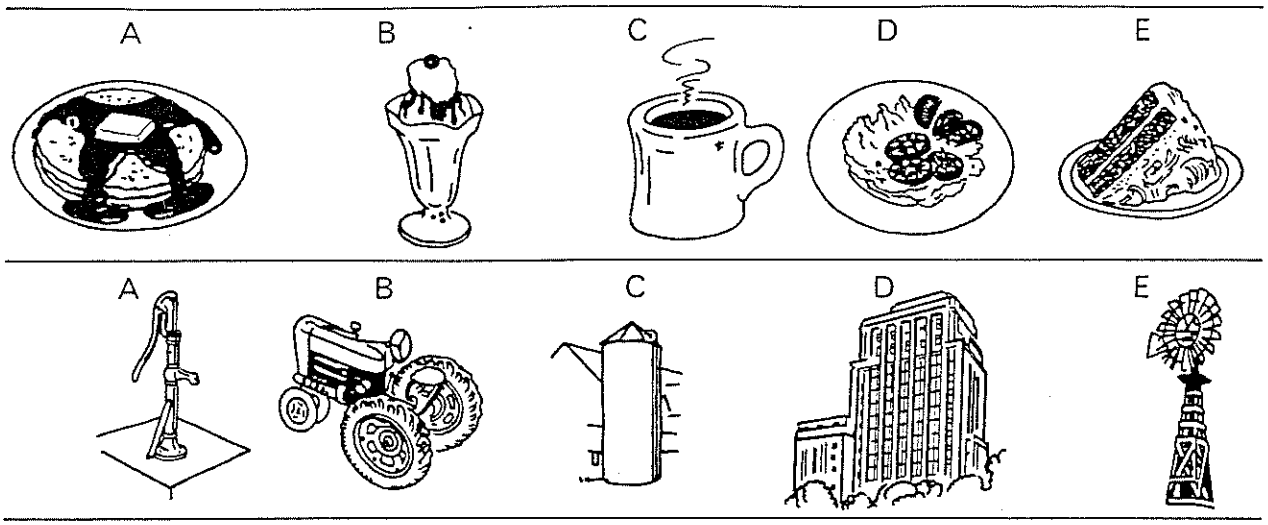
REASONING ABILITY of children in kindergarten and first grade was tested with abstract drawings. The children were told that four of the drawings in each example followed the same rule and one did not. The task was to mark the exception. In the drawings at top the exception is the circle; at bottom all the drawings except the first one have parallel lines that terminate at a corner.

school has six grades, each organized into three classes—one for children performing at above-average levels of scholastic achievement, one for average children and one for those who are below average. There is also a kindergarten.

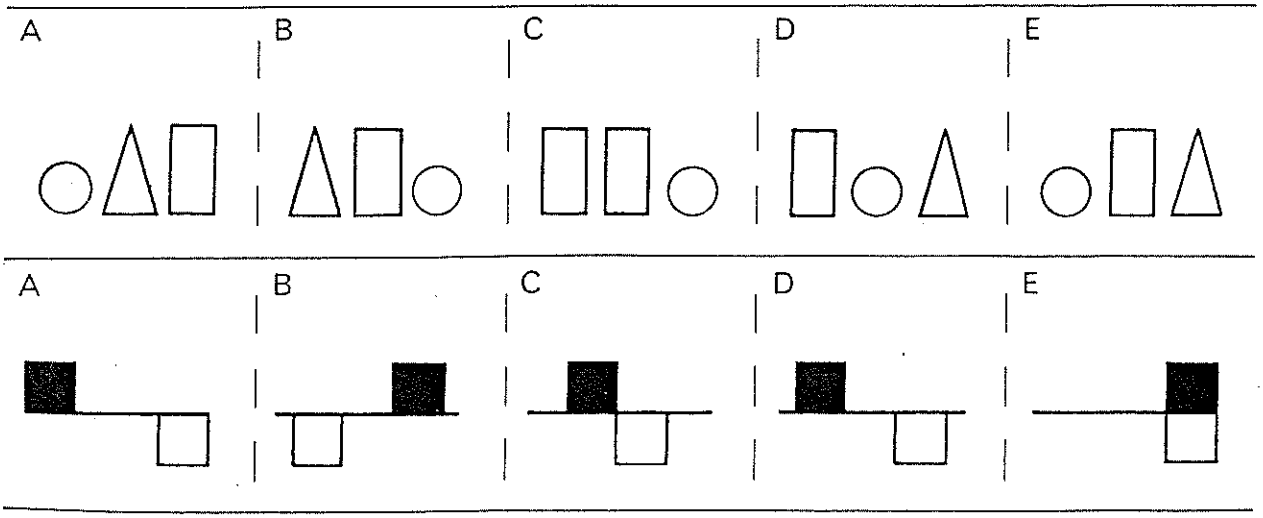
At the beginning of the experiment in 1964 we told the teachers that further validation was needed for a new kind of test designed to predict academic blooming or intellectual gain in children. In actuality we used the Flanagan Tests of General Ability, a standard intelligence test that was fairly new and therefore unfamiliar to the teachers. It consists of two relatively independent subtests, one focusing more on verbal ability and the other more on reasoning ability. An example of a verbal item in the version of the test designed for children in kindergarten and first grade presents drawings of an article of clothing, a flower, an envelope, an apple and a glass of water; the children are asked to mark with a crayon "the thing that you can eat." In the reasoning subtest a typical item consists of drawings of five abstractions, such as four squares and a circle; the pupils are asked to cross out the one that differs from the others.

