Effective Schools for the Urban Poor*

Ronald Edmonds

Urban schools that teach poor children successfully have strong leadership and a climate of expectation that students will learn.

It seems only fair that the reader know what biases, if any, inform the summary remarks I plan to make. Equity will be the focus of my discussion. By equity I mean a simple sense of fairness in the distribution of the primary goods and services that characterize our social order. At issue is the efficacy of a minimum level of goods and services to which we are all entitled. Some of us, rightly, have more goods and services than others, and my sense of equity is not disturbed by that fact. Others of us have almost no goods and access to only the most wretched services, and that deeply offends my simple sense of fairness and violates the standards of equity by which I judge our social order.

I measure our progress as a social order by our willingness to advance the equity interests of the least among us. Thus, increased wealth or education for the top of our social order is quite beside the point of my basis for assessing our progress toward greater equity. Progress requires public policy that begins by making the poor less poor and ends by making them not poor at all. This discussion of education will apply just such a standard to public schooling. Equitable public schooling begins by teaching poor children what their parents want them to know and ends by teaching poor children at least as well as it teaches middle-class children.

Inequity in American education derives first and foremost from our failure to educate the children of the poor. Education in this context refers to early acquisition of those basic school skills that assure pupils successful access to the next level of schooling. If that seems too modest a standard, note that as of now the schools that teach the children of the poor are dismal failures even by such a modest standard. Thus, to raise a generation of children whose schools meet such a standard would be an advance in equity of the first order. I offer this standard at the outset to note that its attainment is far more a matter of politics than of social science. Social science refers to those formal experiments and inquiries carried out by

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sociologists, psychologists, educational researchers, and other academicians whose inquiries are described as seeking the relationship among school characteristics, pupil performance, pupil family background, and pupil social class. Politics in this case refers to the substantive and procedural bases for deciding the distribution of educational resources, defining the uses to which the schools are to be put and establishing the criteria by which school personnel are to be evaluated.

Specifically, I require that an effective school bring the children of the poor to those minimal masteries of basic school skills that now describe minimally successful pupil performance for the children of the middle class. My subsequent discussion of certain of the literature on school effects must not be taken to mean that whether or not schools are effective derives from matters of research or social science. Such is not the case. Schools teach those they think they must and when they think they needn't, they don't. That fact has nothing to do with social science, except that the children of social scientists are among those whom schools feel compelled to teach effectively.

There has never been a time in the life of the American public school when we have not known all we needed to in order to teach all those whom we chose to teach. The discussion of research literature that follows may illuminate that fact, but it cannot change it.

Weber was an early contributor to the literature on the school determinants of achievement. In his 1971 study of four instructionally effective inner-city schools, Weber intended his study to be explicitly alternative to Coleman (1966), Jensen (1969), and other researchers who had satisfied themselves that low achievement by poor children derived principally from inherent disabilities characterizing the poor. Weber focused on the characteristics of four inner-city schools in which reading achievement was clearly successful for poor children on the basis of national norms. All four schools had “strong leadership” in that their principals were instrumental in setting the tone of the school; helping decide on instructional strategies; and organizing and distributing the schools’ resources. All four schools had “high expectations” for all their students. Weber was careful to point out that high expectations are not sufficient for school success, but they are certainly necessary. All four schools had an orderly, relatively quiet, and pleasant atmosphere. All four schools strongly emphasized pupil acquisition of reading skills and reinforced that emphasis by careful and frequent evaluation of pupil progress.

Weber went on to identify and discuss additional reading personnel, phonics, and individualization as important to the instructional success of the four schools. I’ll not endorse or pursue these latter Weber findings—first, because subsequent research does not sustain their relevance as it does leadership, expectations, atmosphere, reading emphasis, and assessment; and second, my own research, of which more will be said later, gives greater weight to the variables noted first rather than later. Despite these reservations, my own view is that Weber was essentially correct both in concept and basic research design, considering the relative modesty of his enterprise.

