

THE EDUCATIONAL OPPORTUNITIES SURVEY

Frederic D. Weinfeld, U.S. Office of Education

Last July 2nd the U. S. Commissioner of Education presented to the President and the Congress, a report on the Equality of Educational Opportunity. This report was in compliance with Section 402 of the Civil Rights Act of 1964, which required that "The Commissioner shall conduct a survey and make a report to the President and the Congress, within two years of the enactment of this title concerning the lack of availability of equal educational opportunities for individuals by reason of race, color, religion or national origin in public educational institutions at all levels in the United States, its territories and possessions, and the District of Columbia".

The Educational Opportunities Survey was carried out by the National Center for Educational Statistics of the U.S. Office of Education, directed by Alexander M. Mood. In addition to its own staff, the Center used the services of outside consultants and contractors. James C. Coleman of Johns Hopkins University had major responsibility for the design, administration and analysis of the survey. Ernest Q. Campbell of Vanderbilt University shared this responsibility, and particularly had major responsibility for the college surveys, while I had the fortune to be Project Officer for the Survey.

Commissioner Harold Howe II described the survey with these words in his letter of transmittal:

Stated in broadest terms, the survey addressed itself to four major questions.

The first is the extent to which the racial and ethnic groups are segregated from one another in the public schools.

The second question is whether the schools offer equal educational opportunities in terms of a number of other criteria which are regarded as good indicators of educational quality.

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Only partial information about equality or inequality of opportunity for education can be obtained by looking at characteristics, which might be termed the schools' input. It is necessary to look also at their output--the results they produce. The third major question, then, is addressed to how much the students learn as measured by their performance on standardized achievement tests.

Four is the attempt to discern possible relationships between students' achievement, on the one hand, and the kinds of schools they attend on the other.

Work was started on the Survey in the Spring of 1965 and plans were made for administration and testing in late September of 1965. The plans called for the testing and surveying of about 800,000 students in some 5,000 schools throughout the country in grades 1, 3, 6, 9 and 12 together with their teachers, principals and superintendents.

The Educational Testing Service of Princeton, New Jersey, was awarded the contract, on the basis of competitive bids, for conducting the Educational Opportunity Survey, including test administration, test scoring, data processing and data analysis. They also consulted on various aspects of the Survey and convened an Advisory Panel to aid in the design and analysis of the study.

I might add at this point that in addition to the Survey, which made up the major body of the report to the Congress, there were also several small contracts let for specific projects and studies. Among these was the study directed by Charles Nam of Florida State University using the Current Population Survey of the U.S. Bureau of the Census to collect additional data, especially about school drop-outs who would not be picked up by the main survey.

The Survey sample consisted of a 5% sample of schools. This was a two-stage, self-weighting, stratified, cluster sample with counties and SMSA's being the Primary Sampling Units (PSU's) in the first stage and with high schools being the PSU's in the second stage. When a high school was drawn in the sample the elementary schools feeding into that school were automatically included in the sample also. Since the Educational Opportunities Survey was primarily concerned with the children of minority groups, and since these groups constituted only about 10% of the total school population, the schools were stratified according to the percentage of non-white students. Strata with higher percentage of these students were given larger sampling ratios and were sampled more heavily, with the final results that over 40% of the students in the Survey were from minority groups.

The instruments for the Survey were designed to collect the data needed for analysis along the lines of the four aforementioned questions concerning the availability of equal educational opportunity. The Survey depicts evidence of inequalities in educational opportunity by developing comparative statistical information for items and resources that educators agree are relevant to school quality. Comparison was made of the exposure to these relevant items of school

quality by children of minority groups and by children of the majority group. To obtain these data, questionnaires were devised and administered to the teachers, the school principals, and the superintendents of the participating sample schools.

