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ABSTRACT

Since 1969, the National Assessment of Educational Progress (NAEP) has gathered census-like information about levels of educational achievement across the country and reported its findings to the nation. Individuals were selected for examination so that the levels of achievement they demonstrated would be representative of the achievement of the entire country. Individuals were selected from four age levels--nine, 13, 17 and 26 through 35--which correspond to four key stages in the education of most individuals: the end of primary school, junior high school, high school and a few years past the end of formal schooling. The individuals were also classified according to region of the country, sex, race, parental education and size and type of community to provide additional information about types of schools and students. Achievement levels of young Americans in seven assessment areas are described in this volume--science, social studies, music, literature, reading, writing, and citizenship. Results of the seven assessments indicate that there are serious disparities in the achievement levels of various groups within the nation. The results indicate the degree of that disparity. (RC)

Update on Education

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A Digest of the
National Assessment of Educational Progress

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NAEP
1975

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Foreword

More than 63,000,000 Americans are directly involved in the educational process today. In 1974 more than $110 billion were spent by American education institutions, making this enterprise the nation's largest. Since the first meetings were called in 1963 to discuss the nationwide assessment plan that became the National Assessment of Educational Progress (NAEP), the expenditure per pupil in average daily attendance in American public schools has more than doubled, rising from $419 to almost $1,000. The federal government's yearly contribution to the support of education has increased sixfold – from $2.1 billion to almost $13 billion in the same period.

These staggering numbers suggest how critically important it is to gather national-level data about educational achievement and to monitor changes in that achievement over the years. Since 1969, National Assessment has assumed responsibility for that monitoring. The information it has gathered to date offers all who are interested in education an unprecedented opportunity to examine achievement in 10 learning areas, to spot changes in level of achievement over the years and to apply the implications of those changes to national educational policy.

Although National Assessment was designed to be a long-term project whose major impact would come only after it had reassessed several learning areas, it has already proven useful to many different audiences. Its data are integral to the yearly reports on the condition of education mandated by federal law; 36 states have drawn upon the assessment materials or method-

ology for the establishment of their own assessment programs; assessment data have been used to document educational inequities and secure money for their remediation; professional educators have interpreted the results and discussed their implications for curriculum, textbook and classroom; and countless districts, schools and individuals have used National Assessment objectives as starting points for the creation of personal or local teaching objectives. This is an impressive beginning for a vital program whose most promising years still lie ahead.

Ralph Tyler, *Senior Consultant*
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Educational Achievement

When the United States Office of Education was founded in 1867, one charge set before its commissioner was to determine the nation's progress in education. That century-old charge is only recently being answered in a systematic way — by the National Assessment of Educational Progress (NAEP), an organization formed for that special purpose. In carrying out the charge, the National Assessment, each year since 1969, has gathered census-like information about levels of educational achievement across the country and reported its findings to the nation.

During the first five years of its endeavors, the National Assessment interviewed, tested or examined more than 400,000 different young Americans. These individuals were selected so that the levels of achievement they demonstrated would be representative of the achievement of the entire country. The individuals were selected from four age levels — 9, 13, 17 and 26 through 35 — which correspond to four key stages in the education of most individuals: the end of primary school, junior high school, high school and a few years past the end of formal schooling. The individuals were also classified according to region of the country, sex, race, parental education and size and type of community to provide additional information about types of schools and students.

NAEP gathered information in such a way that interested people — scholars, educators, legislators, teachers, parents and others — can get a better picture of the state of the nation's education. With this information, it is hoped, these people can make more informed decisions about the future of American education.

The achievement levels of young Americans in seven assessment areas are described in this volume. These seven learning areas — science, social studies, music, literature, reading, writing and citizenship — represent a major part of the national commitment to the education of Americans. The results of the seven assessments indicate that there are serious disparities in the levels of achievement of various groups within the nation. The results also indicate the degree of that disparity. But the results imply another important fact about the groups assessed: the disparity need not necessarily exist.

Again and again through the assessments, Americans of every color, from every region or type of community, of both sexes, indicated that they have roughly the same attitudes about the seven learning areas, and again and again, in aspects of those areas not taught in schools, the achievement levels of all the groups are about the same. But in those aspects that are primarily taught or dealt with only in schools, the levels of success varied considerably.

Generally, those groups whose typical levels of achievement in academic matters were relatively low compared to national levels were composed of individuals who were from families with little formal schooling, who were black, who lived in rural or low-income city neighborhoods or who lived in the southeastern part of the country. And generally, those groups of people whose levels of achievement in academic matters were relatively high were composed of individuals who were from families with a better educational background or who lived in affluent suburbs of metropolitan areas. But people from both groups often had very similar attitudes about education. For instance, people throughout the nation were in agreement that it is important for literature to be taught in every school; and throughout the nation, most people read some form of literature on their own.

Yet the actual levels of reading ability varied considerably: blacks, southerners, individuals from poorly educated families and individuals from inner-city neighborhoods typically demonstrated levels of achievement in reading well below the national levels; individuals from well-educated families or from affluent suburbs typically demonstrated levels above the rest of the nation. Similar results appeared in science: aspects of science probably learned from personal experience, such as the use of fuses in an electrical system, are familiar to about the same proportions of people in most groups, yet aspects that are learned primarily in the classroom, such as the nature of the solar system, are much more familiar to individuals from well-educated families or to individuals living in wealthier neighborhoods. Throughout the assessment areas, the people who seem to profit most from their schooling are those in the affluent suburb and those from well-educated families – that is, those people with access to the best schools and those with the most positive attitudes toward education in the home.

The fact that disparity in achievement exists is not news. Every teacher knows it; every parent suspects it. Now firm evidence has been collected on a national scale that confirms it and measures the extent of the disparity. Such firm evidence can provide the basis for intelligent discussion about the next steps to take: whether specific studies are needed to analyze further the nature of the disparity in particular instances, whether new programs are needed or old programs need expanding or whether, indeed, the nation wishes to do anything about the disparity at all.

But the results of the seven assessments described in this book do far more than simply point out that differences in educational achievement exist. That fact is only one of innumerable facts one can find, for the results provide a composite portrait of American education. That portrait is the primary purpose of this volume. How each person reacts to the portrait, which facts he or she judges important, which trivial, will be determined by many factors, not the least of which will be his or her own commitment to education in America. But now, some hundred years after the Office of Education was formed with the charge to do so, it

is providing, through the National Assessment, information that enables people to act and react with some confidence that their understanding of education in America is based not on conjecture but on solid evidence. The remainder of this book is a survey of that evidence. The complete reports and figures on each learning area are available from the Superintendent of Documents, United States Government Printing Office, Washington, D. C. 20402.

National Results

Many people would like to find a single number that describes educational achievement the way teachers arrive at scores on mathematics tests, but many factors preclude such a determination. No single figure could possibly cover all the myriad facts and facets of such broad learning areas as literature, science or social studies; and any attempt to generate a figure would be meaningless. Another precluding factor lies in disagreement among experts about achievement. Any arbitrary determination of what constitutes achievement would simply create dissension rather than create discussion about the achievement. A third precluding factor lies in achievement testing itself. To discover a person's or group's achievement, tasks must be developed that are beyond the capabilities of the person or group. Then measurements can be made of the degree to which the person or group accomplishes each task. Since the tasks themselves are of varying difficulty, combining any results beyond the most closely related would be of limited usefulness. Many tasks the National Assessment uses are this type; therefore, while achievement on a task is meaningful, combining results cannot be done except in very general terms. The discussion that follows takes these factors into account.

Science

In science, a large disparity exists in levels of achievement between males and females. At every age and in almost every area of science the achievement of males was higher than that of females. Only in knowledge of health and human reproduction was the achievement of females higher than that of males.

Disparities also were found between knowledge of scientific matters taught in school and knowledge learned through personal experience. Young adults, for instance, typically performed less well than 17-year-olds on science tasks, and in a few cases, less well than 13-year-olds. They were especially low in aspects of science dealt with primarily in the classroom. However, adults frequently performed better than 17-year-olds in those aspects of science people pick up in daily living. A similar disparity between experience in schools and personal experience of science appeared among people living in the Southeast, in rural communities and in low-income city communities.

Social Studies

People living in low-income city neighborhoods, people from poorly educated families and people living in the Southeast were less willing than Americans generally to defend or support free-

dom of the press, freedom of religion, freedom of assembly. Individuals in these disadvantaged groups seemed poorly informed about the political and electoral processes generally. In contrast, people from well-educated families, from affluent suburbs and from the Northeast seemed better informed and more willing than Americans generally to defend or support First Amendment rights.

For the most part, young Americans possess the skills necessary to obtain and interpret information. But whether or not they do obtain and interpret information is questionable: the level of knowledge about specific subjects within the social studies spectrum seemed somewhat low, and much lower than the demonstration of skills would imply. For instance, at age 9, only a quarter of the students knew that Columbus sailed west to discover America; less than half of the 13-year-olds could answer questions about the American Revolution; about half of the 17-year-olds knew the basis of the Supreme Court decision forbidding prayer in school.

Citizenship

The variety of ways young Americans approach their citizenship is reflected by the variety of responses to the citizenship assessment. Generally speaking, people living in more affluent neighborhoods, people from better-educated families and people living in the Northeast tended to be more interested or concerned with state and federal government and international affairs, while people living in poorer neighborhoods, people from families with little formal education and people living in the Southeast tended to be more interested or concerned with family matters and local government.

But however varied their responses to other areas of citizenship, the majority of Americans were in agreement about a major problem of American life: racial intolerance. The vast majority of all young Americans expressed willingness to eat in the same restaurants, share the same motels and hotels and live next door to members of other races. This was true of whites and blacks alike, except in one area. Blacks were not as willing as Americans generally to let members of other races represent them in public

office. Even at age 13, blacks indicated reluctance to be represented politically by members of other races.

In general, the level of citizenship shown by assessment measurements seemed high. High proportions of young Americans expressed concern for the well-being of others, recognized the value of just law, cooperated effectively in small groups, approached civic decisions rationally, took responsibility for their own development, respected family life. In specific areas, however, there was some falling off in achievement levels. For instance, a majority of young Americans supported the idea of freedom of speech for all individuals — until the views of the individual seemed threatening; then the majority of Americans were willing to abridge the freedoms involved.

Writing

The general level of writing skills shown nationally was not very high. At age 9, few individuals had mastered the basics of written English; by age 17, about half the individuals had some mastery of basics, but they rarely attempted anything beyond the simplest constructions or used anything beyond a rather limited vocabulary. At no age did many individuals show much of a flair for writing.

In addition, the achievement levels varied depending on the task. In social situations, many people managed adequately until they were faced with a call for specific information. For instance, at age 9, most individuals wrote an adequate thank you note, but fewer than half managed to include all the information necessary when writing an invitation to a class play. About half the 17-year-olds included all necessary information about an auto accident; among adults, two out of every five included all the necessary information. Americans seemed to have difficulty writing in business situations of even the simplest nature. Only at age 17 did even slightly more than half manage to fill in correctly a simple information form asking for name, address, birth date and current date.

Despite their general difficulty with writing, most Americans write various things on their own, from letters to poetry, indicating that they value the skills involved. The fact that they

write regardless of their abilities is perhaps reflected in the fact that, in general, each age seemed to write better than the age before it; more people had mastered the basics of written English, and vocabulary seemed to improve as well.

Reading

The vast majority of young Americans can read fairly simple material, but many cannot: many young Americans are handicapped by deficient reading skills. They cannot follow simple directions, and they find it difficult to draw inferences or conclusions based on what they do understand when they read. The groups with the largest proportions of poor readers were blacks, people from the Southeast, people living in poorer city neighborhoods and people from families with little formal education.

Frequently the reading deficiencies were large: among blacks, often the typical reading levels were not as high as those of whites four years younger.

The evidence indicates that the major part of the deficiency develops before age 9; after that age, the differences between the skills of the disadvantaged groups and the national levels either remain about the same or grow slightly smaller through the school years. Among adults living in the Southeast and black adults, however, the reading disadvantage is worse than it is among school-age individuals in the same groups.

Literature

Whatever their abilities, young Americans are remarkably avid readers and they attach great importance to the study of literature. At age 13, 98% of the individuals reported that they read on their own — that is, apart from any school assignment — at least one type of literature. Nineteen out of every 20 17-year-olds and 9 out of 10 adults made the same report. The most popular type of literature was the novel, with biography and autobiography a close second.

The question arises that if people have difficulty reading, what do they get out of the literature that they read? It appears that young Americans have the greatest difficulty in making inferences from their reading. When discussing how they felt about a

work, most individuals either retold the story itself or attempted to tell what the work meant to them. However, the majority of people did seem to understand metaphor, and they could follow rhythm and logic in poetry in an elementary fashion.

Music

Almost every young American is involved in music, especially popular American music: most listen to rock music or to country and western, although 1 young adult out of 10 prefers art music such as symphonic, operatic or chamber. But Americans do more than simply listen: 8 out of every 10 enjoy singing, and among adults, almost half sing fairly well according to the judges who scored music assessment singing tasks. In addition, more than three quarters of the individuals at each age either say they play a musical instrument or that they would like to learn to play.

As might be expected from their listening habits, young Americans know quite a lot about American music: the vast majority recognized American "classics" like "When the Saints Go Marching In." At age 17, a third or more could identify types of jazz such as Chicago school or modern by their sound; two thirds identified boogie-woogie.

And in terms of listening and singing, Americans showed about equal abilities regardless of their achievement in other academic areas. For instance, southerners, usually a disadvantaged group academically, listen to more music, enjoy more kinds of music and sing more music than people in other regions. Blacks are another group that usually show achievement below national levels; in music, proportionally more blacks than other Americans listen to music, attend musical programs and participate in music activities.

Group Results

The portrait of education in America is obviously incomplete until the contributions of various key groups are understood. The United States is such a large land and its peoples so diverse that the number of elements that could be added to any picture

of the country is undoubtedly endless. The National Assessment included five major elements that have been found especially connected to the educational achievement of individuals; that is, these classifications of people generally show large differences in educational achievement. The educational attainment of the parents of individuals is thought to be an indication of home and family environment. The size and type of community that an individual lives in is generally considered to be an indication of social status and economic condition of the home. Regions of the country have traditionally differed in cultural outlook and emphasis on certain kinds of education. Race and sex have for years been connected to differing achievements in school. Some of these groups typically have levels of achievement above the national levels, some typically perform below the national levels and many typically perform at about the national level; all form part of the overall pattern that makes up the national picture. In the descriptions that follow, the contributions of each are examined.