We had special covers printed for the test; they bore the high-sounding title "Test of Inflected Acquisition." The teachers were told that the testing was part of an undertaking being carried out by investigators from Harvard University and that the test would be given several times in the future. The tests were to be sent to Harvard for scoring and for addition to the data being compiled for validation. In May, 1964, the teachers administered the test to all the children then in kindergarten and grades one through five. The children in sixth grade were not tested because they would be in junior high school the next year.

Before Oak School opened the follow-



ADVANCED TESTS were given to children in second and third grades and grades four through six. Two examples from the test of verbal reasoning for grades four through six appear here. In the example at top the children were asked to "find the beverage." In the bottom example the instruction that the pupils received from the teacher was "Find the one you are most likely to see in the city."



REASONING TEST for children in grades four through six was based on the same principles as the test for younger children but used more sophisticated examples. At top the exception is *C*, which has no triangle. In the example at bottom the exception is *E*, because in all the other drawings the black and white squares are not aligned vertically. The tests were used to measure pupils' progress.

ing September about 20 percent of the children were designated as potential academic spurters. There were about five such children in each classroom. The manner of conveying their names to the teachers was deliberately made rather casual: the subject was brought up at the end of the first staff meeting with the remark, "By the way, in case you're interested in who did what in those tests we're doing for Harvard. . . ."

The names of the "spurters" had been chosen by means of a table of random numbers. The experimental treatment of the children involved nothing more than giving their names to their new teachers as children who could be expected to show unusual intellectual gains in the year ahead. The difference, then, between these children and the undesignated children who constituted a control group was entirely in the minds of the teachers.

All the children were given the same test again four months after school had started, at the end of that school year and finally in May of the following year. As the children progressed through the grades they were given tests of the appropriate level. The tests were designed for three grade levels: kindergarten and first grade, second and third grades and fourth through sixth grades.

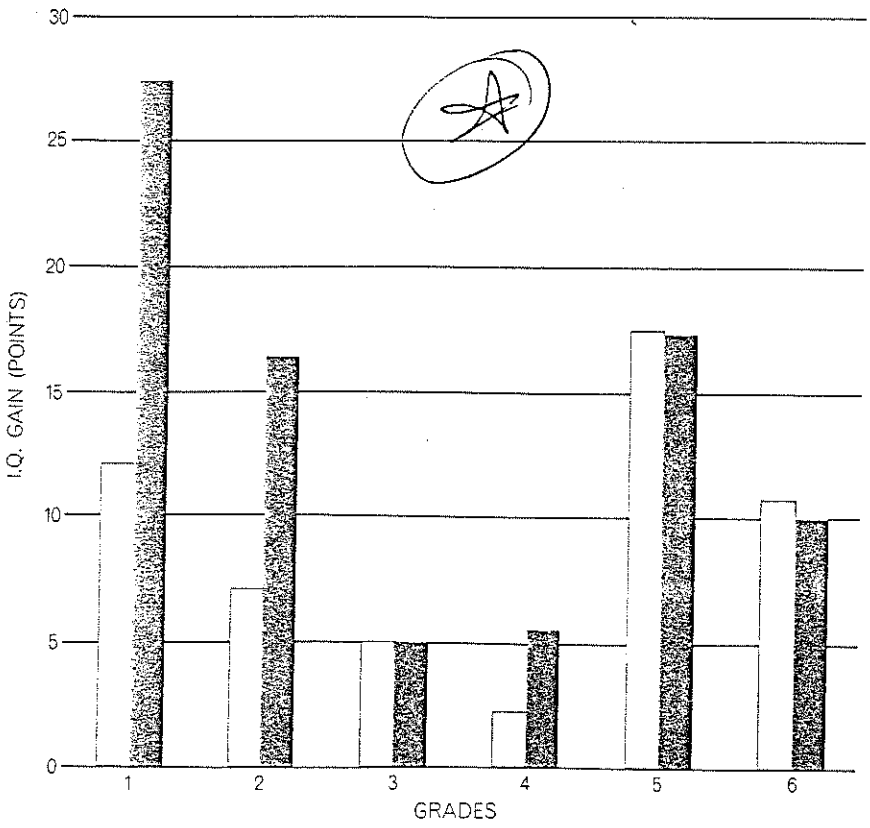
The results indicated strongly that children from whom teachers expected greater intellectual gains showed such gains [*see illustration below*]. The gains, however, were not uniform across the grades. The tests given at the end of the first year showed the largest gains among children in the first and second grades. In the second year the greatest gains were among the children who had been in the fifth grade when the "spurters" were designated and who by the time of the final test were completing sixth grade.