The Teacher Questionnaire contained some 72 questions including: personal data, professional training, type of college attended, teaching experience, type of school and student preferred, job satisfaction, opinions on issues and problems of integration, such as bussing and compensatory programs for the disadvantaged, and problems existing in their school. The final part of the Teacher Questionnaire consisted of a voluntary test of 30 contextual vocabulary items. The purpose of this test was to get a measure of the verbal facility of the teachers.

The 100 item Principal Questionnaire was the main source of information about the school. The questions covered school facilities, characteristics, staff, programs, racial composition, problems, curricula, extra-curricular activities, etc. There were also questions on the personal background and training of the principal and on his opinions on problems of integration.

The Superintendent Questionnaire consisted of 41 questions dealing with administrative information about the school system, selected statistics about the school system and its expenditures, attitudes towards current school issues, and personal information about the Superintendent.

Detailed factual and attitudinal data about the students were also obtained by questionnaires. Included were items of home background information so that the student data could later be controlled on these items of socio-economic status, family background, family interest in education, etc. Different questionnaires, appropriate to each of the grade levels were used.

The 12th Grade Student Questionnaire for example, was comprised of some 116 items. In addition to the questions on home background and the usual personal and school data there were questions on the students' attitude towards school, race relations, and the world, such as: "How good a student do you want to be in school?" "If you could be in the school you wanted, how many of the students would you want to be white?" and "Good Luck is more important than hard work for success. (Agree or Disagree)".

Tests of the various school skills were to be the yardsticks for measuring the detrimental effects of poor school facilities and characteristics upon student learning. The Test Battery was designed as an integral part of the entire research design. The object was to obtain as much data as possible within the limitations of time and available resources. Two of the basic skills chosen were reading comprehension and mathematics ability. These two areas are common in all school curricula and are taught in all

schools at all grade levels. Another area deemed of importance was that of the general level of knowledge gained by the students either from their school courses or from experiences in the outside world. A test of general information was therefore included in the battery in order to measure this type of learning. Two other ability tests, were used to measure the students' skills in the verbal and reasoning areas. The two tests of this type included in the battery were the verbal and non-verbal ability tests.

One major limitation in the design in the test battery was the time required for test administration. It was desirable and considered administratively feasible to have the test battery and the questionnaires completed in no more than one school day. The lower grades had to have a shorter battery because of the limited attention span of the younger children. Therefore the testing time increased in the various test batteries until it reached its maximum length in the 12th grade.

Since the lead time before the administration of the Survey in September 1965 was too short to develop specific tests in the above areas existing standardized tests were used. However, because full length standardized tests usually require more time than would have been available, it was decided to use shortened, or half-length, forms of these tests rather than to omit tests in any area. Another requirement was that the various tests be interlocked through as many grades as possible so that scores on the same type of tests administered at different grade levels could be compared. The scaling allowed us to have a comparable measure of growth between the different grades.

The law required that the Survey be made at "all levels" and so it was decided to administer the tests to selected grades at spaced intervals. This would give us a good picture of what was going on in the schools without having to test at grade level. The grades chosen were Grades 1, 3, 6, 9 and 12.

The tests were of the multiple-choice answer type and were provided with machine scorable answer sheets. These answer sheets were scored and processed by a machine which scanned the penciled responses optically and put the results directly onto magnetic tape. For Grades 1 and 3 an accordion type answer booklet was used. The pupils marked their responses directly onto the booklet without using a separate answer sheet. This procedure eliminated errors that might have been caused by young children in transcribing their responses onto a separate answer sheet. The use of machine scorable tests for Grades 1 and 3 is a relatively new procedure which cuts down costs and errors considerably by eliminating hand scoring.

This then is the basic data which we have from the survey. It is comprehensive data in the sense that we have collected for each individual

student as much information possible about him, his teachers, and his school. Because of this collection of integrated data, related aspects of the global educational situation can now be investigated. The data was processed for the report on IBM 7090 computers and the collated data is now on magnetic tape. For each student in the sample, the tape record now consists of his student questionnaire responses, his test scores, the average questionnaire responses and average test scores of the students in his school, the average of his teachers' questionnaire responses, his principal's questionnaire responses, his school superintendent's questionnaire responses, and the appropriate sampling weight for the student. The data are grouped by geographical regions. There are 5 SMSA regions and 3 non-SMSA regions. The sampling design did not allow for any smaller breakdowns by States or by counties.