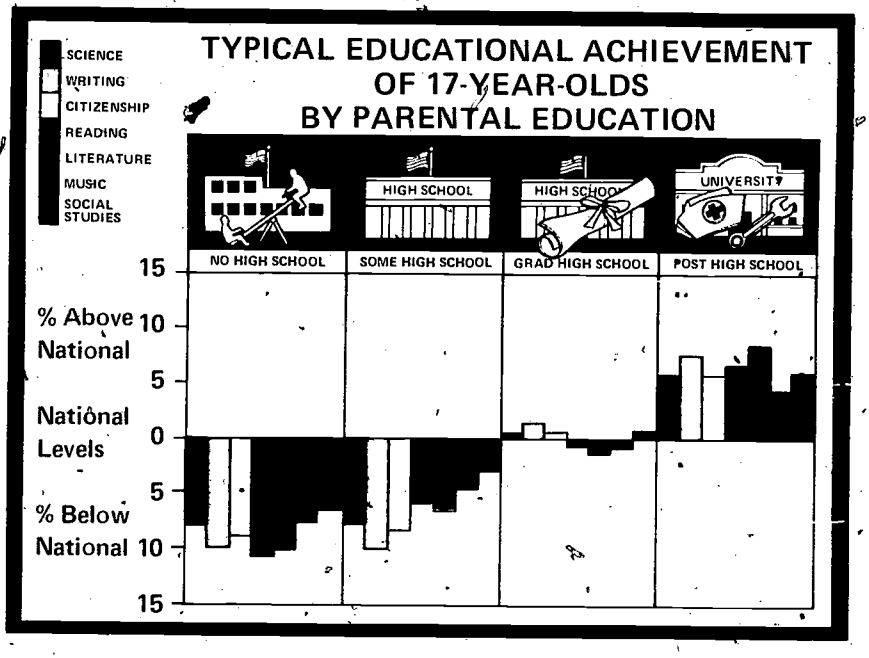
Parental Education

The educational background of the home was determined by the parent, male or female, who had attended the highest grade in school. Four levels were used: no high school, in which neither parent of the individual assessed had attended high school; some high school, in which at least one parent had attended high school but neither had graduated; graduated high school, in which at least one parent had graduated but had no further training of any kind; and post high school, in which at least one parent had acquired some kind of training after graduating from high school. That training could have been in college, trade school or in any other kind of formal situation.

Throughout the assessments, a definite pattern of achievement was connected to the educational level of the parents. Generally, individuals whose parents had little formal education had levels of achievement well below those of the rest of the nation, while individuals who came from well-educated families performed well above national levels. The following graph shows the typical achievement of each group at age 17 compared to the

national levels in the seven assessment areas. The groups at each of the other ages established similar patterns of achievement.

The typical levels of achievement were determined by examining all the tasks performed by each group, but often the performance levels on particular tasks were unusually low or unusually high compared to the typical level for that group. For instance, in science, the group of people whose parents had not attended high school seemed to have unusual difficulty with two types of tasks. The first type required scientific knowledge, such as the fact that testes produce sperm, and the recognition of relatively unfamiliar words such as ovules and photosynthesis. The second type of task that was difficult for individuals in this group involved interpreting graphs and illustrations. In general, people at each age in this group had unusual difficulty with fundamental facts of science, they seemed lacking in the skills necessary to deal with science and they did not seem to understand well the investigative nature of the field.



At the same time, people who had at least one parent trained beyond high school did better than even their usual high levels in the same areas that gave the former group the most trouble. For instance, the group that came from better-educated families did especially well on reading charts and graphs, testing hypotheses and on tasks that required an understanding of the scientific method or a knowledge of particular facts and principles.

People whose parents had not attended high school also read far less well than people of the same age whose parents had more education. For instance, half the 13-year-olds whose parents had no high school education selected the main idea from a passage about farming and the environment; of 13-year-olds who had at least one parent trained beyond high school, 17 out of 20 picked the main idea. Coming from a home with little formal education seemed less of a reading handicap for young adults than for school-age children, however; the reading abilities of young adults in this group were closer to the national levels than were the abilities of younger individuals.

The education of parents of the individuals assessed also seemed connected to performance levels in some areas of citizenship, but not in others. More Americans who had at least one parent educated past high school showed concern for the well-being of others, supported rights and freedoms, participated in effective civic action and engaged in the other activities or attitudes that the assessment took to be measures of citizenship. In this group also, more individuals belonged to organizations dedicated to ending discrimination. These young Americans also knew of ways to influence public opinion and public officials and attempted to do so more than other Americans.

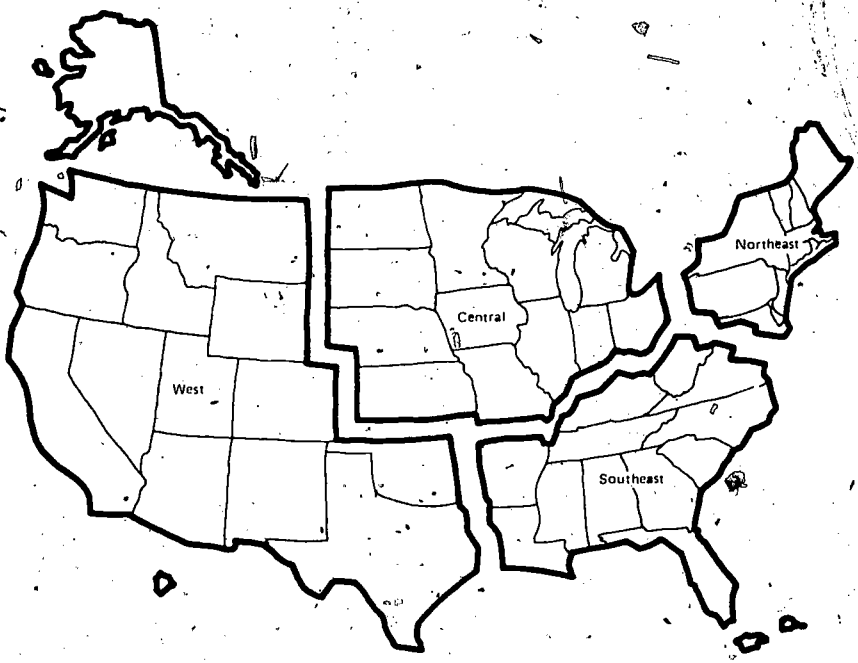
At the same time, young Americans from poorly educated families were relatively uninformed of ways to be influential and did not take actions that might influence their government. These Americans seemed more insular: proportionally fewer people in this group possessed information about international relations, but proportionally more in this group than Americans generally expressed concern for family matters and local government. Also, people from educationally disadvantaged families

were at about the national levels in taking responsibility for their personal development, with helping and respecting the family and in showing concern for the well-being of others.

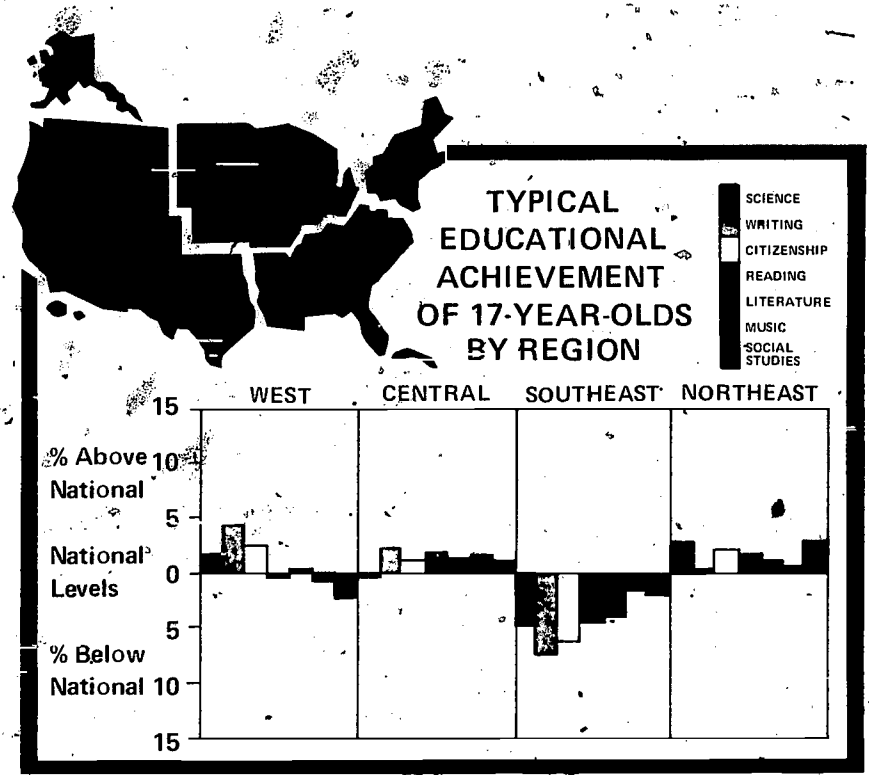
In fact, people at age 17 and adult whose parents had not attended high school were more tolerant of other races than those whose parents had some high school education but had not graduated. However, 13-year-olds whose parents had not attended high school were considerably less tolerant than others of their age.

Region

For the purposes of assessing educational achievement, the United States was divided into four geographical regions – the Northeast, Southeast, Central and West – as shown on the following map.



Throughout most of the assessment areas, a definite pattern of achievement emerged. Generally speaking, people in the Northeast had levels of achievement above the national levels. This educational advantage typically was largest at age 9 and smaller at each succeeding age. Adults in the Northeast were generally close to the national levels in achievement. People in the Southeast, in contrast, typically had, at every age, levels of achievement below the national levels. In the West, 9-year-olds were often below national levels, but by adulthood, the typical achievement in the West was higher than the national levels. People who lived in the Central region generally performed very close to the national levels at every age. The following graph illustrates the typical levels of achievement at age 17 compared to the national levels for the seven assessment areas.



In science, the typical performance levels of people living in the Southeast were below the levels of people elsewhere, but there were wide variations in some areas of science. On tasks requiring scientific skills or knowledge generally taught in the classroom, the performance of people in the Southeast was substantially lower than the national levels. On some tasks that might be completed on the basis of out-of-school experience, however, people in the Southeast performed as well as or better than the rest of the country. These tasks involved such things as coal from a neighboring mountain, transformers, automobiles, food, rainbows and the weather.

Southerners were also below the nation in their performance on citizenship tasks, especially at the older ages. They were below the rest of the nation in racial tolerance, but a majority of southerners, like Americans generally, were willing to associate with people of other races in a number of situations. Southerners seemed to know less or were less interested in conflicts around the world and in ways to seek peace, and they did not feel as involved in state and federal government as most Americans did. At the same time, southerners were more aware of local problems and issues than adults in either the Northeast or West, and more southerners felt they could influence local government than Americans did elsewhere.

At the three older age levels, people throughout the nation had about the same level of writing skills – with the exception of people in the Southeast. The attitudes and writing habits of southerners appeared to be very much like those of Americans elsewhere, but overall writing abilities for southerners were well below national levels. In the Northeast, the general trend of performance was high – but the attitudes were lower: fewer people in the Northeast said they wrote outside of school than might be expected from the level of writing skills they demonstrated.

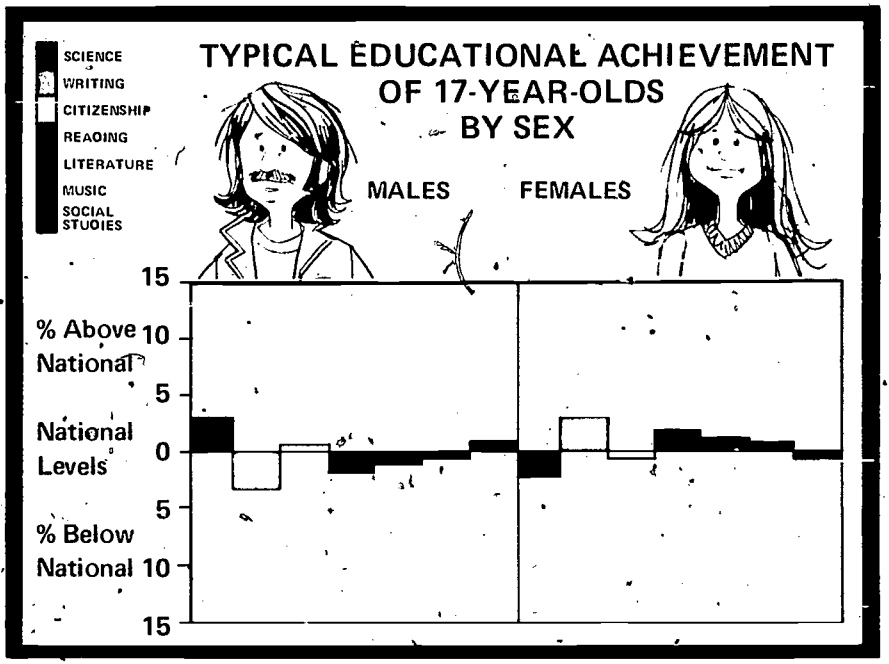
People at all four age levels in the Southeast also performed significantly below their counterparts in the other three regions in every reading skill assessed, from following simple directions to reading critically. Young adults in the Southeast, moreover, fared even less well in relation to the nation than any of the

school-age groups. Those adults had particular difficulty with understanding words and word relationships and in drawing inferences.

Throughout the seven assessment areas, people in the Southeast region performed significantly below the national levels in academic tasks. Paradoxically, adults in the Southeast led the nation in attention given to the education of their children.

Sex

Females generally demonstrated levels of achievement above males in every assessment except science and citizenship; but except for science, differences between the sexes typically were not very great. Girls were especially better than boys at the school ages. However, among adults, men had slightly higher levels of achievement. The change in achievement was not due to much improvement on the part of the men, however; usually the



achievement levels of women fell so that often they were not only lower than those of men but lower than those of high school girls as well. The preceding graph illustrates the typical achievement at age 17 of both sexes in the seven assessment areas.

Generally speaking, males did better than females whenever performance was a question of knowledge of specific facts or details, while females performed better in skills and attitudes. In science, however, males demonstrated considerably higher performance levels at every age and in every aspect except in knowledge of health and human reproduction. At the elementary school level the difference in achievement between boys and girls was not great, but by the adult level the typical difference was large. Males did their best work in the physical sciences, their worst in biological sciences – although their achievement was still above that of females.

Males also performed slightly better than females overall on citizenship matters, but the difference typically was not very great. More men than women knew about the main structure and functions of government, and more men seemed to know specific facts about government than women did; broad principles of democracy were understood about as well by both males and females. For instance, the name of a minor political party was given by about three out of five men and two out of five women, but four out of five of both men and women gave a reason why the president did not have the right to do anything he wanted.