In 1974, the State of New York’s Office of Education Performance Review published a study that confirmed certain of Weber’s major findings. New York identified two inner-city New York City public schools, both of which were serving an analogous, predominantly poor pupil population. One of the schools was high-achieving, and the other was low-achieving. Both schools were studied in an attempt to identify those differences that seemed most responsible for the achievement variation between the two schools. The following findings were reported:

1. The differences in student performance in these two schools seemed to be attributed to factors under the schools’ control.
2. Administrative behavior, policies, and practices in the schools appeared to have a significant impact on school effectiveness.
3. The more effective inner-city school was led by an administrative team that provided a good balance between both management and instructional skills.
4. The administrative team in the more effective school had developed a plan for dealing with the reading problem and had implemented the plan throughout the school.
5. Classroom reading instruction did not appear
to differ between the two schools since classroom teachers in both schools had problems in teaching reading and assessing pupils' reading skills.

- Many professional personnel in the less effective school attributed children's reading problems to nonschool factors and were pessimistic about their ability to have an impact, creating an environment in which children failed because they were not expected to succeed. However, in the more effective school, teachers were less skeptical about their ability to have an impact on children.

- Children responded to unstimulating learning experiences predictably—they were apathetic, disruptive, or absent.

Admittedly this study has not identified all factors relating to student reading achievement. However, these preliminary findings are consistent with a significant body of other research. While more research should be encouraged, it is even more important that we begin to apply what is already known.

This study has shown that school practices have an effect on reading achievement. At the very least, the children in low achieving schools should have the opportunities available to the children of the high achieving schools. These opportunities, which do not result from higher overall expenditures, are clearly within the reach of any school today (pp. vi, vii).

For our purposes, these findings reinforce the relevance to pupil performance of the institutional elements of leadership, expectations, and atmosphere. If further evidentiary support for these findings is wanted, the reader is invited to close scrutiny of the 1976 Madden, Lawson, and Sweet study of school effectiveness in California (Note 1). In a more rigorous and sophisticated version of the Weber and New York studies, Madden and his colleagues studied 21 pairs of California elementary schools, matched on the basis of pupil characteristics and differing only on the basis of pupil performance on standardized achievement measures. The 21 pairs of schools were studied in an effort to identify those institutional characteristics that seemed most responsible for the achievement differences that described the 21 high-achieving schools and the 21 low-achieving schools. The major findings are the following ten:

1. In comparison to teachers at lower-achieving schools, teachers at higher-achieving schools report that their principals provide them with a significantly greater amount of support.

2. Teachers in higher-achieving schools were more task-oriented in their classroom approach and exhibited more evidence of applying appropriate principles of learning than did teachers in lower-achieving schools.

3. In comparison to classrooms in lower-achieving schools, classrooms in higher-achieving schools provided more evidence of student monitoring process, student effort, happier children, and an atmosphere conducive to learning.

4. In comparison to teachers at lower-achieving schools, teachers at higher-achieving schools reported that they spent relatively more time on social studies, less time on mathematics and physical education/health, and about the same amount of time on reading/language development and science.

5. In contrast to teachers at lower-achieving schools, teachers at higher-achieving schools report: (a) a larger number of adult volunteers in mathematics classes; (b) fewer paid aides in reading; and (c) they are more apt to use teacher aides for nonteaching tasks, such as classroom paperwork, watching children on the playground, and maintaining classroom discipline.

6. In comparison to teachers at lower-achieving schools, teachers at higher-achieving schools reported higher levels of access to "outside the classroom" materials.

7. In comparison to the teachers of lower-achieving schools, teachers at higher-achieving schools believed their faculty as a whole had less influence on educational decisions.

8. In comparison to teachers at lower-achieving schools, teachers at higher-achieving schools rated district administration higher on support services.
9. In comparison to grouping practices at lower-achieving schools, the higher-achieving schools divided classrooms into fewer groups for purposes of instruction.

10. In comparison to teachers in lower-achieving schools, teachers in higher-achieving schools reported being more satisfied with various aspects of their work (pp. 4-9).

My own conclusion is that, aside from intrinsic merit, the California study is notable chiefly for its reinforcement of leadership, expectations, atmosphere, and instructional emphasis as consistently essential institutional determinants of pupil performance.

