

NAEP's *Implicit Assumptions*

Bob L. Taylor and Jere Krakow

The National Assessment of Educational Progress (NAEP) is based on many of the same assumptions as other achievement testing programs. Examined here specifically, however, are eight of the more controversial and important of the implicit assumptions of the NAEP.

There are implicit assumptions made in conducting any assessment of student achievement. National Assessment of Educational Progress is no exception to this situation and, in fact, NAEP has special problems in this respect because of the large number of individuals included in its population. Probably, some of the controversy that surrounds the program stems from a lack of understanding of these implicit assumptions and their controversial nature. Here, a selected number of the more salient of these assumptions are identified and examined for their controversiality.

The idea of assessing the progress of education in the United States was advanced by such educational leaders as Francis W. Keppel, John W. Gardner, and Ralph W. Tyler in 1963. By August 1964, an Exploratory Commission funded by the Carnegie Foundation and chaired by Ralph Tyler was busy developing plans for a national assessment. After four years, the planning phase was complete, and in 1968 the U.S. Office of Education assumed the funding responsibility for the project.

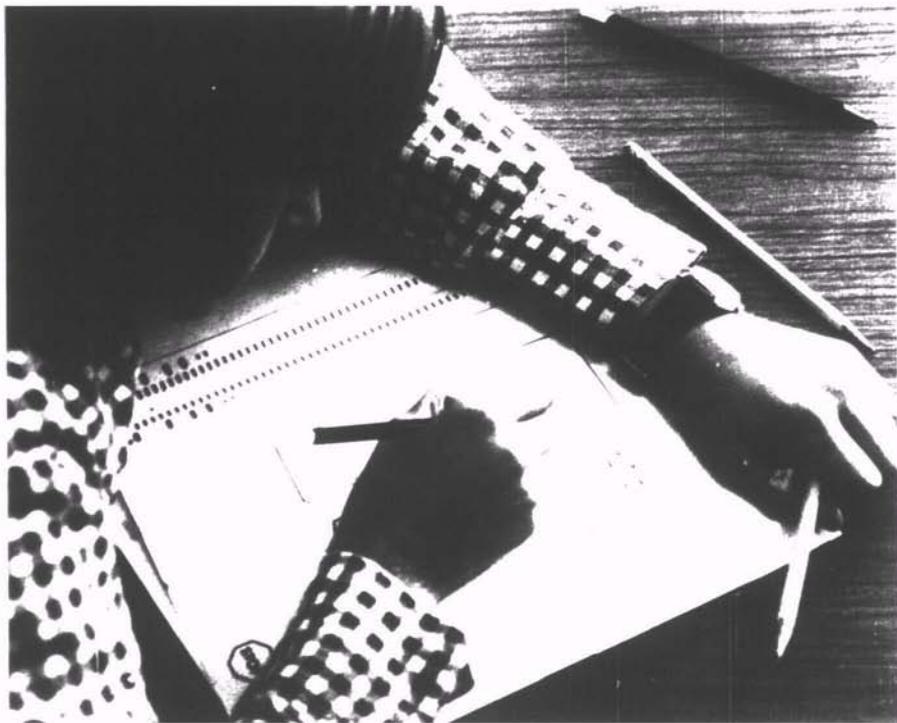
The model, which was developed for imple-

mentation in 1969, included drawing a random, stratified sample from four age levels of the American youth population and assessing youth from urban and rural settings from all regions of the nation. Objectives were formulated for the ten subject matter areas to guide in the development of the exercises to be used in the assessments of these subject areas. Data were to be collected in a three-phase cycle for the subject areas, and the results were to be disseminated in the form of noninterpretive reports. In summary, the National Assessment of Educational Progress has two major goals:

1. To make available the first comprehensive data on the educational attainment of young Americans
2. To measure any growth or decline that takes place in selected aspects of the educational attainment of young Americans in certain subject areas.¹

Therefore, National Assessment is an information gathering program designed to provide both the educational community and the lay public with information about the educational achievements of American students and young adults. National Assessment is not directly concerned with educational policy making, but the information provided by National Assessment

¹ Frank B. Womer. *What Is National Assessment?* Ann Arbor: National Assessment of Educational Progress, 1970. p. 2.



Art assessment, thirteen-year-olds. Photo: NAEP.

can help the public and the educational community make better decisions on educational policies and practices.

What Are the Implicit Assumptions?