The following three reports have been published: a 33 page summary of the report, the complete report which was presented to the Congress, a 737 page document, and a Supplemental Appendix to the Survey which contains basic correlation matrices for samples of 1,000 students from various regional, racial, and grade groupings. Copies of these reports are available upon request.

I would like to mention briefly some of the preliminary analyses of the data which we have conducted for the report. The extent of the segregation in the public schools of racial and ethnic groups - Commissioner Howe's first question is shown in figures 1 through 4 on pages 4, 5, 6 and 7. The second question, whether the schools offer equal educational opportunity, is partially answered in tables 1 through 4 starting on page 10. Here the exposure of various groups to many of the tangible school facilities, characteristics, and relevant items of school quality is compared. Teacher and principal characteristics are also compared in this way in tables 5 and 6. As I mentioned previously there is also on tape the aggregate values of the responses of the student for each school. These peer group characteristics are compared in tables 7 and 8.

The third question - comparative student performance on standardized achievement test - is sketchily presented in table 9 on page 20. Much more detailed data about all these questions is presented in later sections of the report.

The fourth question, the relationship between student achievement and the kinds of schools they attend, is really the interesting one. Using samples of 1,000 students from various regional, racial, and grade groups it was found that most of the variability in school achievement resided in the within school variance and only a lesser percentage was accounted for by the between school variance. This was after the socio-economic home background of the students was partialled out. For most minority groups their achievement was found to be more highly

related to the type of school they attend than the majority students.

Using techniques of multiple-partial regression, again partialling out student home background, it was found that variation in school facilities and characteristics account for relatively little of the variance in student achievement insofar as this is measured by the standardized tests used as criteria. Of all the school variables, the quality of teachers showed a stronger relationship to pupil achievement, it was progressively greater at the higher grades, indicating a cumulative impact of the quality of the teachers in a school or pupil's achievement. Again, teacher quality is more important for minority pupil achievement than for that of the majority.

Besides these regression studies there were investigations of the attitudes and aspirations of the students, future teachers of minority groups, educational opportunity at public institutions of higher education, non-enrollment or school drop outs, project Headstart pupils, disadvantage associated with foreign language in the home, guidance counselors and vocational education. All these studies are contained in the main Report.

The National Center for Educational Statistics is now conducting a continuing program of analysis of this data. Investigations currently planned are: the development of indices of student socio-economic background, student educational background, teacher characteristics, and school quality; an examination of the relationship of school expenditures to achievement school quality and efficiency; a study of students and schools in Appalachia, the effect of social and regional teacher mobility; validation of previous regression equations; and various specific educational problems such as the effect of watching television, etc.

The data from the Educational Opportunities Survey are all in the public domain and will later be made available by listings, cards, or tape to interested educational researchers who may wish to use the data and analyze it for their own specific purposes and fields of interest. The confidentiality of the data will, of course, have to be maintained. The data, it must be remembered, is cross-sectional data. The Educational Opportunities Survey was a one-day, one-shot, survey with complete anonymity of all participants so that there can be no follow-up studies made as has been done with data from Project TALENT or that can possibly be done with data from various college testing programs.

As Dr. Mood stated in the report:

In view of the fundamental significance of educational opportunity to many important social issues today, Congress requested the survey of educational opportunity reported

in this document. The survey is, of course, only one small part of extensive and varied activities which numerous institutions and persons are pursuing in an effort to understand the critical factors relating to the education of minority children and hence to build a sound basis for recommendations for improving their education.

Probably the main contribution of the survey to this large and long range effort will be in the fact that for the first time there is made available a comprehensive collection of school data (at selected grade levels) gathered on consistent specifications throughout the whole Nation.