The Brookover and Lezotte Study

I want to close this part of the discussion with summary remarks about a recent and unusually persuasive study of school effects. In 1977, W. B. Brookover and L. W. Lezotte published their study, Changes in School Characteristics Coincident With Changes in Student Achievement. We should take special note of this work partly because it is a formal extension of inquiries and analyses begun in two earlier studies, both of which reinforce certain of the Weber, Madden, et al. and New York findings. The Michigan Department of Education’s Cost Effectiveness Study (1976) and the Brookover, et al. study of Elementary School Climate and School Achievement (1976) are both focused on those educational variables that are liable to school control and important to the quality of pupil performance. In response to both of these studies, the Michigan Department of Education asked Brookover and Lezotte to study a set of Michigan schools characterized by consistent pupil performance improvement or decline. The Brookover and Lezotte study is broader in scope than the two earlier studies and explicitly intended to profit from methodological and analytical lessons learned in the Cost Effectiveness and Elementary School Climate studies.

Since the early 1970s, the Michigan Department of Education has annually tested all Michigan pupils in public schools in grades four and seven. The tests are criterion-referenced standardized measures of pupil performance in basic school skills. Over time these data were used by the Michigan Department of Education to identify elementary schools characterized by consistent pupil-performance improvement or decline. Brookover and Lezotte chose eight of these schools to be studied (six improving, two declining). The schools were visited by trained interviewers who conducted interviews and administered questionnaires to a great many of the school personnel. The interviews and questionnaires were designed to identify differences between the improving and declining schools, and which differences seemed most important to the pupil performance variation between the two sets of schools. The following list gives the summary results:

1. The improving schools are clearly different from the declining schools in the emphasis their staff places on the accomplishment of the basic reading and mathematics objectives. The improving schools accept and emphasize the importance of these goals and objectives while declining schools give much less emphasis to such goals and do not specify them as fundamental.

2. There is a clear contrast in the evaluations that teachers and principals make of the students in the improving and declining schools. The staffs of the improving schools tend to believe that all of their students can master the basic objectives; and furthermore, the teachers perceive that the principal shares this belief. They tend to report higher and increasing levels of student ability, while the declining school teachers project the belief that students’ ability levels are low, and therefore, they cannot master even these objectives.

3. The staff members of the improving schools hold decidedly higher and apparently increasing levels of expectations with regard to the educational accomplishments of their students. In contrast, staff members of the declining schools are much less likely to believe that their students will complete high school or college.

4. In contrast to the declining schools, the teachers and principals of the improving schools are much more likely to assume responsibility for teaching the basic reading and math skills and are much more committed to doing so. The staffs of the declining schools feel there is not much that teachers can do to influence the achievement of their students. They tend to displace the responsibility for skill learning on the parents or the students themselves.

5. Since the teachers in the declining schools believe that there is little they can do to influence basic skill learning, it follows they spend less time in direct reading instruction than do teachers in the improving schools. With the greater emphasis on reading and math objectives in the improving schools, the staffs in these schools devote a much greater amount of time toward achieving reading and math objectives.

6. There seems to be a clear difference in the principal’s role in the improving and declining schools. In the improving schools, the principal is more likely to be an instructional leader, more assertive in his/her institutional leadership role, more of a disciplinarian, and perhaps most of all, assumes responsibility for the evaluation of the achievement of basic objectives. The principals in the declining schools appear to be
permissive and to emphasize informal and collegial relationships with the teachers. They put more emphasis on general public relations and less emphasis upon evaluation of the school's effectiveness in providing a basic education for the students.

7. The improving school staffs appear to show a greater degree of acceptance of the concept of accountability and are further along in the development of an accountability model. Certainly, they accept the MEAP tests as one indication of their effectiveness to a much greater degree than the declining school staffs. The latter tend to reject the relevance of the MEAP tests and make little use of these assessment devices as a reflection of their instruction. (MEAP refers to Michigan Educational Assessment Program.)

8. Generally, teachers in the improving schools are less satisfied than the staffs in the declining schools. The higher levels of reported staff satisfaction and morale in the declining schools seem to reflect a pattern of complacency and satisfaction with the current levels of educational attainment. On the other hand, the improving school staff members appear more likely to experience some tension and dissatisfaction with the existing condition.

9. Differences in the level of parent involvement in the improving and declining schools are not clear cut. It seems that there is less overall parent involvement in the improving schools; however, the improving school staffs indicated that their schools have higher levels of parent initiated involvement. This suggests that we need to look more closely at the nature of the involvement exercised by parents. Perhaps parent initiated contact with the schools represents an effective instrument of educational change.