As stated earlier, National Assessment is based on many of the same assumptions that other achievement testing programs are based. Some of the more controversial and important assumptions made by NAEP are identified and examined here:

1. It is assumed that responses on paper and pencil and/or oral tests accurately reflect what respondents will do in real-life situations. The transfer from the application of a theoretical principle presented in an assessment instrument to a real-life situation is certainly not assured. It is only when people perform in real-life situations that we know if they will apply the principle. They may respond one way on a paper and pencil test, and behave just the opposite in a real situation.

2. It is assumed that all Americans have a common set of cultural values. Assessment instruments are culture-based, and the assumption is made that individuals of different cultural backgrounds will respond similarly to items on assessment instruments. In our highly diverse society, there are many different subcultures, and a number of these are diverse enough that respondents from them are at a disadvantage in completing instruments based on this assumption.²

3. It is assumed that National Assessment is assessing knowledge learned in school. In some of the subject areas assessed, such as mathematics and science, this is a reasonable assumption to make, but in other areas, such as citizenship and career and occupations development, there is ample reason to believe that other agencies, such as youth clubs, mass media, and "the street," are of equal or greater importance in

² Barbara I. Williams and June Gilliard. "One More Time: NAEP and Blacks." *Social Education* 38:422-24; May 1974.

what youth have learned. What has been learned in school and what has been learned through other agencies is a difficult question to answer when it comes to some of the areas of assessment.

4. It is assumed that the educational system should be held accountable for how well informed citizens are. National Assessment is not an accountability program. Accountability programs are concerned with value judgments of the school's work, but NAEP refrains from that. In accountability, the work of the school is judged to be good, satisfactory, or bad against predetermined criteria. National Assessment does not make such judgments. Its primary purposes are to determine where the nation stands in terms of students' knowledge, attitudes, and skills in the subject areas and at the age levels that are being assessed, and over the course of time to identify and record the nation's progress or decline in the levels of students' and young adults' achievements.

Do citizens have adequate scientific knowledge to function effectively in a modern industrial state? Are their communication skills adequate to be good consumers of the cool and hot mass media? Can they calculate well enough to make change and write accurate sales reports? Do they know enough about the workings of our government to vote with understanding? How these questions and many others are answered give direction, not only to changes of goals and expenditures of funds in the school system, but also in other educational agencies such as the mass media and youth programs.

5. It is assumed that National Assessment may establish goals and objectives that will meet the needs of the nation and its entire population. Identifying these for a large diverse population presents many problems. There are numerous subgroups in our nation that probably do not hold the same goals and objectives identified by the National Assessment teams for the subject areas and age groups tested. While it is acknowledged that National Assessment made a genuine effort to assure the representativeness of these teams, the population is so large that many sizeable subgroups were not represented; hence, for large numbers of youth, the identified goals and objectives are probably not realistic.

6. It is assumed that statistical sampling techniques and procedures have been developed to the point that a truly representative sample can be drawn. While the NAEP sampling is outstanding in this respect and probably represents the best effort ever conducted in this country, there are indications that many subcultural groups were not represented. For example, those large numbers of people who are never reported in the United States census probably were not accessible to the National Assessment house-to-house survey either. In addition, many minority groups were represented by so few cases in the sample that they were simply included in the general classification of "non-black." While the sampling procedure has provided more extensive and more accurate information than any such effort in the past, there were still problems that raised doubts about its comprehensiveness.

7. It is assumed that there is a common body of knowledge, attitudes, and skills to be mastered by students for each subject area and at each age level and that these can be assessed. Here, it is presupposed that education is developmental. Each individual's knowledge, attitudes, and skills are increasingly more complicated and refined as he or she matures. There is a minimum level of achievement for each age level that can be determined. This development is in part, if not primarily, the outcome of schooling. In a complex and pluralistic society like the American society, it is questionable if there is a common body of knowledge, attitudes, and skills for all the population.

Because the society is divided into subcultures and specializations to the point that people in these subcultures do not totally understand those in another, it is argued that there is no truly common body of knowledge from which to draw. For example, minority groups in American society probably do not have the same attitudes toward the establishment as the white majority. Black youth in the ghetto areas may have different ideas with respect to how the system works than white youth from the upper-middle-class suburbs.