At the end of the academic year 1964–1965 the teachers were asked to describe the classroom behavior of their pupils. The children from whom intellectual growth was expected were described as having a better chance of being successful in later life and as being happier, more curious and more interesting than the other children. There was also a tendency for the designated children to be seen as more appealing, better adjusted and more affectionate, and as less in need of social approval. In short, the children for whom intellectual growth was expected became more alive and autonomous intellectually, or at least were so perceived by their teachers. These findings were particularly striking among the children in the first grade.

An interesting contrast became apparent when teachers were asked to rate the undesignated children. Many of these children had also gained in I.Q. during the year. The more they gained, the less favorably they were rated.

From these results it seems evident that when children who are expected to gain intellectually do gain, they may be benefited in other ways. As "personalities" they go up in the estimation of their teachers. The opposite is true of children who gain intellectually when improvement is not expected of them. They are looked on as showing undesirable behavior. It would seem that there are hazards in unpredicted intellectual growth.

A closer examination revealed that the most unfavorable ratings were given to the children in low-ability classrooms who gained the most intellectually. When these "slow track" children were in the control group, where little intellectual gain was expected of them, they were rated more unfavorably by their teachers if they did show gains in I.Q. The more they gained, the more unfavorably they were rated. Even when the slow-track children were in the experimental group, where greater intellectual gains were expected of them, they were not rated as favorably with respect to their control-group peers as were the children of the high track and the medium track. Evidently it is likely to be difficult for a slow-track child, even if his I.Q. is rising, to be seen by his teacher as well adjusted and as a potentially successful student.



GAINS IN INTELLIGENCE were shown by children by the end of the academic year in which the experiment was conducted in an elementary school in the San Francisco area. Children in the experimental group (*dark bars*) are the ones the teachers had been told could be expected to show intellectual gains. In fact their names were chosen randomly. Control-group children (*light bars*), of whom nothing special was said, also showed gains.

How is one to account for the fact that the children who were expected to gain did gain? The first answer that comes to mind is that the teachers must have spent more time with them than with the children of whom nothing was said. This hypothesis seems to be wrong, judging not only from some questions we asked the teachers about the time they spent with their pupils but also from the fact that in a given classroom the more the "spurters" gained in I.Q., the more the other children gained.

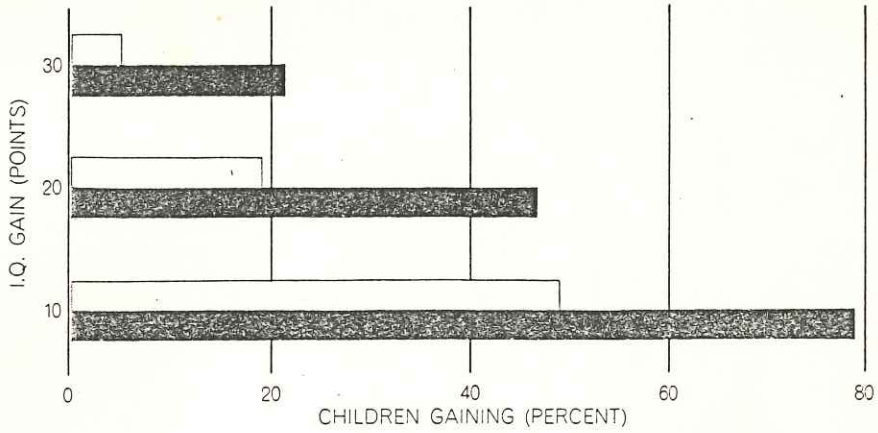
Another bit of evidence that the hypothesis is wrong appears in the pattern of the test results. If teachers had talked to the designated children more, which would be the most likely way of invest-

ing more time in work with them, one might expect to see the largest gains in verbal intelligence. In actuality the largest gains were in reasoning intelligence.