10. The compensatory education program data suggests differences between improving and declining schools, but these differences may be distorted by the fact that one of the declining schools had just initiated a compensatory education program. In general, the improving schools are not characterized by a high emphasis upon paraprofessional staff or heavy involvement of the regular teachers in the selection of students to be placed in compensatory education programs. The declining schools seem to have a greater number of different staff involved in reading instruction and more teacher involvement in identifying students who are to be placed in compensatory education programs. The regular classroom teachers in the declining schools report spending more time planning for noncompensatory education reading activities. The decliners also report greater emphasis on programmed instruction (pp. 79-82).

The Search for Effective Schools Project

Before making summary remarks about the policy import of these several studies, I want to say something of my own research, Search for Effective Schools: The Identification and Analysis of City Schools That Are Instructionally Effective for Poor Children (Edmonds and Frederiksen, 1978). This discussion will describe our ongoing efforts to identify and analyze city schools that are instructionally effective for poor and/or minority children. I am pleased to note that we have already developed unusually persuasive evidence of the thesis we seek to demonstrate in the research under discussion. Our thesis is that all children are eminently educable and that the behavior of the school is critical in determining the quality of that education.

The Search for Effective Schools project began by answering the question: Are there schools that are instructionally effective for poor children? In September 1974, Lezotte, Edmonds, and Ratner described their analysis of pupil performance in the elementary schools that make up Detroit's Model Cities Neighborhood. All of the schools are located in inner-city Detroit and serve a predominantly poor and minority pupil population. Reading and math scores were analyzed from Detroit's spring 1973 use of the Stanford Achievement Test and the Iowa Test of Basic Skills. Of the 10,000 pupils in the 20 schools in the Model Cities' Neighborhood, 2,500 were randomly sampled. With minor variation, the sample included eight pupils per classroom in each of the 20 schools. The mean math and reading scores for the 20 schools were compared with citywide norms. An effective school among the 20 was defined as being at or above the city average grade equivalent in math and reading. An ineffective school was defined as one below the city average. Using these criteria, eight of the 20 schools were judged effective in teaching math. Nine were judged effective in teaching reading, and five were judged effective in teaching both math and reading.

We turned next to the problem of establishing the relationship between pupil family background and building effectiveness. Two schools among the 20, Duffield and Bunche were matched on the basis of 11 social indicators. Duffield pupils averaged nearly four months above the city average in reading and math.
Bunche pupils averaged nearly three months below the city reading average and 1.5 months below the city math average.

The similarity in the characteristics of the two pupil populations permits us to infer the importance of school behavior in making pupil performance independent of family background. The overriding point here is that, in and of itself, pupil family background neither causes nor precludes elementary school instructional effectiveness.

Despite the value of our early work in Detroit, we recognized the limitations of the Model Cities’ Neighborhood analysis. Our evaluation of school success with poor children had depended on evaluating schools with relatively homogeneous pupil populations. The numbers of schools were too few to justify firm conclusions. Finally, the achievement tests were normative, as was the basis for determining building effectiveness among the 20 schools. Even so, valuable lessons were learned in Detroit from which we would later greatly profit.

The second phase of the project was a reanalysis of the 1966 Equal Educational Opportunity Survey (EEOS) data (Frederiksen, 1975). Our purpose was to answer a number of research questions that required a data base both larger and richer than had been available to use in the Model Cities’ Neighborhood analysis. We retained our interest in identifying instructionally effective schools for the poor, but in addition, we wanted to study the effects of schools on children having different social backgrounds. Such an inquiry would permit us to evaluate school contributions to educational outcomes independent of our ability to match schools on the basis of the socioeconomic characteristics of their pupils.

Summarizing and oversimplifying results, we found at least 55 effective schools in the Northeast quadrant of the EEOS. Our summary definition of school effectiveness required that each school eliminate the relationship between successful performance and family background. The effective schools varied widely in racial composition, per-pupil expenditure, and other presumed determinants of school quality.

In our reanalysis of the EEOS, separate evaluations of the schools were made for subgroups of pupils of different races and home backgrounds. Schools were found to be consistently effective (or ineffective) in teaching subgroups of their populations that were homogeneous in race and economic condition. These schools were not found to be consistently effective in teaching children of differing economic condition and race. School effectiveness for a given level on Coleman’s home items scale extended across racial lines. The prime factors that condition a school’s instructional effectiveness appear to be principally economic and social, rather than racial.