On the other hand, National Assessment is concerned with obtaining information on the levels of knowledge, attitudes, and skills that each age group possesses. It is this minimum level of



Photo: NAEP.

knowledge and skills that is considered common to all in any particular group. While the assumption is workable in a general way, it probably breaks down when applied to specific subgroups.

8. It is assumed that interpretations of results of NAEP may be made that have application to all Americans in some universal manner. By making a number of divisions of data into large identifiable groups, National Assessments has demonstrated the need to think in terms of specific groups with respect to the results. Since there are many subgroups that have not been identified, the interpretations are of a very rough nature. The other obvious problem is that the results were treated by many readers as a kind of national norm. In light of the history of

assessment in this country, this is a logical result, but the need to interpret results for specific groups and situations is well recognized. Regarding this assessment, the results have proven to be a controversial issue with some subgroups, for they claim correctly that interpretations being applied to them are not accurate.

The foregoing list of eight assumptions is in no sense exhaustive. There are any number of assumptions made by National Assessment of Educational Progress in carrying out their assessment program. Making implicit assumptions is common to all assessment efforts, and this article is not criticizing National Assessment for having made the assumptions cited in the article. They are logical ones to make considering the nature of the task which they were assigned.

National Assessment has carefully conducted the program, and valuable information has been collected which has provided the nation with information on the educational attainment of young Americans. Likewise, there has been information gained with respect to the growth and decline of educational attainment of youth in certain specific subject areas. Nevertheless, because there are aspects of the assumptions that are not entirely accurate, the information collected and the interpretations made have not been correct for all American youth. This has caused difficulty and produced controversy. It is the contention of this article that National Assessment of Educational Progress should make a careful public examination of its implicit assumptions. While it probably would not affect their overall plan of assessment, it would give the public a better understanding of what the data mean, and what the basis for some of the controversy is.



Bob L. Taylor (left) is Professor of Education, University of Colorado, Boulder; Jere Krakow is Associate Professor of History, Southwest Missouri State University, Springfield.

The following are a few assessments that have come out of the vast amount of statistics compiled by NAEP since 1969:

Reading:

- As a group, girls continue to read better than boys at all age levels.
- In 1975, more 17-year-olds were able to read basic everyday items, such as telephone bills, than in 1971.

Writing:

- Writing performance for 13-year-olds declined. On the average, the 1974 essays were shorter, less sophisticated in expression, and more awkwardly written than the 1970 essays.

Mathematics:

- 45 percent of the young adults could not read a federal income tax table correctly.
- Adults have greater trouble with multiplication problems than do 13- and 17-year-olds, and they also fall below 17-year-olds' performance in working with decimals.

Science:

- Science knowledge in America's schools is declining.

Career Development:

- 44 percent of American 17-year-olds desire a professional career while census figures indicate that only 20-25 percent of currently existing jobs are professional or managerial.
- 37 percent of males and 21 percent of females think that a woman's place is in the home.

Citizenship Survey:

- Only 50 percent of both the 13- and 17-year-olds know that the president cannot appoint people to Congress.
 - 32 percent of 17-year-olds do not think it is important to vote in all elections nor is it necessary to vote if it appears that the candidate of their choice isn't going to win. [E]
-

Student Diagnosis, Placement, and Prescription

A Criterion-Referenced Approach

By Roger B. Worner

This forward-looking book concentrates on four points: a definition of the skills, concepts, and processes that form the instructional program foundation; accurate diagnosis by appropriate tests; correct placement based on diagnosis; and prescriptive instruction. Illustrated by many actual field cases.

\$10.95

Power to the Teacher

How America's Educators Became Militant

By Marshall O. Donley, Jr.

Donley examines the rise of teacher militancy from the early days, through the founding of teachers' associations and unions, into the present. "This book brings historical sweep into focus and should be at the elbow of every teacher-leader in America." —*Today's Education* (Published in association with Phi Delta Kappa.) cloth \$10.95 paper \$3.95

A Teacher Is Many Things

By Earl V. Pullias and James D. Young
"This book succeeds in its difficult and often perilous aim of illuminating the subtle and noble facets of teaching. It inspires, stimulates, and challenges our present methods of education."

—*Journal of Emotional Education*
"... a unique book that brings a special meaning to the art of teaching . . ."

—*Educational Leadership*
cloth \$15.00 paper \$4.95

Indiana University Press

Tenth and Morton Streets
Bloomington, Indiana 47401

Copyright © 1977 by the Association for Supervision and Curriculum Development. All rights reserved.