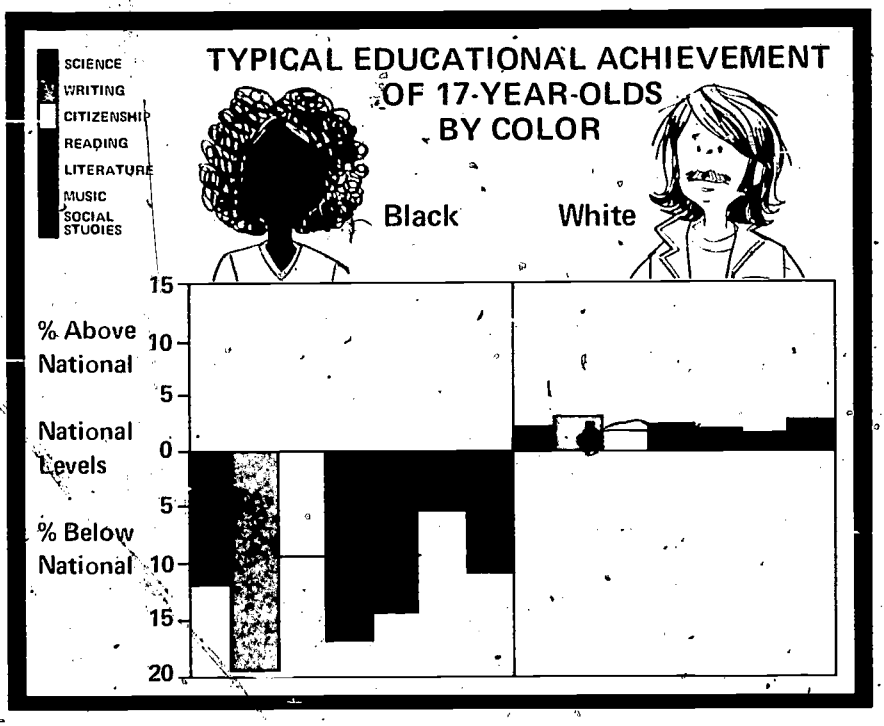
The unusually similar performances of males and females in writing create something of a paradox. Girls and women outperformed boys and men in every category that might provide clues to general writing abilities. They said they wrote more than males did, they were better at completing many business writing tasks and they seemed to value writing skills more highly than males did. Despite these apparent advantages, when it came to writing itself; the actual skills they demonstrated did not differ from those of males. These skills were demonstrated in a number of essays written on such subjects as a forest fire, an admired person, proliferating superhighways. Only at age 17 did girls show any greater command of written language than boys, and this was offset by the better performance of males at other ages.

The overall reading abilities of school-age boys were clearly below those of girls, but exceptions to the general pattern appeared in several areas. Nine-year-old boys demonstrated about the same skills as girls in the areas of vocabulary and graphic materials, and males in general had better recall of specific details.

Color

Two races were analyzed by the National Assessment: white and black. The typical performance of each is illustrated in the graph following.

The typical levels of achievement by blacks at every age and in every area were lower than those of whites, but there were many exceptions to the general pattern. For instance, the attitudes and curiosity of school-age blacks about science were



roughly typical of Americans generally, but their mastery of scientific skills and knowledge was well below national levels. Blacks performed best on those tasks in science most dependent on daily experience and out-of-school knowledge, poorest on tasks that required a detached research attitude toward events. Attitudes of blacks about race were about the same as those of Americans generally – except for political representation; smaller proportions of blacks were willing to be represented politically by a person of another race.

Blacks generally knew more than whites about the contributions of blacks to the culture and history of America, and a larger proportion of black adults felt they should act to stop discrimination in a public park. A larger proportion of black parents could name their child's favorite subject in school. Blacks were also more involved in music than their white counterparts: blacks listened to music more often than whites, attended music programs much more often and larger proportions of blacks participated in musical activities.

But beyond these exceptions, the evidence is clear and overwhelming: in terms of typical educational achievement, blacks are a disadvantaged group. Despite the similarity of attitudes and habits in out-of-school activities, blacks as a group are not acquiring in their schooling as much as other young Americans.

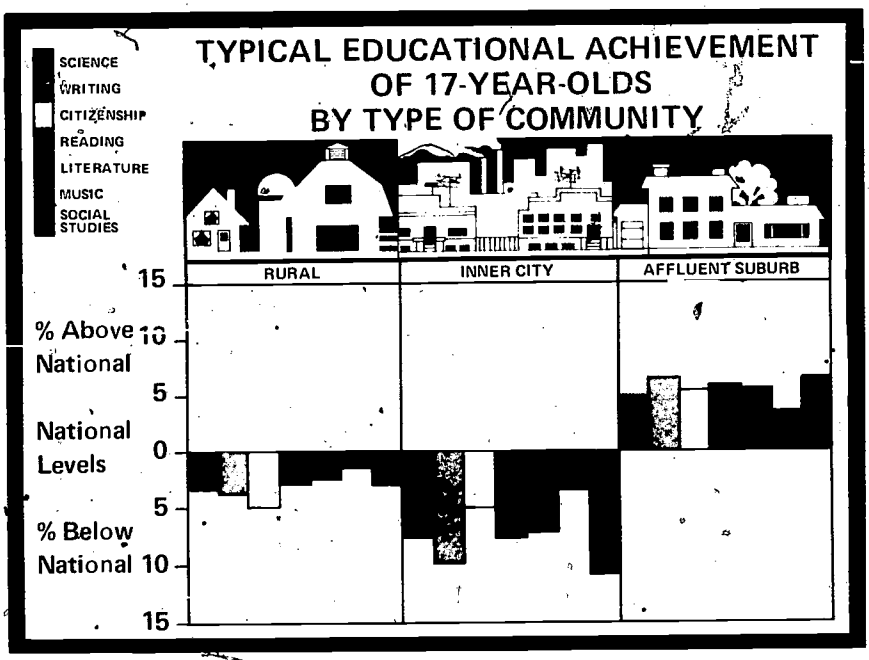
Size and Type of Community

For the purposes of assessing educational achievement, communities were separated into seven types. These were extreme inner city, extreme rural, small city, medium city, rest of big city, suburban fringe and extreme affluent suburb. Only three communities, however, consistently had levels of achievement that were different from the national levels. These were the inner city, rural and affluent suburb. The individuals in the inner city community attended schools in cities with populations greater than 150,000; the schools serve areas with a high proportion of residents on welfare or not regularly employed – that is, individuals in this group lived in poorer urban neighborhoods. Individuals in the rural community attended schools in towns having populations of less than 3,500; most residents in the area are

farmers or farm workers. People in the affluent suburb attended schools in residential areas served by cities with populations greater than 150,000; most of the residents are professional or managerial personnel.

Typically, individuals in the inner city communities had levels of achievement well below the national levels; individuals living in rural communities had achievement levels below the nation's, but not as low as those in the inner city; and individuals in the affluent suburb had levels of achievement typically well above the national levels. The following graph illustrates the typical differences from the national levels of the three community groups at age 17. Achievement levels at the other ages were similar.

People living in inner city communities had considerably lower levels of achievement in science than people from any other type of community. The next lowest achievement was recorded by



people living in rural communities. The highest levels were achieved by people from affluent suburbs, with the widest difference between groups at age 9 and adult, least at age 17. In fact, the difference in performance between all community groups was smallest at age 17 — the age when most people have been recently exposed to science in the classroom. Even here, however, the difference between the typical achievement of people from the affluent suburb and those from the inner city was great.

Generally, 9-year-olds in the inner city did rather poorly on tasks that concerned the simple, everyday experiences of most children — experiences, however, that are less likely to be encountered by 9-year-olds in poor city neighborhoods. In contrast, people in rural communities did particularly well when asked about such things as the importance of green plants, the effects of heating water in containers of varying shapes and the behavior of wooden blocks in water — knowledge that is likely to be learned from general experience in rural communities. Across all ages, people in the affluent suburb handled abstract

facts and principles of science well. The people in this community group tended to do best on exercises that depend on science knowledge learned in the classroom.

School-age young people from the inner city read at levels far below those of other communities, with the greatest difficulty being experienced by those at age 9. In contrast, people from the affluent suburbs were superior to people from all other communities in their overall reading performances.

People in the inner city group had considerably more difficulty with every area of social studies than did people in other types of communities, while people in the affluent suburb showed somewhat greater achievement than Americans generally. People in the inner city showed a particularly large disadvantage in skills at age 9; the disadvantage was less after more years of schooling until adulthood, when whatever skills acquired during the school years seemed to be lost. At age 9, inner city children were particularly uninformed about information sources to which the poor generally do not have access (books, dictionaries, encyclopedias, maps, globes), but they were somewhat better informed about nonacademic sources of information (radio, television, newspapers).

At age 17 and adult, people in the inner city group were especially uninformed about the political and electoral process. They had difficulty in filling out a simple ballot and were not well informed about how presidential candidates are nominated or how to find information about a political candidate in order to make an evaluation of him. People in the inner city were also less inclined than people generally to defend First Amendment rights.

Usually, people in communities that typically performed at levels below the nation did best in areas calling upon common knowledge and experience and on exercises that focused on personal development and family concern. However, the pattern was sometimes broken.

1. Proportionally more adults in the affluent suburb and inner city reported belonging to organizations opposing unequal opportunities than did adults in the other community groups. Nationally, 1 out of 10 adults belong to such groups; in the

affluent suburb, 3 out of 10 belong; in the inner city, 2 out of 10.

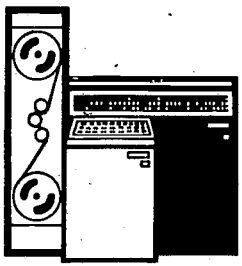
2. As many adults in the inner city as in the affluent suburb said they have spoken out in a public meeting to defend someone or some idea.
3. Proportionally more 13-year-olds in the inner city than anywhere else said they had talked about plans for education or jobs with a teacher or counselor.
4. Among 9-year-olds who have a library in their community, more in the rural areas than in the affluent suburb or inner city said they had visited it in the past week.
5. Smaller proportions of adults in the inner city would act to help stop discrimination in a public park.

Summary

These descriptions, of course, can only deal with the nation's achievement in education in the most general terms. Later chapters treat each assessment area in more detail. Individuals wishing more information than provided in this volume are urged to write to the National Assessment of Educational Progress, Suite 700, 1860 Lincoln Street, Denver, Colorado 80203, for a list of all assessment publications, or to the Superintendent of Documents, United States Government Printing Office, Washington, D.C. 20402, for documents concerning specific assessments.

2

The National Assessment



The National Assessment of Educational Progress (NAEP) was developed in the 1960s to perform a task never before attempted: measuring what a nation's citizens had learned in its schools. Through a series of conferences, a four-part program was devised to make the attempt. First, it was necessary to determine what America's educational system was trying to achieve; then, ways of measuring that achievement had to be devised; the individuals had to be assessed; and finally, the information gathered had to be analyzed and disseminated. Literally hundreds of scholars, learning-area specialists, administrators, measurement experts, businessmen and laymen from all sections of the country cooperated to form a program that truly represented the nation. In addition, 80,000 to 100,000 individuals across the nation cooperated in answering questions in each assessment area.

The results for the first assessment areas are now being reported. The reports may hold ideas for local and state assessment projects, curriculum design, instructional materials development, teacher education and finally, of course, the information should provide ideas that may well help improve the quality of education in America.

History

When the annual spending of public money for the education of young Americans began exceeding $30 billion in the early 1960s, taxpayers, educators, state legislators and the United States Congress began questioning the effectiveness of the increased funding. They knew how much money was being spent on buildings, on teachers' salaries, on supplies, on curriculum planning, but they found that there was no available information about what or how much students were learning and no way that comparisons could be made of the effectiveness of the spending from one year to the next. The only readily available indicators of the quality of education were such measures as student-teacher ratios and per-student expenditures — that is, there were measures of what went into education but little about what people actually learned. The typical standardized tests did not do what was needed; they provided scores that compared one student with other students but did not provide figures for national educational quality.

In an attempt to find ways to supply such information, the United States commissioner of education initiated a series of conferences to explore ways to help measure the quality of education. In 1964, the Carnegie Corporation of New York granted funds and appointed a group of concerned persons to examine the possibility of conducting an assessment of educational achievement on a national basis. The group, named the Exploratory Committee on Assessing the Progress of Education (ECAPE), met at length with teachers, administrators, school board members and other laymen interested in education to get advice on ways in which such a project could be constructively helpful to schools and to educational decisionmakers. These people all emphasized the need to assess the progress of children and youth in several fields of instruction and not limit the assessment to the three Rs alone.

ECAPE decided that such an assessment was possible and that it would help provide information about the quality of education in America. The committee suggested conducting a periodic assessment of the knowledges, understandings, skills and attitudes

at four age levels in 10 learning areas: art, career and occupational development, citizenship, literature, mathematics, music, reading, science, social studies and writing. The group organized to undertake this project, the Committee on Assessing the Progress of Education (CAPE), started under the auspices of the Carnegie Corporation and in the spring of 1969 began assessing the achievement of young Americans in science, citizenship and writing. Later that year the assessment was adopted as a project by the Education Commission of the States (ECS). Funding and monitoring were transferred to the United States Office of Education, and the project was renamed the National Assessment of Educational Progress.

Goals

The primary purpose of the National Assessment is to provide information so that educational decisionmakers can identify educational problem areas, establish educational priorities and determine national progress in education. It is hoped that with this information and with information from other sources, conclusions can be drawn about the quality of education in the United States.

To aid in the process of gathering this information, the National Assessment established a number of goals to help give direction to the project. The goals suggest that NAEP should:

1. make available on a continuing basis comprehensive information on the educational achievement of young Americans;
2. measure change in the educational achievement of young Americans;
3. conduct special interest "probes" into selected areas of educational achievement;
4. provide data, analyses of the data and reports for a variety of audiences;
5. encourage and aid studies of National Assessment information to generate implications useful for educational decisionmakers and practitioners;
6. aid in the use of National Assessment technology at state and local levels where appropriate;

7. continue to develop the technologies necessary for gathering and analyzing National Assessment information; and
8. continue studies to improve National Assessment methods.

Methods

Because the purpose of NAEP is to provide helpful information about education for laymen as well as professional educators, procedures were followed in constructing the assessment that are not commonly employed in other test programs. The procedures are perhaps most evident in the educational objectives that directed the assessment in each learning area. Objectives are goals for the education of young Americans. The National Assessment compiled the objectives by working with teachers, scholars, educators and laymen from all over the country to discover educational goals that were generally acceptable throughout the nation. First, the objectives had to be considered important by scholars within a given learning area. Scientists, for example, should generally agree that the science objectives are worthwhile as guides for training in science. Second, the objectives should be acceptable to most educators and be considered desirable teaching goals in most schools. And the objectives had to be considered desirable by thoughtful lay citizens. Parents and others interested in education should agree that an objective is important for youth of the country to know and that it has value in modern life. In this way, it was hoped, truly national goals in education could be assessed.

The objectives served as guides to the development of assessment tasks. For example, one citizenship objective for 17-year-olds is that the individual will recognize instances of the proper exercise of constitutional rights. This objective might be presented in an assessment task as an account of press censorship or police interference with a peaceful public protest. Ideally, the individual completing the task would correctly recognize these examples as denials of constitutional rights. However, the exercises were not intended to describe standards which all children are achieving; they were presented simply as a means to estimate the proportion of individuals who generally have partic-

ular kinds of knowledge or who act in particular ways. Thus, in the music assessment there were exercises to determine what proportion of the population can follow the score while listening to a rendition of a piece of music. After the assessment, scholars, educators and interested laymen can examine the data and decide if the proportion of people who did follow that score is acceptable for the nation, or if more effort should be placed in the schools toward teaching score reading.

To measure the nation's educational achievement, therefore, the National Assessment presents a specific task to a group of people and, from the results, estimates the percentage of people across the nation who can answer a question or perform a task. Each question or task reflects a previously defined educational goal or objective. The tasks are administered to scientifically selected samples that take into account community and socioeconomic status and include people from all 50 states. The samples were selected so that sound inferences could be made about the national population and about the groups that the individuals represent. For this reason, NAEP did not develop or use scores for individual respondents; the respondents remain anonymous.