Without seeking to match effective and ineffective schools on mean social-background variables, we found that schools that were instructionally effective for poor and black children were indistinguishable from instructionally less effective schools on measures of pupil social background (mean father’s and mother’s education; category of occupation; percentage of white students; mean family size; and percentage of intact families). The large differences in performance between the effective and ineffective schools could not therefore be attributed to differences in the social class and family background of pupils enrolled in the schools. This finding is in striking contrast to that of other analyses of the EEOS, which have generally concluded that variability in performance levels from school to school is only minimally related to institutional characteristics.

A very great proportion of the American people believe that family background and home environment are principal causes of the quality of pupil performance. In fact, no notion about schooling is more widely held than the belief that the family is somehow the principal determinant of whether or not a child will do well in school. The popularity of that belief continues partly because many social scientists and opinionmakers continue to espouse the belief that family background is chief cause of the quality of pupil performance. Such a belief has the effect of absolving educators of their professional responsibility to be instructionally effective.

Basic Skills for All Children

While recognizing the importance of family background in developing a child’s character, personality, and intelligence, I cannot overemphasize my rejection of the notion that a school is relieved of its instructional obligations when teaching the children of the poor. I reject such a notion partly because I recognize the existence of schools that successfully teach basic school skills to all children. Such success occurs partly because these schools are determined to serve all of their pupils without regard to family background. At the same time, these schools recognize the necessity of modifying curricular design, text selection,
teaching strategy, and so on., in response to differences in family background among pupils in the school.

Our findings strongly recommend that all schools be held responsible for effectively teaching basic school skills to all children. We recommend that future studies of school and teacher effectiveness consider the stratification design as a means for investigating the separate relationship of programs and policies for pupils of differing family and social background. Information about individual student family background and social class is essential in our analysis if we are to disentangle the separate effects of pupil background and school social class makeup on pupil achievement. Moreover, studies of school effectiveness should be multivariate in character and employ longitudinal records of pupil achievement in a variety of areas of school learning.

The Search for Effective Schools Project is now completing its analysis of social class, family background, and pupil performance for all Lansing, Michigan, pupils in grades three through seven. We have identified five Lansing schools in which achievement seems independent of pupil social class. The achievement data are local and normative, and state and criterion. We use both sets of data to identify schools in which all pupils are achieving beyond minimum objectives, including most especially those children of low social class and poverty family background. We are now gathering similar data for Detroit pupils in the elementary grades in schools whose pupil population is at least 15 percent poor.

The onsite study of Lansing's effective schools as compared to ineffective schools is scheduled to begin during the 1978-79 school year. Our basic notions of the character and origin of effective and ineffective school differences derive from work we've already done in combination with ideas on school effects that I've held for a long time (R. R. Edmonds, 1978). On the basis of the review of the literature in this paper and the Effective Schools project's earlier study in Detroit Model Cities and EEO's Northeast quadrant, I offer the following distinguishing characteristics of schools that are instructionally effective for poor children:

- What effective schools share is a climate in which it is incumbent on all personnel to be instructionally effective for all pupils. That is not, of course, a very profound insight, but it does define the proper lines of research inquiry.

- What ought to be focused on are questions such as: What is the origin of that climate of instructional responsibility? If it dissipates, what causes it to do so? If it remains, what keeps it functioning? Our tentative answers are these: Some schools are instructionally effective for the poor because they have a tyrannical principal who compels the teachers to bring all children to a minimum level of mastery of basic skills. Some schools are effective because they have a self-generating teacher corps that has a critical mass of dedicated people who are committed to being effective for all children they teach. Some schools are effective because they have a highly politicized Parent-Teacher Organization that holds the schools to close instructional account. The point here is to make clear at the outset that no one model explains school effectiveness for the poor or any other social class subset. Fortunately, children know how to learn in more ways than we know how to teach, thus permitting great latitude in choosing instructional strategy. The great problem in schooling is that we know how to teach in ways that can keep some children from learning almost anything, and we often choose to thus proceed when dealing with the children of the poor.

One of the cardinal characteristics of effective schools is that they are as eager to avoid things that don't work as they are committed to implementing things that do.