It would seem that the explanation we are seeking lies in a subtler feature of the interaction of the teacher and her pupils. Her tone of voice, facial expression, touch and posture may be the means by which—probably quite unwittingly—she communicates her expectations to the pupils. Such communication might help the child by changing his conception of himself, his anticipation of his own behavior, his motivation or his cognitive skills. This is an area in which further research is clearly needed.

Why was the effect of teacher expectations most pronounced in the lower grades? It is difficult to be sure, but several hypotheses can be advanced. Younger children may be easier to change than older ones are. They are likely to have less well-established reputations in the school. It may be that they are more sensitive to the processes by which teachers communicate their expectations to pupils.

It is also difficult to be certain why the older children showed the best performance in the follow-up year. Perhaps the younger children, who by then had different teachers, needed continued contact with the teachers who had influenced them in order to maintain their improved performance. The older children, who were harder to influence at first, may have been better able to maintain an improved performance autonomously once they had achieved it.



CHILDREN IN LOWER GRADES showed the most dramatic gains. The chart shows the percent of children in the first and second grades by amount of their gains in I.Q. points. Again dark bars represent experimental-group children, light bars control-group children. Two lower sets of bars include children from higher groups, so that lowest set sums results.

In considering our results, particularly the substantial gains shown by the children in the control group, one must take into account the possibility that what is called the Hawthorne effect might have been involved. The name comes from the Western Electric Company's Hawthorne Works in Chicago. In the 1920's the plant was the scene of an intensive series of experiments designed to determine what effect various changes in working conditions would have on the performance of female workers. Some of the experiments, for example, involved changes in lighting. It soon became evident that the significant thing was not whether the worker had more or less light but merely that she was the subject of attention. Any changes that involved her, and even actions that she only thought were changes, were likely to improve her performance.

In the Oak School experiment the fact that university researchers, supported by Federal funds, were interested in the school may have led to a general improvement of morale and effort on the part of the teachers. In any case, the possibility of a Hawthorne effect cannot be ruled out either in this experiment or in other studies of educational practices. Whenever a new educational practice is undertaken in a school, it cannot be demonstrated to have an intrinsic effect unless it shows some excess of gain over what Hawthorne effects alone would yield. In our case a Hawthorne effect might account for the gains shown by the children in the control group, but it would not account for the greater gains made by the children in the experimental group.

Our results suggest that yet another base line must be introduced when the intrinsic value of an educational innovation is being assessed. The question will be whether the venture is more effective (and cheaper) than the simple expedient of trying to change the expectations of the teacher. Most educational innovations will be found to cost more in both time and money than inducing teachers to expect more of "disadvantaged" children.

For almost three years the nation's schools have had access to substantial Federal funds under the Elementary and Secondary Education Act, which President Johnson signed in April, 1965. Title I of the act is particularly directed at disadvantaged children. Most of the programs devised for using Title I funds focus on overcoming educational handicaps by acting on the child—through remedial instruction, cultural enrichment and the like. The premise seems to be that the deficiencies are all in the child and in the environment from which he comes.

Our experiment rested on the premise that at least some of the deficiencies—and therefore at least some of the remedies—might be in the schools, and particularly in the attitudes of teachers toward disadvantaged children. In our experiment nothing was done directly for the child. There was no crash program to improve his reading ability, no extra time for tutoring, no program of trips to museums and art galleries. The only people affected directly were the teachers; the effect on the children was indirect.

It is interesting to note that one "total push" program of the kind devised under Title I led in three years to a 10-point gain in I.Q. by 38 percent of the children and a 20-point gain by 12 percent. The gains were dramatic, but they did not even match the ones achieved by the control-group children in the first and second grades of Oak School. They were far smaller than the gains made by the children in our experimental group.

Perhaps, then, more attention in educational research should be focused on the teacher. If it could be learned how she is able to bring about dramatic improvement in the performance of her pupils without formal changes in her methods of teaching, other teachers could be taught to do the same. If further research showed that it is possible to find teachers whose untrained educational style does for their pupils what our teachers did for the special children, the prospect would arise that a combination of sophisticated selection of teachers and suitable training of teachers would give all children a boost toward getting as much as they possibly can out of their schooling.

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