While multiple-choice questions predominated in each assessment, many other kinds of tasks were used that might better measure a particular objective. For instance, there were tasks throughout the assessments that used pictures, tapes, films and practical, everyday items. Individual interviews, the manipulation of apparatus to solve a problem and observations of individuals' problem-solving techniques were all used to better assess achievement. In the music assessment, for example, individuals were asked to sing a song or perform on an instrument; in the science assessment, individuals were asked to conduct a brief experiment; in social studies, individuals were asked to interpret an election ballot. Since the groups involved in developing objectives felt that attitudes about learning areas were as important as educational achievement, attitude survey questions were also included in each assessment.

Assessment tasks or exercises were administered either to individuals or to groups of 12 or less by trained personnel. Some exercises were administered individually so the respondents could have the opportunity to express themselves orally to gather information about individuals who have difficulty in writing. In group administration, all instructions and the exercises themselves were presented to the respondents on tape recordings to assure complete and uniform presentation of instruction. This method also gave people with a reading problem a chance to hear the exercise as they were reading it.

A single cycle of a learning area assessment, from development of objectives to reporting, required about six years. Development took about three and a half years; about one and a half years were spent preparing for and collecting the data; one year was required for the preliminary analysis and basic reporting. To date, seven areas, those covered in this volume, have been assessed and the results reported. Others are in the process of completion, while some of the first areas are being assessed for the second time. With the information from the second assessments, the nation will begin to find if changes in educational achievement have taken place and can then decide if these changes are, indeed, progress.

3

Science

Science is the only area of all learning areas assessed in which males almost consistently performed much better than females. At every age and in almost every aspect the levels of achievement of males were higher than those of females except in knowledge of health and human reproduction. At the adult level particularly, women knew more than men about human reproduction, including facts about male reproductive systems. Otherwise, the science assessment provides further evidence, if such were needed, that science is a male-dominated field even at the elementary school level. At that level, the difference between the performance of boys and girls was not great, but it provides a portent of things to come: by the adult level, men typically were some 15 percentage points beyond women.

The attitudes and curiosity of school-age blacks about science were roughly typical of Americans generally, but their mastery of scientific skills and knowledge was well below national levels. Other Americans pick up these skills and information in the classroom, but blacks are not learning them to the same extent. This difference in performance is reflected by a change in attitude as well: by the time blacks reach the adult level, their attitudes about science are less favorable than the attitudes of Americans generally.

Adults in general performed less well than 17-year-olds in those aspects usually dealt with in school, but they performed better in those aspects that people pick up in daily living. This disparity between knowledge learned in school and knowledge picked up in the street, so to speak, turned up in many groups. People in the Southeast, for instance, did poorly in what might be called book learning but frequently performed better than the rest of the nation where the information could come from personal observation or experience. People in the rural and inner city groups showed similar results.

Objectives

One of the groups charged with compiling the objectives that science educators and scientists feel are important for science education in America stated a major problem for the schools: science education must consider two groups of students, those who may eventually pursue scientific careers and the great majority who will not. Science education must give those who will pursue science careers a realistic introduction to scientific work, but even more important, it must give those others adequate background to make the decisions about science that a democratic society demands of its citizens. Out of these considerations, the following objectives were developed. It was hoped that Americans would:

1. know fundamental facts and principles of science;
2. possess the abilities and skills needed to engage in the processes of science;
3. understand the investigative nature of science; and
4. have attitudes about and appreciation of scientists, science and the consequences of science that stem from adequate understandings.

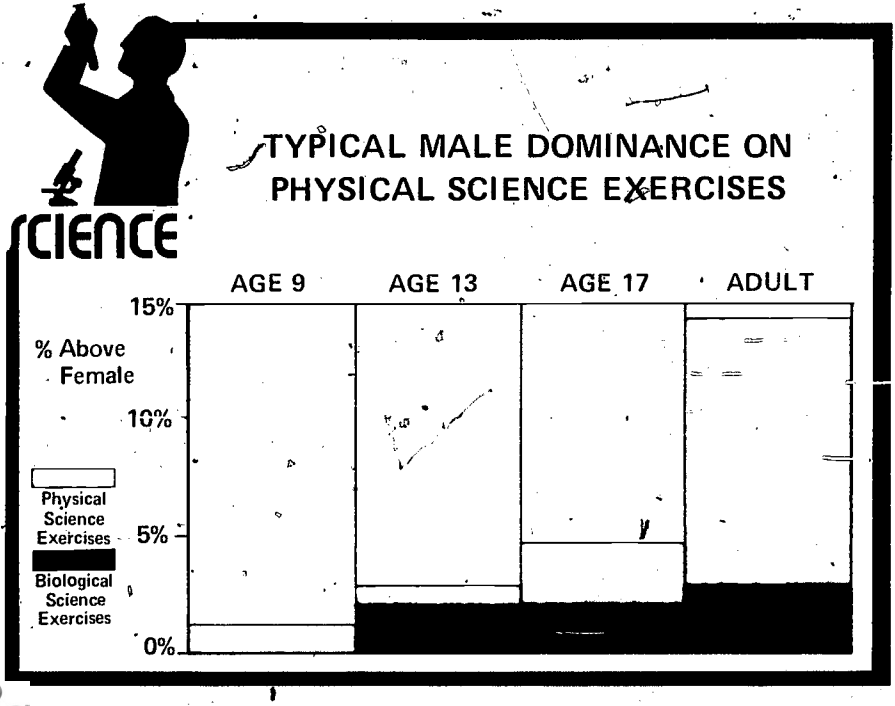
Most of the tasks in the science assessment dealt with the first two objectives so that, in general, little can be said about how well the schools are preparing people to understand or appreciate science. When comparisons between ages can be

made, achievement in skills and knowledge improves with age until the adult level; adults generally did not do as well as the 17-year-olds. Among groups, however, differences in skills and knowledge show up.

Group Results

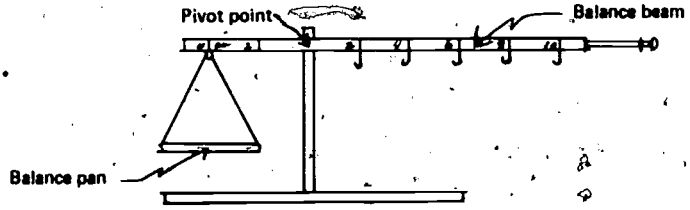
Sex

The most striking finding of the assessment is the relatively poor performance of females compared to males. As was pointed out by a National Science Teachers Association study group, other industrial societies apparently make extensive use of women to meet the demands for highly skilled technicians and scientists, but the United States seems to be lagging in this regard. It is possible, however, that science curricula have changed in recent years because the differences between male and female



performance is less at the younger age levels, as is shown in the preceding graph. The smaller difference at the younger ages may mean that present 9-year-olds and 13-year-olds are getting a different education in science than adults did when they were younger, or it may mean that the information requested of the younger age levels had a smaller sex bias than did the information asked at the older age levels. Another possibility: in high school, science courses – physics, chemistry, biology – often are electives and boys choose courses in physics and chemistry more frequently than girls.

As indicated, males did their best work on exercises that required knowledge or skills in such areas as chemistry or physics. A few of the exercises required the completion of a simple experiment in physics, such as indicating where a weight should be placed to balance a beam. At every age on that task, more males than females were successful. The following exercise gives the results.



The apparatus before you is the same as that shown in the picture. This balance is balanced when the balance beam is level as shown above. The number by each mark on the beam tells the number of inches that mark is from the pivot point.

Place one weight in the balance pan. How many inches from the pivot point is the hook on which you must hang one weight to get balance? (4)

	Age 13			Age 17			Adult		
	M*	F*	N*	M	F	N	M	F	N
Correct	70%	60%	64%	80%	79%	75%	85%	64%	74%
Incorrect			34			22			20
No response			2			2			6
			100%			99%			100%

The apparatus also included fishweights, one to place in the balance pan, and another to use to achieve balance. The respondent was given 20 minutes to find the answer to this and other questions involving the use of the apparatus.

**M represents the male group; F, female; N, national.*

On the other hand, females were successful more often than males in exercises dealing with health and with human reproduction — including one concerned with side effects of male sterilization. For example, in an exercise concerned with the function of the placenta, 3 out of 5 adult women chose the correct answer; only half as many men (3 out of 10) were correct. At age 17, there was only a slight difference in favor of females.

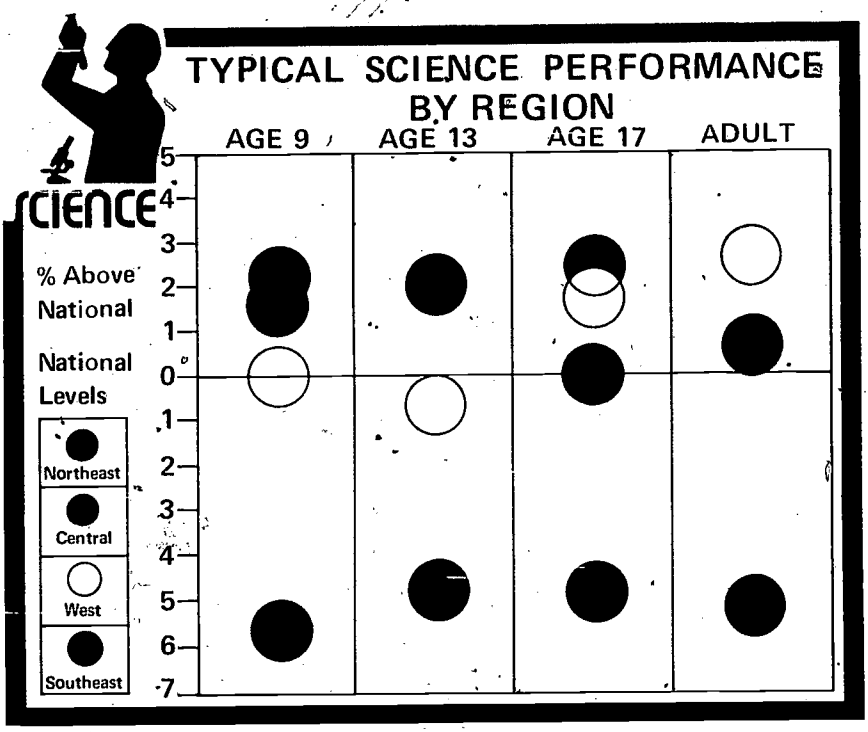
What is the function of the placenta in a pregnant human female?

	Age 17	Adult		
		Male	Female	Nat'l
○ To push the baby out at birth	5%			3%
○ To keep the baby warm and moist	8			5
● To carry nourishment to the baby	41	32%	57%	45
○ To cushion the baby against shocks	13			16
○ To keep the baby's body temperature constant	5			4
○ I don't know.	27			27
No response	0			1
	99%			101%

Region

At all four age levels, people in the Southeast show considerably less mastery of science than people elsewhere in the nation. The typical performance levels are shown in the following graph.

Although the typical achievement levels of people in the Southeast were below the national levels, their better success on certain types of tasks indicates that the performance of southerners could be attributed to differences in schooling. On exercises requiring scientific skills or knowledge generally taught in the classroom, the performance of people in the Southeast was substantially lower than the national levels. These exercises were concerned with such textbook matters as the size and motion of the planets, the scientific vocabulary of human reproduction, Darwin and natural selection and the significance of fossils. While it is easy to see that particular religious feelings might enter into the answers to these kinds of exercises, people in the Southeast also did poorly on tasks that required more than simple recall of information — such as the ability to recognize the example that fits a definition.



On some exercises that might be answered on the basis of out-of-school experience, however, people in the Southeast performed as well as or better than the rest of the country. For example, about half of all 13-year-olds knew that most of the energy of gasoline burned in cars turned into heat; in the Southeast, that information was known by 11 of 20 13-year-olds.

Most of the chemical energy of the gasoline burned in a car is not used to move the car but is changed into

	Age 13	
	Southeast	National
○ electricity.		24%
● heat.	55%	48
○ light.		1
○ magnetism.		8
○ sound.		3
○ I don't know.		16
No response		0
		100%

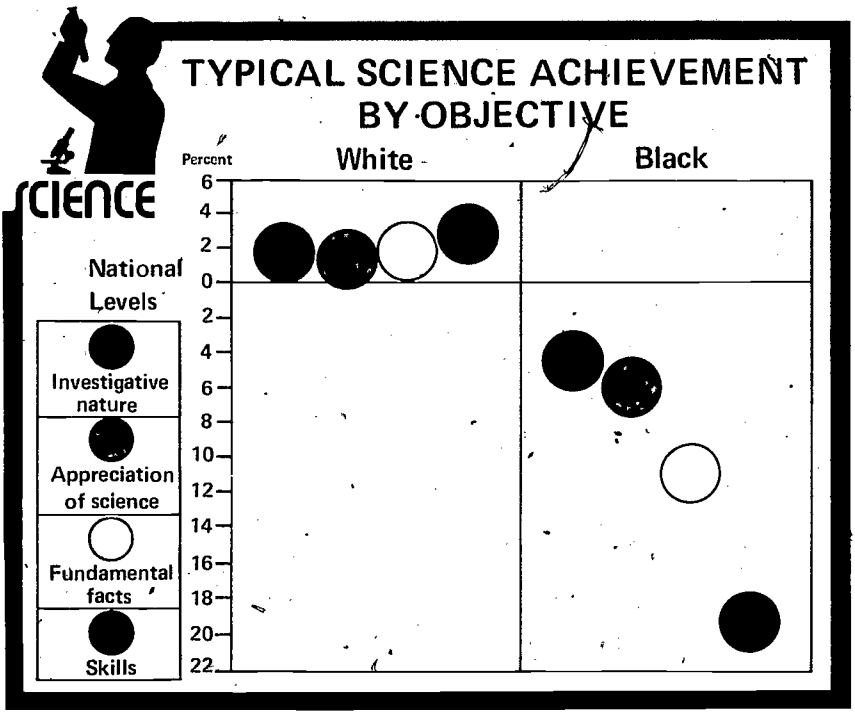
Color

Overall, blacks had lower achievement levels in science than any other group. A number of factors modify the overall findings, however. For instance, when the results are examined by objective, blacks appear to be somewhat better in understanding the investigative nature of science and in having an appreciation of science, as shown in the following graph for age 17.

Other results modified the overall pattern.

1. Blacks performed best on those science exercises most dependent on daily experience and out-of-school knowledge, poorest on exercises that required a detached research attitude toward events.
2. The appreciation of the values of science among black teen-agers was not appreciably different from that of teen-agers generally.
3. At age 13, blacks ask questions about nature with about the same frequency as all children.