Summary

I want to end this discussion by noting as unequivocally as I can what seem to me the most tangible and indispensable characteristics of effective schools: (a) They have strong administrative leadership without which the disparate elements of good schooling can neither be brought together nor kept together; (b) Schools that are instructionally effective for poor children have a climate of expectation in which no children are permitted to fall below minimum but efficacious levels of achievement; (c) The school's atmosphere is orderly without being rigid, quiet without being oppressive, and generally conducive to the instructional business at hand; (d) Effective schools get that way partly by making it clear that pupil acquisition of basic school skills takes precedence over all other school activities; (e) When necessary, school energy and resources can be diverted from other business in furtherance of the fundamental objectives; and (f) There must be some means by which pupil progress can be frequently monitored. These means may be as traditional as classroom testing on the day's lesson or as advanced as criterion-referenced systemwide standardized measures. The point is that some means must exist in the school by which the principal and the teachers remain constantly aware of pupil progress in relationship to instructional objectives.

Two final points: First, how many effective schools would you have to see to be persuaded of the
educability of poor children? If your answer is more than one, then I submit that you have reasons of your own for preferring to believe that basic pupil performance derives from family background instead of school response to family background. Second, whether or not we will ever effectively teach the children of the poor is probably far more a matter of politics than of social science, and that is as it should be.

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While it may be improbable that our politics will ever bring us to educational equity for the poor, it is inconceivable that NIE (National Institute of Education) or AERA (American Educational Research Association) should do so. What I am therefore suggesting is that if you genuinely seek the means to educational equity for all our people, you must encourage parents’ attention to politics as the greatest instrument of instructional reform extant. You must not for an instant suggest that social science as practiced in AERA or as subsidized at NIE will advance the equity interests of the poor. I mention AERA and NIE in this slightly disparaging manner for a particular reason. Their contribution to our national discourse on educational equity graphically illustrates my point that the poor are far more likely to be served by politics than by any equity interests to be found in the educational research establishment. That is, social-service enterprises like NIE are not substantively different from the schools whose study has been the object of this paper. Left to their own devices, social services serve those they think they must, and that does not often include the children of the poor. This is not meant to suggest that NIE does not support socially useful projects, carried out by men and women of substance and merit. It is merely meant to suggest that those who get NIE money will, more often than is helpful for our purposes, be white, and of very conventional social science wisdom. Being white and of conventional wisdom is not, of course, an intrinsic disability. However, the combination does preclude repudiation of those of our social science notions that are most pernicious when discussing school reform. Repudiation of the social science notion that family background is the principal cause of pupil acquisition of basic school skills is probably prerequisite to successful reform of public schooling for the children of the poor.

It seems to me, therefore, that what is left of this discussion are three declarative statements: (a) We can, whenever and wherever we choose, successfully teach all children whose schooling is of interest to us; (b) We already know more than we need to do that; and (c) Whether or not we do it must finally depend on how we feel about the fact that we haven’t so far.

References


Gordon, H. Mental and Scholastic Tests Among Retarded
Schools Alone are Insufficient: A Response to Edmonds
Ralph Scott and Herbert J. Walberg

Schools must provide quality instruction to poor children, but the home and the individual student are also important factors.

Ronald Edmonds wants to promote school changes that produce the greatest learning benefits for poor and minority children who are likely to fail in school and become vulnerable, dependent adults. We support this goal. Edmonds contends that some schools and some teachers do a better job than others and that many educational inputs analyzed by economists and sociologists such as school size, teacher salaries and experience, teacher race, per-pupil expenditure, and school facilities are not strong determinants of student performance. He also recognizes that the family contributes to the shaping of a student’s character, personality, and intelligence. We concur.

A Parting of the Ways

Not only do we support the goal and these contentions, but we believe that it is now possible to identify three sets of factors that are strongly and consistently productive of academic learning: student ability and motivation, amount and quality of instruction as well as the social-psychological morale of the classroom group, and the educationally stimulating qualities of the home environment (Walberg, in press). The student as an individual, the school, and the home are like a three-legged stool: it is as strong as its weakest leg; strengthening the stronger legs is far less productive than strengthening the weakest. Therefore, we must part company from Edmonds and others to the extent that they single out the schools alone for improvement.

1 Ronald Edmonds graciously shared two of his more lengthy unpublished research papers with us, which permitted us to discuss the research that is the basis for his present, necessarily condensed, paper.

2 This is not to rule out such factors as the community, the mass media, and—particularly for adolescents—the peer group in having some effect on learning.