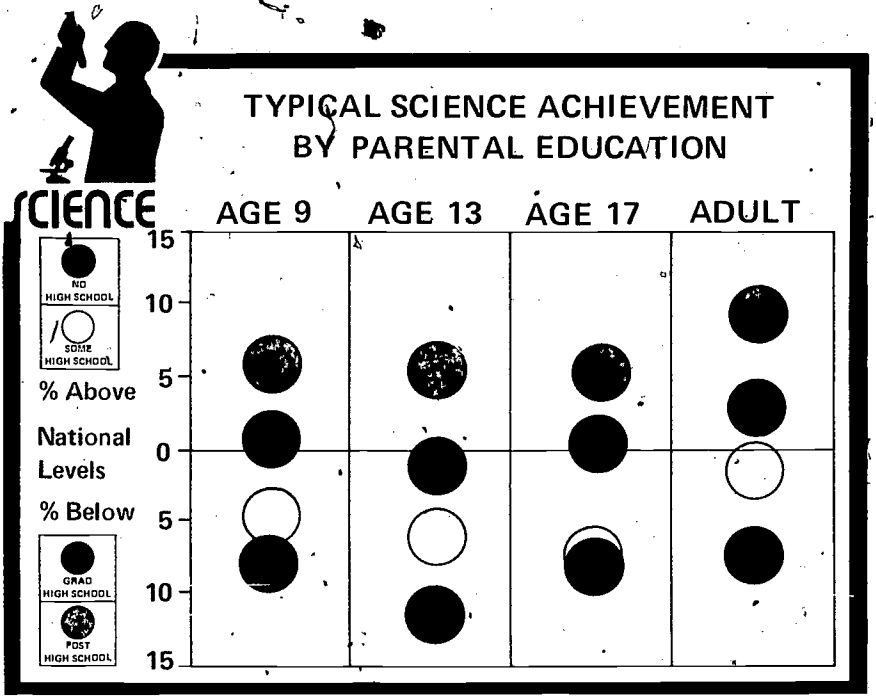
Beyond the encouragement that speculation about exceptions may give, the main force of the findings must remain clear: in terms of educational effort in science, blacks are clearly a disadvantaged group. Some of the evidence, however, seems to



indicate that the disadvantage may arise from differences in schooling, a difference that clearly can be remedied.

Parental Education

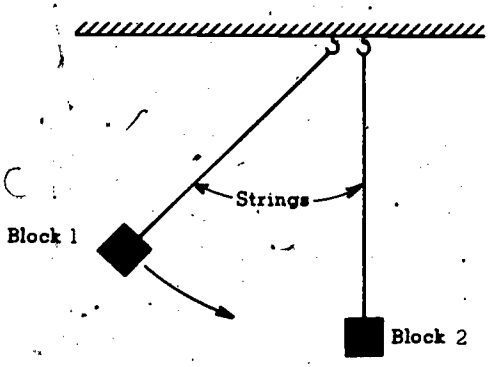
The disadvantages that seem connected to different levels of education of parents are more resistant to solution, however. As shown in the following graph, Americans at each age level performed poorly if their parents did not have much formal schooling; they performed best if at least one parent had post-public school training.



People whose parents had not attended high school seemed to have particular difficulty with tasks dealing with fundamental facts and skills concerning science.

People whose parents had little formal schooling also had difficulty interpreting graphs and illustrations such as the one

shown in the following exercise. While 7 out of 10 9-year-olds from all parental education groups correctly indicated the direction of swing of block 2, the correct choice was made by only 4 out of 10 whose parents had not attended high school.



When Block 1 swings down and hits Block 2, which of the following will most likely happen?

	Age 9
○ Block 2 will not move at all.	3%
○ Block 2 will swing off to the left.	18
● Block 2 will swing off to the right.	70
○ The string holding Block 2 will break.	4
○ I don't know.	4
No response	0
	99%

On the other hand, people who had at least one parent trained beyond high school usually did quite well on the same exercises that gave the no high school group the most trouble. Almost 8

out of 10 9-year-olds in the post high school group responded correctly to the previous exercise. In addition to exercises that required an understanding of the scientific method or a knowledge of particular facts and principles, this group did especially well on such tasks as reading charts and graphs and testing hypotheses.

Size and Type of Community

People in the inner city group did considerably less well in science than any other community group. The rural group also performed poorly in this area. The best performance appeared in the affluent suburb group, with the widest difference at age 9 and adult; the least difference at age 17. The table following indicates the differences above or below the national level for each community type at each age level.

Typical Performance by Size and Type of Community

	Age 9	Age 13	Age 17	Adult
Extreme inner city	-15.1*	-13.7	-7.4	-10.2
Rest of big city	-2.6	-3.8	0.3	-2.9
Extreme affluent suburb	7.2	6.3	5.1	10.9
Suburban fringe	2.7	2.9	1.0	0.8
Medium city	0.8	1.9	1.2	0.4
Extreme rural	-6.3	-6.1	-3.5	-4.7
Small cities	0.9	0.5	-1.4	-2.7

**Figures show difference between the group percent correct and the national percent correct.*

Other findings:

1. The differences between the affluent suburb and the inner city seem to exist over all classifications of items: for physical science, for biological science, for all four objectives.
2. In the inner city, 17-year-olds have less success in physical science than they do in biological science, while those in the rural group reverse the pattern – that is, they have less success in biological science and more in physical.
3. The rural group performed least well on exercises requiring graph reading or mastery of scientific vocabulary or detailed formal knowledge. For instance, 7 out of 10 adults nationally knew that adrenaline stimulates the heart, but in the rural group, fewer than 5 in 10 chose the correct answer. At age 17, half of the respondents nationally knew the answer, but among rural youths, the knowledge was held by 4 out of 10.
4. Across all ages, people in the affluent suburb handled abstract facts and principles of science well. The people in this community group tended to do best on exercises that depend on science knowledge learned in the classroom.

4

Citizenship

The most striking findings of the citizenship assessment have far-reaching implications for the nation and for the nation's schools. The findings indicate that the educationally elite and the wealthy make the "best" citizens — that is, performed best on the citizenship measures used by the National Assessment of Educational Progress (NAEP). Again and again throughout the assessment, large proportions of Americans whose parents were educated past high school or who lived in affluent suburbs of metropolitan areas showed the greatest concern for the well-being of others, supported most strongly the rights and freedoms Americans are thought to take for granted, participated in greatest numbers in effective civic action or engaged in any of the other activities or attitudes that the National Assessment took to be measures of citizenship.

Americans who had at least one parent educated past high school also appeared to know of more ways to influence public opinion and public officials and more often attempted to do so. At the same time, Americans whose parents had little education were relatively uninformed of ways to be influential and did not take actions that might influence their government.

While it is easy to see, therefore, that the wealthy and educationally advantaged might well attempt to perpetuate their status

through the use of their influence, such a Machiavellian prognosis could not be based on citizenship assessment evidence because more members of these groups also showed great concern for the well-being of others: three times more adults in the affluent suburb belonged to civic-rights organizations than belonged to such organizations generally.

The implications seem clear: better paying jobs, better education and better citizenship seem to go together – at least to the extent that knowledge about government and participation in the processes of government are desirable in America's citizens. However, the conclusions are not so simple as this summation might make them seem. Although generally the educated and the wealthy performed best on most of the citizenship measures set up by National Assessment, the evidence does not indicate that more people in other groups make "bad" citizens – simply that their interests fall in fewer of the areas thought important to citizenship by representative Americans. For instance, although fewer people in the Southeast, rural or low education groups possessed information about international relations, more expressed concern for family matters and local government. The performances of people in the Southeast are representative. They were below the national levels on most citizenship measures, yet more adults in the Southeast showed concern and respect for their families than indicated such attitudes nationally – and considerably more adults in the Southeast showed such attitudes than did adults in the West. Specifically: 8 out of 10 parents in the Southeast knew their child's favorite subject in school; in the West, only half the parents knew such a basic fact about their children.

The variety of ways young Americans approach their citizenship is reflected by their responses in the nine areas the National Assessment measured to discover their level of citizenship. These areas comprise the major objectives of the citizenship assessment.

Objectives

One of the groups charged with compiling the objectives in the field of citizenship explained that citizenship was included

for assessment because many important goals that education could help achieve are not included in the traditional subject-matter disciplines. The many educators, scholars and laymen throughout the nation involved in creating these objectives hoped that Americans would:

1. show concern for the well-being of others,
2. support rights and freedoms of all individuals,
3. recognize the value of just law,
4. know the main structure and functions of government,
5. participate in effective civic action,
6. understand problems of international relations,
7. approach civic decisions rationally,
8. take responsibility for their own development and
9. help and respect their families.

Overall Results

The overall results for so many areas are difficult to summarize, but briefly, they are as follows:

1. Show concern for the well-being of others. High proportions of Americans expressed willingness to help others on a person-to-person basis and knew ways to do it, such as suggesting agencies to help a job seeker. Only a small proportion of Americans (1 out of 10) give help through membership in organizations, and most named no more than two possible ways to influence government action in a helpful direction. At least two thirds of our young Americans stated they were willing to associate with people of other races in a variety of public situations and roles, and this degree of willingness remained virtually constant across age levels from 13 to adult.
2. Support rights and freedoms of all individuals. Although a majority of young Americans supported individual rights and freedoms in principle, when presented with specific unpopular or controversial causes they withdrew their support. For instance, less than a third of the people at any age would allow basic freedom of speech to others espousing communist, racist or atheist causes.

3. **Recognize the value of just law.** Those who are concerned about the apparent breakdown of respect for law may be encouraged to learn that more than 9 out of 10 Americans stated at least one reason why laws are needed. This does not imply endorsement of all existing laws; however; half the adults cited an example of a law they felt unjust.
4. **Know the main structure and functions of government.** Three fourths or more older students and adults seem to understand the most basic principles and main structures of American government, but fewer understand the workings of specific parts such as the courts. Adults were generally better informed about local government and about current office-holders than were 17-year-olds.
5. **Participate in effective civic action.** Ability to cooperate effectively in small democratic groups was demonstrated by a majority of students at all ages, but fewer apparently use this ability in dealing with civic problems. Few people reported attempting to participate in civic action; few even named more than three or four possible ways they could participate.
6. **Understand problems of international relations.** All the exercises intended to assess this objective dealt with war or aspects of war. All ages were aware of war, and most people suggested a way to avoid war; however, the solutions for the most part showed little real understanding of the problems. As more than one student put it, the best way to avoid war was to stop fighting.
7. **Approach civic decisions rationally.** Most adults and older students showed awareness of the more urgent problems that society faces (about three fourths named at least three problems) and some of the ways it has attempted to alleviate them. Although less than half the 9-year-olds recognized the need for differing viewpoints, most 17-year-olds and adults recognized the need and were fairly rational and critical about civic issues.
8. **Take responsibility for their own development.** A majority of students and about one third of our adults reported engaging in some self-initiated action to further their education, such

as attending seminars, workshops or formal course work. Four out of five teen-agers reported talking with their parents about career opportunities; by age 17, more than half reported such talks with counselors or teachers.

9. Help and respect their families. More than 19 out of 20 9-year-olds and 13-year-olds reported helping with work around the home. Most adults show some familiarity with their children's schoolwork, although fully half of them could not describe a single book their child used in school.

Group Results

Sex

Although variations in performance appeared on certain exercises, overall the achievement of citizenship was about the same for males and females. Typically, men performed slightly better than women, but the difference was not great.

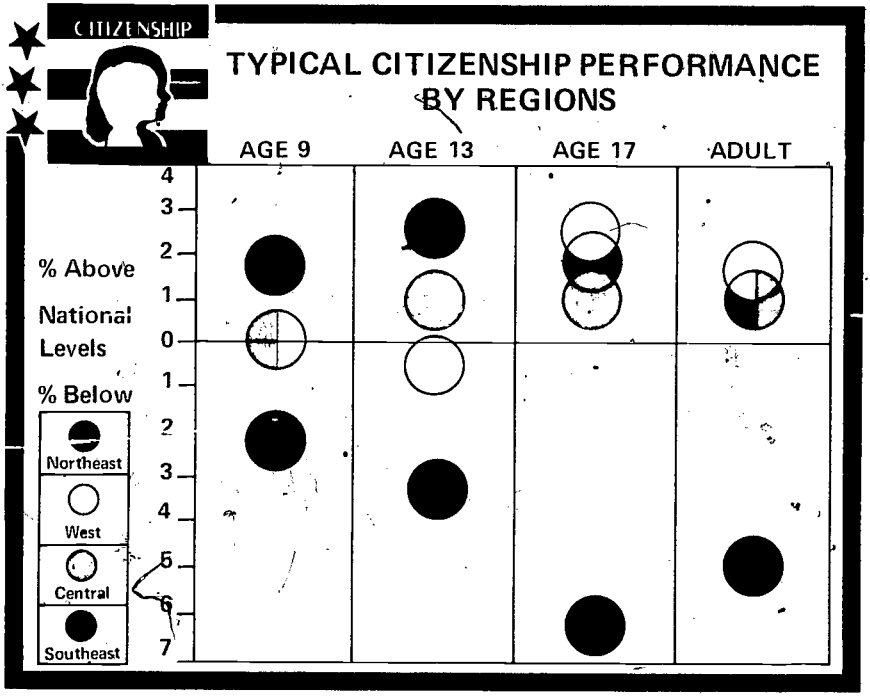
More men than women knew about the main structure and functions of government, and men seemed to know more specific facts about government than women did. Males also tended to know more about law and civic problems and to support individual rights more. Men reported registering their views on

civic issues more often, but more women then men reported taking action through civic organizations.

Women were substantially ahead of men in concern with helping and respecting the family. For instance, about half the parents could describe one of their children's school books. For women, the figure was 59%; for men, 47%. The other side of the question has perhaps greater significance for education: almost half the young parents in America are so uninvolved with the schools or their children's education that they cannot describe a single book that their child uses in school.

Region

The level of achievement in citizenship across the nation was roughly equal except in the Southeast, where performance generally fell below national levels, particularly at the older ages.



As might be expected, people in the Southeast were particularly low in measurements of attitudes about racial discrimination and willingness to associate with people in public situations regardless of race.

Despite the rather less tolerant attitude of southerners, a majority of young Americans in the Southeast as elsewhere reported they were willing to associate with people of other races in every situation described. National results are shown below.

Objectives: treat all individuals with respect; do not condemn others on the basis of irrelevant personal or social characteristics. (Do not avoid associating with others because of such differences. Reliance on stereotypes in reacting to members of minorities shows little respect for them as individuals.)

People feel differently toward people of other races. How willing would you be to have a person of a different race doing these things?*

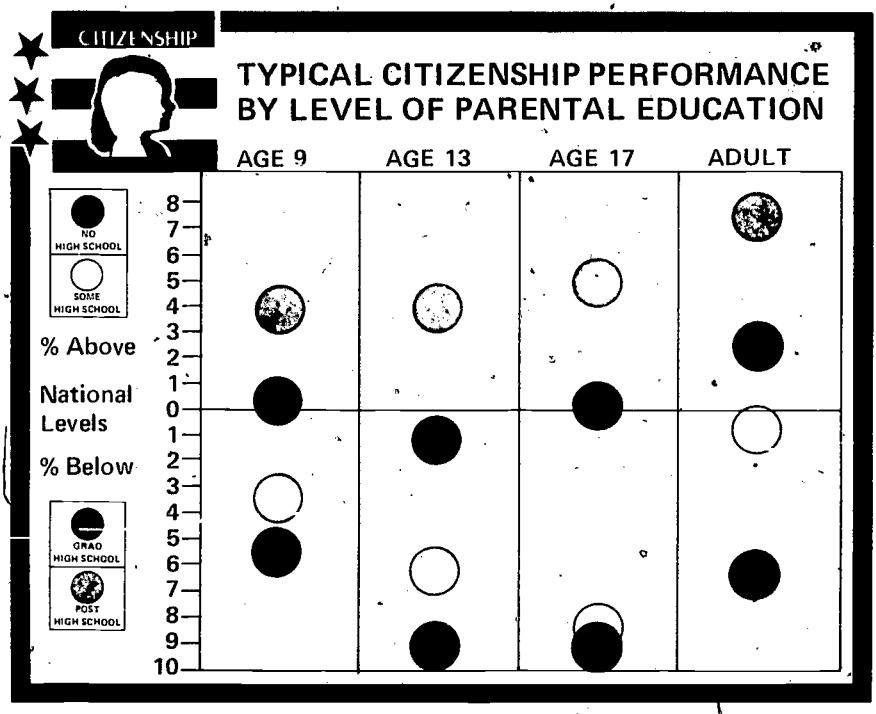
(For each situation below, the choices were: willing to or prefer not to)	Respondents Choosing "Willing To"		
	Age 13	Age 17	Adult
A. Be your dentist or doctor?	80%	70%	74%
B. Live next door to you?	82	71	67
C. Represent you in some elected office?	80	77	82
D. Sit at a table next to yours in a crowded restaurant?	82	83	88
E. Stay in the same hotel or motel as you?	88	85	89
Willing to associate with a person of a different race in 3 or more of the above situations	90	89	87
4 or more situations	77	79	77
all 5 situations	57	57	57

**Not administered to the in-school sample in one large western state, one southeastern county and one southwestern city at the request of state or local authorities.*

The pattern of Southeastern responses to a variety of questions indicates a greater insularity there than elsewhere in the nation. That is, southerners seemed to know less about or were less interested in existing conflicts around the world or ways to seek peace, and they generally did not feel involved in state and federal government. At the same time, southerners were more aware of local problems and issues than adults in either the Northeast or West, and more southerners felt they could influence local government action than Americans did nationally. Generally, more southerners were concerned with family matters, as well, and knew more about their children's schooling.

Parental Education

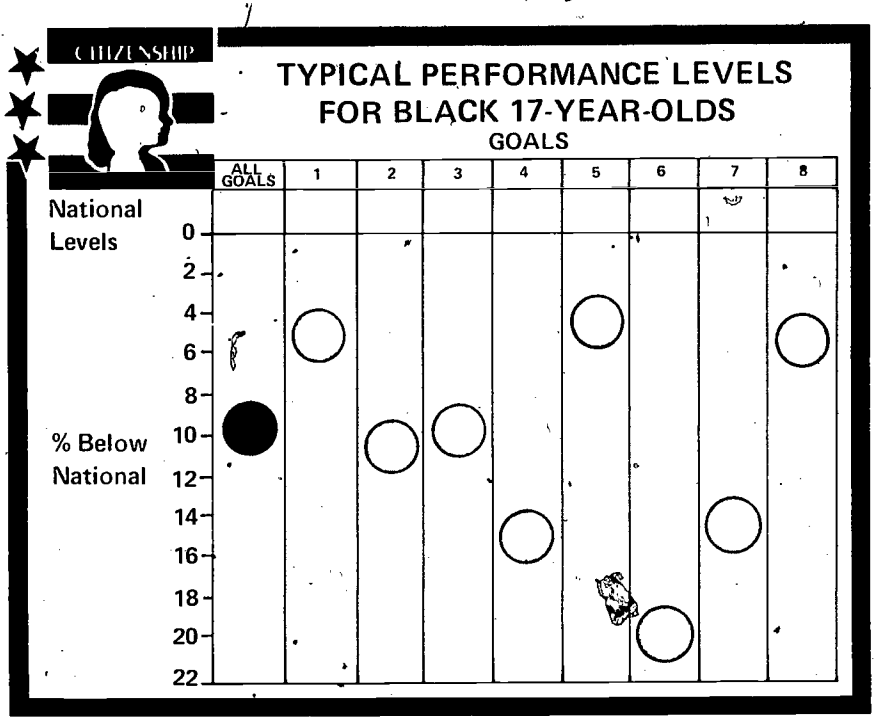
The differences between the educationally advantaged and the disadvantaged tended to be greatest where formal or abstract knowledge was required. For example, considerably more people who had at least one parent educated past high school knew about the structure and function of government than did people whose parents had not attended high school. In contrast, all Americans had about the same level of achievement on those tasks that required information or habits based on practical experience. For instance, 9-year-olds from all parental education groups did about equally well on a group task requiring cooperation in a question-asking game. The following graph indicates the overall performance levels in citizenship for all education groups.



The performance on each of the nine citizenship goals generally followed the pattern shown in the preceding graph except in the areas concerned with taking responsibility for personal development and with helping and respecting the family. The low education groups did nearly as well as the national levels in these two areas. Another area where the educationally disadvantaged groups did well was in showing concern for the well-being of others. This last area included questions and attitudes about race, and on these exercises, people at age 17 and adult whose parents had not attended high school were more tolerant than those whose parents had some high school education but had not graduated.

Color

The typical achievement of blacks at all four ages on the citizenship assessment was lower than the achievement of



Americans of other races. Generally, fewer blacks performed well in areas requiring information, and more blacks did well in areas that drew on common knowledge or personal experience, such as taking responsibility for personal development and helping and respecting the family. Typical performance levels are shown in the preceding graph.

Although the performance levels of blacks were generally below the levels for the nation, a number of exceptions occurred where blacks performed as well as or better than the nation.

1. Black 17-year-olds and adults say they are willing to accept people of a different race in many different situations at least as often as all Americans of their age except for political representation – fewer blacks at all ages were willing to be represented by a person of another race.
2. Blacks participated effectively in group tasks that required cooperative effort.
3. As many blacks at age 9 and 13 as all children reported helping with chores at home and helping younger brothers and sisters.
4. Larger proportions of black adults felt they should act to stop discrimination in a public park.
5. More black parents could name their child's favorite subject in school.

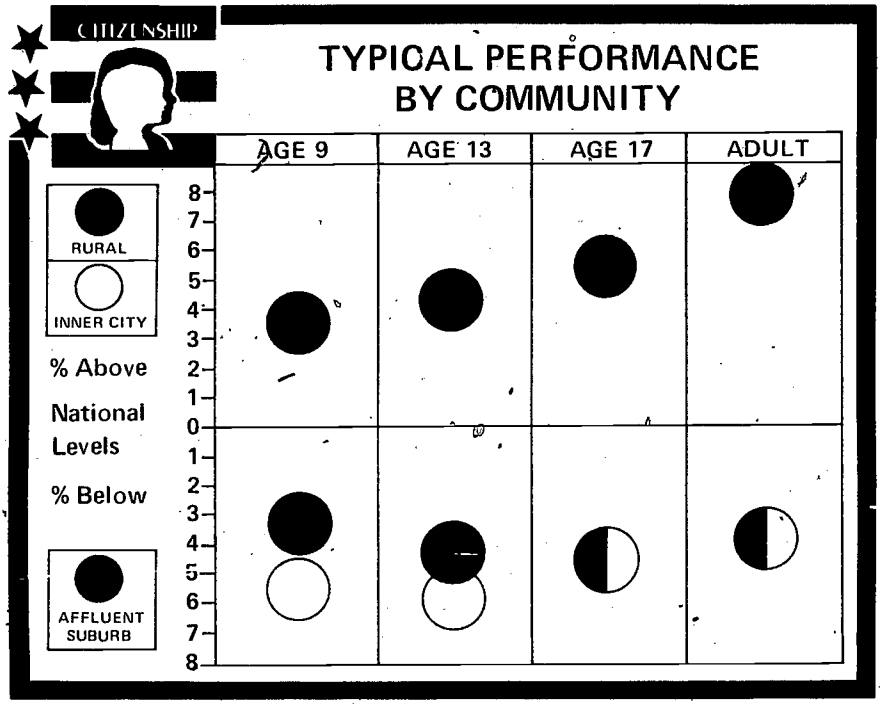
Overall, however, performance of blacks was lower than the national levels. Nevertheless, in some tasks that contributed to the general overall performance levels, it can easily be seen that factors other than simple lack of knowledge or achievement are involved.

1. Proportionally fewer black 13-year-olds were willing to tell a white exercise administrator that they were aware of racial discrimination in the world or in the United States.
2. Proportionally fewer black 17-year-olds and adults would allow controversial statements to be made on radio or television, including "some races of people are better than others," "Russia is better than the United States" and "it is not necessary to believe in God."
3. Black 17-year-olds and adults were less aware than Americans generally of how to influence governmental actions, and very

few reported taking any action to make their views known or to effect change.

Size and Type of Community

The performances of people in the community groups generally followed the pattern established in other National Assessment findings. That is, the people in the affluent suburb performed at levels above the nation, and people in the rural and inner city groups performed below. The other group results tended to fall at about the national level, as shown in the following graph.



As with parental education and color, community groups that typically performed at levels below the nation did best in areas calling upon common knowledge and experience and on exercises

that focused on personal development and family concern. On individual exercises, however, the pattern was sometimes broken.

1. More than half the 17-year-olds in the inner city and in the affluent suburb said they had campaigned for a candidate one or more times in the past year, slightly more than 17-year-olds in the other community groups. Fewer adults in the inner city said they had campaigned, however.
2. More adults in the rural group than in the inner city felt that a legal system exists to settle disputes over money.
3. Seventeen-year-olds in the inner city and adults in the inner city and rural groups performed near or above the national levels on tasks dealing with knowledge of local government, although they knew considerably less than Americans generally about the federal government.
4. Proportionally fewer people in the rural and inner city groups, especially at ages 9 and 13, seemed willing to let unpopular views be expressed publicly.
5. More adults in the affluent suburb than in inner city or rural communities described an unjust law.
6. Proportionally fewer adults in the inner city thought they could influence the state government.
7. Inner city people knew less than Americans generally about international relations.

5

Writing

The unusually similar results for males and females in the writing assessment create something of a paradox. Girls and women continually outperformed boys and men in all the areas that might provide clues to writing ability. They said they wrote more than males did, they were better at completing forms and many business writing tasks and they seemed to value writing skills more highly than males did. Despite these advantages, when it came to writing itself, the actual skills they demonstrated did not differ from those of males. These skills were demonstrated in a number of essays written on such subjects as a forest fire, an admired person or proliferating superhighways. Only at age 17 did girls show any greater command of written language than boys, and this was offset by the better performance of males at other ages.

These results will undoubtedly come as a surprise to all those familiar with female verbal superiority or with female results on assessments in reading and literature. Nevertheless, the results are derived from 16 different writing assignments spread over the four age levels. The conclusion seems clear: there is little difference in writing ability between the sexes. Where differences did appear on individual exercises, the results seemed related to culturally connected sex biases. That is, males tended to perform better when the exercise was concerned with a subject that has

traditionally been thought masculine, such as automobiles. It seems quite possible, therefore, that differences in performance between girls and boys in school lie more in the traditional feminine bias in much academic subject matter and in the interests of individual students than in any real differences in the students themselves.

Although these results may be surprising and perhaps cause for cheer, when the level of ability is examined, the results are not so heartening. Although the writing skills of both males and females are about the same, those skills are generally not very high. At age 9, competence in writing is probably best described by the word "limited." Nine-year-olds revealed limited vocabularies, restricted skill in sentence construction and incomplete understanding of the conventions of written English. At age 13, lower-ability children simply recorded speech patterns when they were asked to write – with little understanding of conventions; upper-ability students had internalized the conventions but seldom developed an idea. About half the 17-year-olds had some command of the basics of written English, but they seldom went beyond basics: they produced simple sentences, used primarily common words and expressed only simple ideas. At the adult level, almost a third refused even to write. Of those who wrote, many exhibited severe limitations in every area. Even high-

quality papers showed limited sentence structure, punctuation and other elements. The vocabulary of the higher-quality papers, however, was often sophisticated and usually precise.

In general, Americans seem to have little difficulty with everyday social tasks, such as writing friendly letters, but when faced with a business-related task, as in filling out an information form, many people experience difficulties. Most children at ages 9 and 13 can write a simple thank you note or an informal invitation to a friend. They have difficulty, however, when specific information is needed, as in addressing the envelope. The number of people capable of such writing tasks increases with age to 17 then drops slightly among adults. For instance, three fourths of the 17-year-olds wrote adequate directions, but fewer than 6 out of 10 adults managed the same task. Even in writing out an accident report, 17-year-olds wrote better than adults. General writing ability, however, increases with age.

Objectives

Writing has a number of differences from most of the other areas that the National Assessment of Educational Progress (NAEP) measures. Writing is primarily a skill rather than a subject made up of information that a person either knows or does not know. Skill in writing comes about through practice and through appreciation of excellence. Problems obviously arise when an attempt is made to measure how much a person appreciates excellence or to measure how much a person practices. Writing is also different from other areas of study in that the problems are roughly the same for every age level. That is, writing a letter creates the same kinds of problems for 9-year-olds as it does for adults, however different the final letters may be. Both must discover material to present and discover the most appropriate way to present it. These general differences presented special difficulties in assessing abilities and in compiling objectives that American education strives for.

The groups charged with compiling goals for education in writing decided that the assessment should not concern itself with professional creative writing but with the ability Americans

exhibit in the ordinary writing that they perform in the course of their ordinary lives. With this overall idea in mind, they developed the following goals. They hoped Americans would:

1. write to communicate adequately in social situations,
2. write to communicate adequately in business or vocational situations,
3. write to communicate adequately in scholastic situations and
4. appreciate the value of writing.

Overall Results

Levels of success in writing generally depended on the goal. Americans seem to appreciate the value of writing. Actual performance was a different matter.

Social Situations

People's ability to communicate in everyday situations varied widely, depending on the task. For instance, most 9-year-olds wrote an acceptable thank you note for a gift from their grandmother, but when writing an invitation to a class play, fewer than half included all the necessary information. At age 13, most children wrote an acceptable letter inviting a friend to visit, but when asked to write a friendly letter to a pen pal, they had varied success. Poorer letters were brief and uninformative; the best letters contained detailed discussion of events in the writer's life. About 1 child in 10 wrote a letter of the best quality.

The general tendency of people to improve with age is illustrated by the problem of writing an informative note. A recording of a telephone conversation between two friends was played for people at the three younger age levels. They were then asked to write the note that one of the two friends would have written about the plans that had been made. The task was accomplished by 3 out of 10 at age 9, 7 out of 10 at age 13 and 8 out of 10 at age 17. The improvement, however, seems to stop at age 17. When 17-year-olds and adults were given a diagram of an accident and asked to write a description of what happened, 5 out of 10 17-year-olds did it successfully, but only 4 out of 10 adults.

Business Situations.

Writing in ordinary business situations caused difficulty for a great number of people at each age. For instance, all ages were given a simple form requesting information such as street address and date of birth. The proportions that managed to fill it in correctly were quite small: 2 to 3 out of 20 at age 9, 5 out of 20 at age 13, 12 out of 20 at age 17 and 10 out of 20 adults. Most people managed to get some of the information onto the form correctly, but most also left something out or put it down incorrectly. Another ordinary business situation that seemed insurmountable to many was the problem of ordering a product by mail. About half the people at the three older age levels did not include all the necessary information.

Scholastic Situation

The requirements of this type of writing call for skills outside most writing experience of daily life and place higher standards of correctness on the written work. Adults were not given any tasks under this objective, since most adults between 26 and 35 years of age are no longer faced with this type of writing.

Ability seems to improve with age, although direct comparisons are tenuous because only one essay was given to two ages. On that exercise, more 17-year-olds than 13-year-olds wrote well. Some of the 13-year-olds (1 in 20), however, wrote better than most (16 in 20) 17-year-olds.

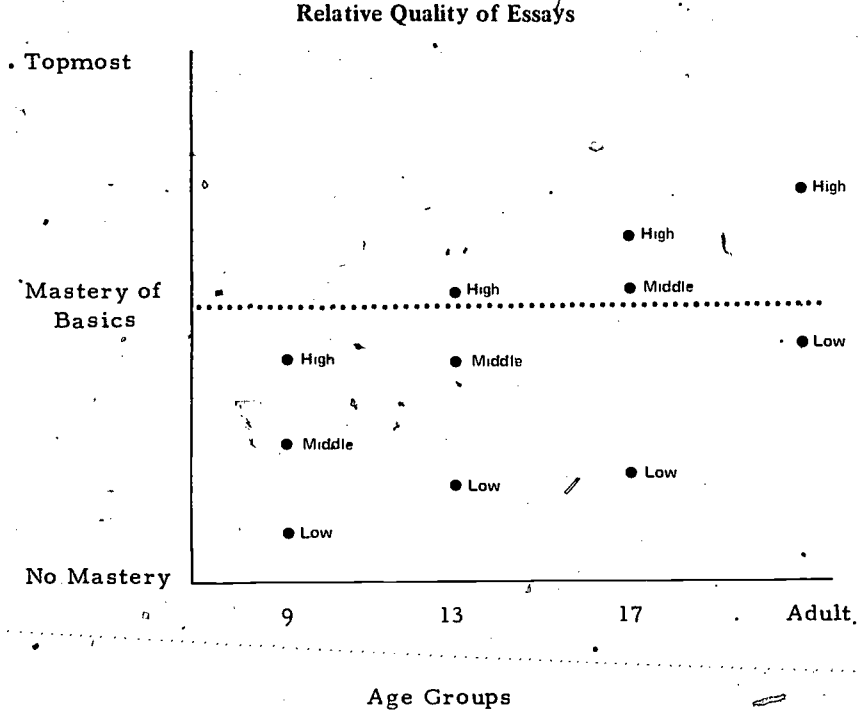
Value Writing

Regardless of how well they actually write, most people say they write on their own, which would indicate that to some degree they value the skills involved. For instance, most people who had taken a trip within the preceding year had written about it in a postcard, letter or report of the trip. The vast majority of the three younger age levels also said they had written, outside of school, a joke, poem, report, story or other type of writing. In addition, 17% of the 13-year-olds said they had sent a story they had written to a magazine.

Essays

Three of the essay tasks were studied in great detail for overall quality; for errors; and for such descriptive factors as fluency, diction and paragraph development. A portion of the high-, middle- and low-quality papers were selected for direct comparison. Papers rated low contained errors involving the simplest writing conventions; the sentences attempted were extremely simple and the vocabulary was limited and imprecise. Papers falling at the mastery-of-basics level attempted only simple constructions, but the respondents made few, if any, errors. Papers falling higher on the scale represented relatively skillful handling of written language. Few papers, however, showed much of a flair for writing, but it is likely that the test conditions and the academic subject matter did not stir the average person to produce anything approaching fine writing.

Time was not provided for rewriting, and people were not encouraged — or discouraged — to proofread. The relative levels of skill for each age are illustrated in the following graph.



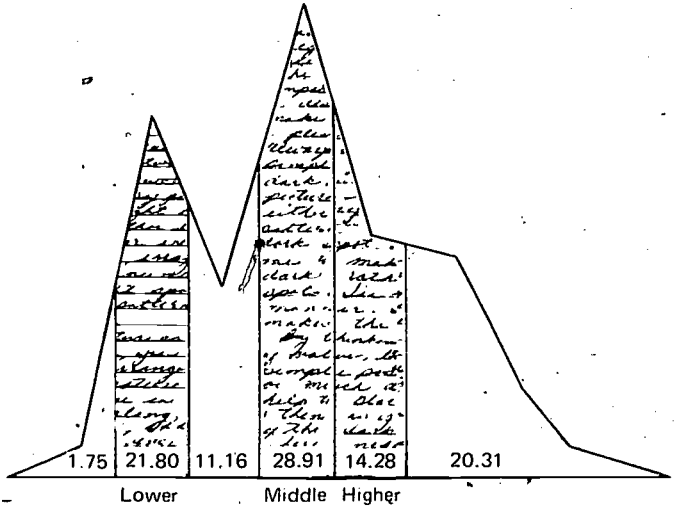
Lower-quality papers at ages 9, 13 and 17 fell at the no-mastery level. At age 9, the lower-quality papers were either extremely short or difficult to understand. In either event, they showed very little grasp of even the simplest of sentence patterns and only the slightest command of vocabulary. The following passages exemplify the two kinds of lower-quality writing by 9-year-olds.

There is a forest fire and the mother and the baby dear are in the rive frying to get away.

Here is a big is a fiah. Look at that fhte what happened to the people that were in. There people what happened.

Almost one fourth of all 9-year-olds wrote as badly as these examples, or worse. The following graph shows the distribution of essays according to their overall quality.

The higher-, middle- and lower-quality points are indicated, along with the percentage of papers selected for characterization and computer analysis at each level. (Nothing at all was written by 1.7% of the 9-year-olds.)

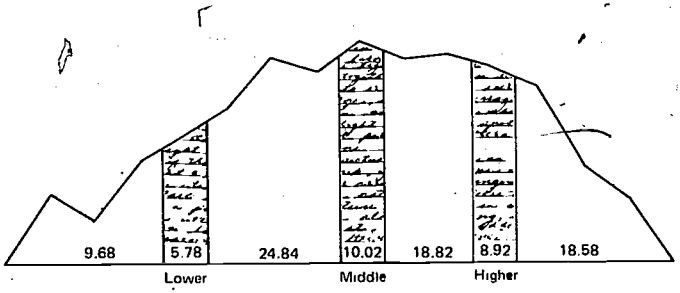


Overall Quality at Age 9

In lower-quality papers at age 13, sentences were longer and run-on sentences appeared more often, but the language was still very general. The primary difference between the lower-quality papers at age 9 and 13 was the more conversational tone the older children captured; they seemed to write less hesitantly and to be recording oral language patterns, though they had mastered few of the conventions of writing. The following example is a lower-quality paper written by a 13-year-old.

> I admire Helen Keller she was deaf & blind and still always wanted to help blind & deaf people even though she was deaf & blind. She showed to people that she could lead a normal life just like you and I. And she would help show people just because there blind and deaf their still human beings. I admire her because she has such courage to go through to end in helping people.

Compared to the papers written by 9-year-olds, fewer papers by 13-year-olds were judged to be of lower quality, as the following graph indicates.

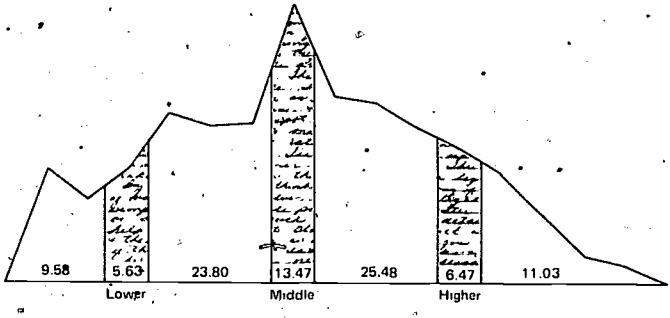


Overall Quality at Age 13

Lower-quality papers at age 17 maintained the conversational tone of the younger age's papers; displayed the same limited and general vocabulary; and reflected confusion about punctuation, sentence structure and the normal conventions of written English, as is reflected in the example.

I would like to be James Brown because he is a soul man and I am a soul kit he can make about 10,000 dolloe a night or make about 20,000 dolloe a record. I think Jame is where it at. I am going to be a man just like Mr James Brown.

The distribution of papers for age 17 was similar to that of the 13-year-olds, but fewer papers fell into the highest category.



Overall Quality at Age 17

Higher-quality papers of 13-year-olds, middle- and higher-quality papers of 17-year-olds and higher-quality adult papers were judged to be at or above the mastery-of-basics level. The difficulties in these papers were related to the things their authors did not do; they had the basic conventions of written English mastered but did not depart from them for the most part. When errors appeared, they were probably due to carelessness or attempts at complexity beyond the simplicity of the rest of the paper. The higher-quality adult papers had a wide-ranging, precise vocabulary, usually accompanied by simple sentence structure and simple punctuation.

A higher quality paper at age 17

I greatly admire Bob Hope for his outstanding personality and his courage. He is a great entertainer and tries to please his

public as best he can. His frequent trips to Vietnam and other distant military posts reveal his courage. He knows that there is danger of being hurt or even killed when he schedules his shows for the men most deprived of civilized comforts; the men deepest in the conflict. There is always a danger of a air-raid, but he goes back for show after show. Many of his shows are put on under impossible conditions, but he still makes them his best. I believe he is, indeed, a credit to his profession.

Beyond the higher-quality papers represented by these examples were a few papers — the best of all those studied in the assessment. These few papers tended to be longer and to contain more and better-developed ideas. The writers, even at age 9, seemed at ease with written language and often went beyond conventional prose. What is most apparent, however, is the writer's involvement in his subject. One example of the best papers at each age level follows.

Age 9

The Fire

Watch out! Run! It is a forest fire. Many animals are trying to cross the stream. But they may be carried down the swift current. See those two deer in the river? They may drowned. A raccoon is stuck on a rock. He has been driven from his home. If it is a female, the racoon's babys may burn to death. The fire will stop at the edge of the stream, but many animals may lose their lives trying to swim the river. And what about the animals still in the forest? They may die because they are trapped, wounded. Can you be more careful? The reason that the fire is in the forest is because somebody was careless. They started the fire. They are the main cause. You can help these forest animals by being careful with your camp fire. Always remember, "Only you can prevent forest fires." Keep this in mind when you start a campfire. It may be a matter of life or death.

Age 13

I admire Martin Luther King, Jr. because of his use of peace. He knew about segregation, but his knowledge didn't make

him bitter to white people. He learned about segregation at an early age. When he was six, he used to play with two white boys whose father owned a neighborhood grocery. One day the mother of the two white boys told them not to play with "niggers" anymore. Martin went home, sad and bewildered, and asked his mother why. Sadly, she told him the story of slavery, and of the civil war, and of segregation. But she told him not to let segregation make him feel inferior. "You are just as good as anyone," she said. "You can become just as fine a person as anyone." Martin never forgot these words. At nineteen, he graduated from college in Alabama. Then he went north to study for the ministry. Going to school with whites for the first time. He worked doubly hard to show that he was "just as good as anyone." He graduated with the highest grade average of anyone in his class, and his classmates elected him president of the student body. When he was finished with school, he could have stayed in the North, but he and his wife, Coretta, decided that it was his duty to return to the South. He taught his people to love their white brothers, no matter what they did to them. And he practised what he preached. One night when he was speaking at a meeting his house was bombed. He told the crowd of angry negroes there to calm down and go home. He once said "The strong man is the man who can stand up for his rights and not hit back." He is dead now, but he will always live in the hearts of men as the protector of peace.

Age 17

I admire not a particular person, but all those persons who administer polls, like this one. These people are dedicated to informing the American public as to how they believe. Our poll takers have accomplished such great feats as persuading President Johnson not to run. This particular test demonstrates the characteristics of most polls. Like our United States Census, it is incredibly inquisitive. It attempts to measure the progress of United States education through ten questions, thus demonstrating over-simplification. It polled only a small minority of the groups, but will tout these opinions as those of the entire group. This test shows all that is great in American polls.

I sincerely hope that this test has given you the information you wanted. I hope that you, the mysterious cape, have received some service from me. I hope this because of my deep respect and admiration for the all-American poll taker.

Adult

Dear Commissioner Stroud,

With dead fish from our rivers stinking along the banks or live fish too polluted with D D T to eat; with smoke or the smell of sulphur dioxide in the air of cities making eyes smart and lungs burn, some kinds of pollution need not be indicated. The pollution from noise, however, which only the very rich or very rural escape often passes unnoticed. I wish to remind you that the traffic noises from your proposed interchange and highway will bring that pollution into Windsorville and rob us of a peace which cannot be recaptured or priced in terms of "development" and "reduced taxation."

I plan to object to your scheme through every legitimate means: writing to the news paper, speaking at town meetings and writing my political representatives. If I find that I receive no reasonable response from the news media and am allowed no hearing in the political forum, I will have to attempt more vigorous forms of protest. This is not a treat, but a statement of the means: feel justified in employing.

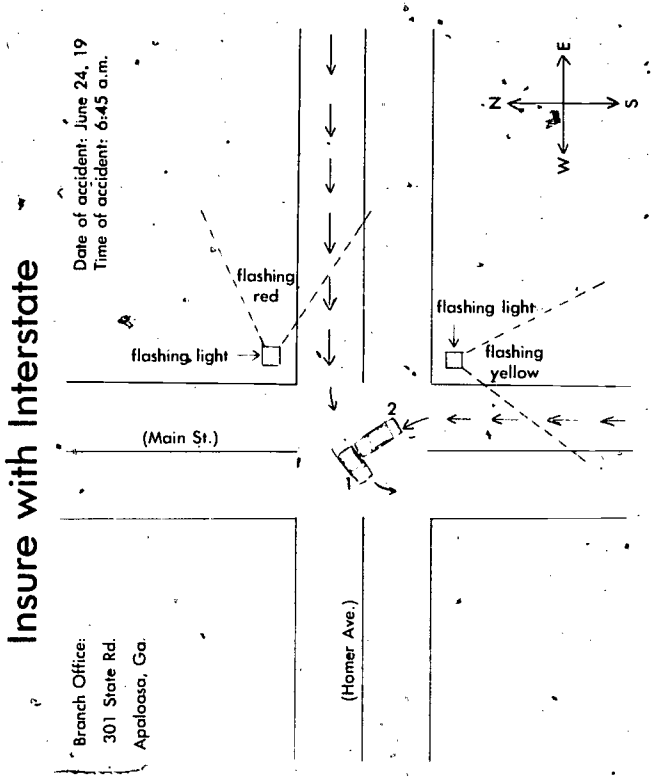
A single citizen of a small village which even the mayor considers backward and part of the "Colonial Past" may yet be able to register an objection which pententrates the aucostical tile of your all too modern office. The reason for my believing such an improbable circumstance is that I know I am fighting for something valuable while you have, in changing your origin plans, bent only to convenience and expediency.

Group Results

Sex

The overall abilities and practices of males and females in writing is similar, with females slightly better, especially at the older two age levels.

Despite the general female advantage, males did well on exercises that had some masculine content. Either males were mentioned in the exercise or the exercise involved activities or interests generally thought masculine. For instance, men were somewhat better than women in describing the accident from the diagram shown. At the adult level, 4 in 10 men included all the important information compared to 3 in 10 women. At age 17, however, females did better, 6 in 10 compared to 5 in 10.



Here is a diagram of an automobile accident. Study the diagram and then describe the accident in your own words.

(Approximately 1½ lined pages were provided for the responses.)

Scoring

Acceptable: The description must mention four of the following:

1. name of the street for each car,
2. direction each car was traveling,
3. which traffic light each one had,
4. the fact that each was turning or
5. the fact that a collision occurred.

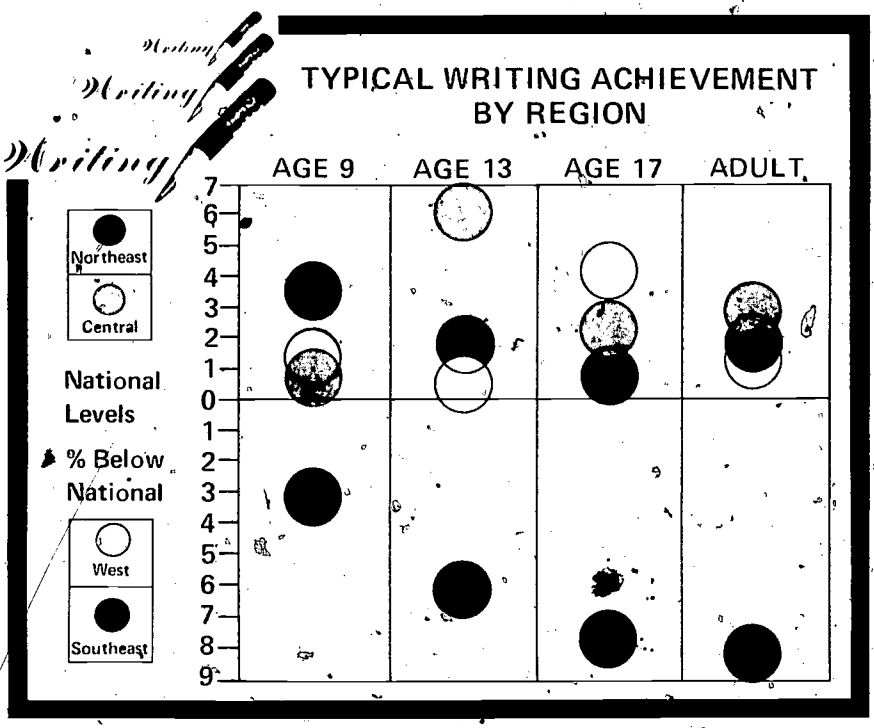
Not acceptable: If the description contained a mistake, for instance, that car no. 1 had a yellow light or that car no. 2 was turning right, it was automatically counted unacceptable, no matter how good the rest of the description was.

National Results

	Age 17	Adult
Acceptable	53%	38%
Not acceptable	46	52
No response	1	10
	100%	100%

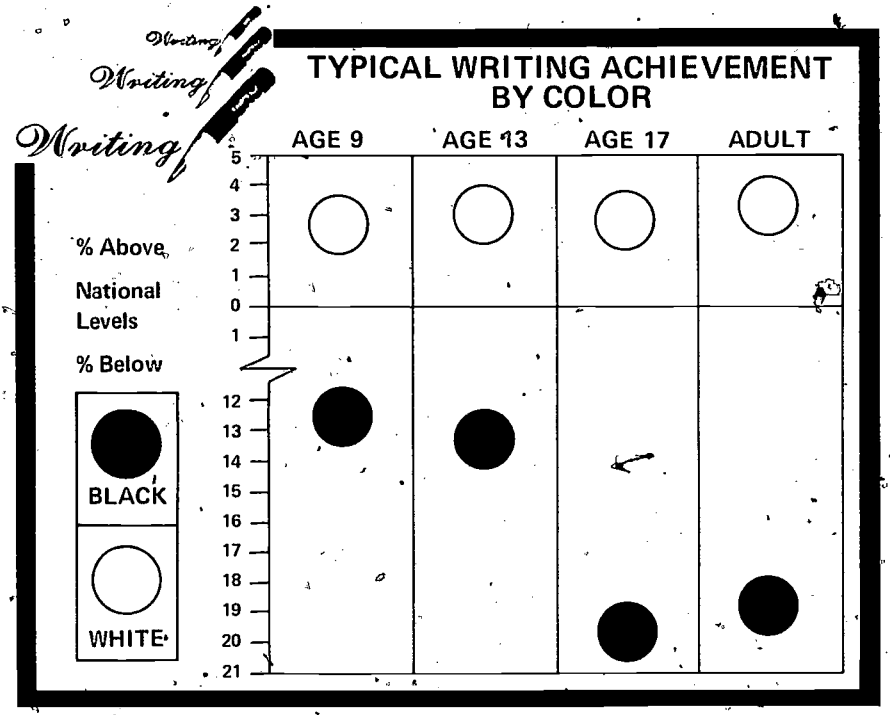
Region

At the three older age levels, most people throughout the nation have about the same level of writing skills – with the exception of people in the Southeast. The attitudes and practices of southerners appear to be very much like those of Americans elsewhere, but overall writing results were well below the national levels, as is indicated in the following graph.



Color

There was a considerable difference between blacks and whites. But what is more important than this is the fact that the difference increases dramatically between the ages of 13 and 17.



Size and Type of Community

Typically, people in the fringes of big cities wrote better than people who live in the cities themselves while people who live in small places and medium size cities possess skills closer to the national levels.

Throughout the various sizes of communities, as throughout the nation, about the same proportions of people say they write, but actual writing skills did not correspond to these reports. At the younger ages, particularly large proportions of people in the big cities said they write, and at the same time, they did poorly when they actually wrote. However, proportionally as many adults in the big city as adults elsewhere successfully described an auto accident after examining an insurance company diagram, indicating that in certain areas at least, people manage to overcome what seems to be a general disadvantage.

6

Reading

The reading assessment firmly supports one of the most disturbing facts about American education and the abilities of American students: many young Americans are severely handicapped by serious reading deficiencies. The results are augmented by United States census figures showing that 1.4 million Americans cannot read (or write) in any language, and by Health, Education, and Welfare Department figures showing that 1 million teen-agers (age 12-17) cannot read at the beginning fourth-grade level. The Americans who read poorly in the National Assessment of Educational Progress (NAEP) sample cannot follow simple directions; many cannot even follow the schedules in *TV Guide*; far more find it impossible to draw inferences from anything they read beyond the simplest levels. To the extent that reading is necessary for survival in a modern, print-oriented society -- and all that survival implies in educational opportunities, job possibilities, simple enrichment of life, even hope -- these Americans are clearly disadvantaged.

The groups that were clearly disadvantaged seemed almost a parody of National Assessment findings in other areas: southerners, blacks, males, people from poorly educated families, from the inner city, all had difficulties in a number of the skills necessary for reading.

The group showing most consistent differences from the national levels in reading were blacks. Their reading performance was below the national level in every area and at every age, and often the difference was large. In some instances, the reading level of blacks was not as high as whites four years younger. Among the school-age population, however, the gap between blacks and whites does not seem to increase with age. That is, in relation to the nation, blacks at age 17 did not seem to read less well than blacks at age 13 or age 9. Whatever factors contributed to their difficulties in reading, therefore, seem to have occurred before they reached 9 years of age. After that age, although the schools do not seem to be helping blacks very much, the experience is apparently not hurting them either.

The level of schooling of parents, however, does seem to have an effect on reading ability. People whose parents did not attend high school read far less well than people of the same age whose parents had more education. As in other assessment areas, the highest overall reading performance of any parental education category was registered by respondents who had at least one parent with education beyond high school. This was true at each of the four age levels.

There was also a relationship between reading proficiency and the individual's community. School-age young people from the inner city performed far below those in other communities, with the greatest difficulty being experienced by the 9-year-olds. In contrast, people from the affluent suburbs were superior to people from all other communities in their overall reading performance. Between those two extreme groups there was a range of performance, progressing roughly as follows:

Lowest	Extreme inner city
	Extreme rural
	Small city
	Medium city
	Rest of big city
	Suburban fringe
Highest	Extreme affluent suburb

The overall reading performance of school-age boys was clearly below that of girls, although the typical difference was not very great. For example, 91% of the boys and 96% of the girls at age 17 drew the correct inference from a passage about ecology. The differences in reading ability, however, seem to disappear by adulthood. Among young adults, men and women showed about the same reading ability. People in the Southeast also experienced particular difficulty in reading at all four age levels in every reading skill area in the assessment.

Objectives

The disadvantages shown by these groups are far more serious than might be apparent at first, because the reading assessment was not focused primarily on the academic. The groups charged with compiling goals for reading considered it important that Americans be at ease with all types of reading material. Consequently, they felt it important that Americans be able to read not only such traditional academic and literary forms as novels, short stories and textbooks, but also such expository material as newspapers, utilitarian writing such as income tax instructions and food labels and reference works (dictionaries and encyclopedias). Thus, the exercises developed to assess these goals concerned such wide-ranging subject matter as the label of a dog food can, a bubble gum wrapper, an automobile bumper sticker, as well as selections from books and magazines.

The goals established were intended to cover the skills necessary to comprehend all such material. The first five reading objectives, therefore, represent the individual's ability to comprehend, analyze, use, reason logically from and make judgments concerning what he has read. This arrangement represents a logical progression of what a student should be able to do as a result of his reading experiences and instruction; that is, he must be able to comprehend a passage before he can analyze it and analyze a passage before he can use it, reason from it or make judgments about it. The sixth reading objective (which was not assessed, however) is concerned with interests and attitudes about reading. In summary, the goals for reading education in America

include that Americans:

1. comprehend what is read,
2. analyze what is read,
3. use what is read,
4. reason logically from what is read,
5. make judgments concerning what is read and
6. have attitudes about and an interest in reading.

Overall Results

The results for the entire reading assessment are summarized in the table following. The figures are the typical differences between a group and the national level of performance, given in percentage points. That is, out of 100 children at age 9 about 6 fewer in the Southeast could successfully demonstrate a particular reading skill than could demonstrate it nationally.

Group Results

Color

Throughout the reading assessment, the performance levels for blacks were below those of Americans generally. In no skill and in no objective did the typical ability of blacks as a group at any age reach the level of the nation. Although there were slight variations in degree of disadvantage, these variations do little to alter the main picture. In addition, larger percentages of blacks than whites were very slow readers — slower than 50 words a minute. And the proportions of slow readers among blacks increase with age.

This does not mean that the reading skills of all blacks are inferior to all whites or that an individual black person can be expected to read less well than an individual white from a comparable background. It does mean, however, that blacks as a group typically have more difficulty than other Americans on measures of a variety of reading skills.

An examination of responses to discover particular patterns revealed no consistent type of response, but a number of factors

Typical Differences Between Group and National Performance in Reading Skills

Variables and Groups	Age 9 (158 Exercises)	Age 13 (249 Exercises)	Age 17 (206 Exercises)	Adult (97 Exercises)
Region				
Southeast	-5.9*	-4.8*	-4.9*	-8.1*
West	-0.9	-0.2	-0.1	2.3
Central	3.0	2.3	1.9	1.3
Northeast	2.2	2.2	1.6	1.0
Sex				
Male	-2.3*	-2.5*	-2.0*	0.3
Female	2.3*	2.4*	2.0*	-0.2
Color				
Black	-16.3*	-15.5*	-16.3*	-18.6*
White	2.8*	2.8*	2.3*	2.5*
Parental education				
No high school	-9.1*	-11.9*	-11.1*	-6.6*
Some high school	-4.8	-4.4	-5.9*	-0.4
Graduated high school	0.7	0.6	-0.3	2.8
Post high school	6.8*	6.8*	5.7*	8.0*
Size and type of community				
Extreme inner city	-14.3*	-8.0*	-7.7*	
Extreme rural	-4.3	-3.9	-2.6	
Small city	-0.6	-0.5	-1.3	
Medium city	0.1	0.4	0.8	
Rest of big city	1.4	1.2	1.4	
Suburban fringe	2.2	2.3	1.2	
Extreme affluent suburb	8.4*	5.7*	5.7*	
Size of community				
Big city				-3.6
Small place				0.6
Medium city				0.9
Urban fringe				1.9

**These figures represent significant differences from the national level of performance.*

that correlate with poor performance in reading are clear. According to the 1970 national census, as well as the information given by the respondents in the reading assessment, proportionally more blacks than whites live in inner city locations, larger proportions of blacks are from families with below average educational backgrounds, more blacks live in the Southeast — each of which alone seems associated with poor performance; no studies have been made to determine the cumulative effect of the combination.

It is a gloomy picture, and little evidence in the assessment provides relief. Two factors, however, indicate that changes may be taking place. The disadvantage of blacks still in school did not seem quite so great as the disadvantage of black adults, and more younger than older blacks came from better-educated families. Only future assessments can confirm whether these factors are simply an accident of the particular year of the assessment or whether in fact they are the first glimmerings of a trend toward equality.

Sex

Almost every research study that compares the reading competence of boys and girls has noted that girls generally read better than boys. The reading assessment supports those findings conclusively. At all three school-age levels, girls read better than boys with few exceptions. Among young adults, however, American males read as well as females, or even a little better. The apparent improvement of male abilities is not caused for glee, however, for in fact it represents yet another squandering of American resources and abilities. Young men's reading skills do improve a little after leaving school, but according to assessment figures, young women lose a large part of their superior skills and thus fall behind both men and their school-age sisters.

Out of more than 700 reading exercises, males surpassed females in only 22. Eight of those called for the reading of signs, charts, graphs and maps; 5 involved recalling significant facts from a passage; 4 dealt with drawing inferences; and the other 5 were divided among four skill areas. As in other assessments, the tasks on which males performed better than females involved

male-oriented activities such as reading signs, charts and traffic tickets. However, interest alone did not overcome disadvantages in reading: there were far more than 22 exercises that had significant male orientation. The evidence is overwhelming: girls read better than boys.

Skill Areas

The overall results on the reading assessment were divided into nine areas corresponding to particular reading skills or combinations of skills. The patterns discussed above generally appeared in each of the nine skill areas. Additionally, where exercises were given to more than one age, each older level usually read better than the younger level. Typical results for the nine areas included:

Understanding Words and Word Relationships

Since most reading materials contain words, at a minimum the reader must be able to understand the meanings of the words and how the words combine to form a meaningful whole. Almost all Americans assessed could read simple words or phrases. For instance, almost all the 9-year-olds could read signs on doors that indicated where they should go for lunch (CAFETERIA) or to see the person in charge of the school (PRINCIPAL). As might be expected, when the words and the contexts grew more complicated, more people experienced difficulty. For example, the three older age levels read a four-paragraph passage from the sociological study *The Organization Man* and selected what they considered the best definition of the term "budgetism." The proportions able to derive the meaning from the context were: 4 out of 20 at age 13, 5 out of 20 at age 17 and 8 out of 20 among adults. On most exercises, people's abilities showed a similar increase as the age of the reader increased.

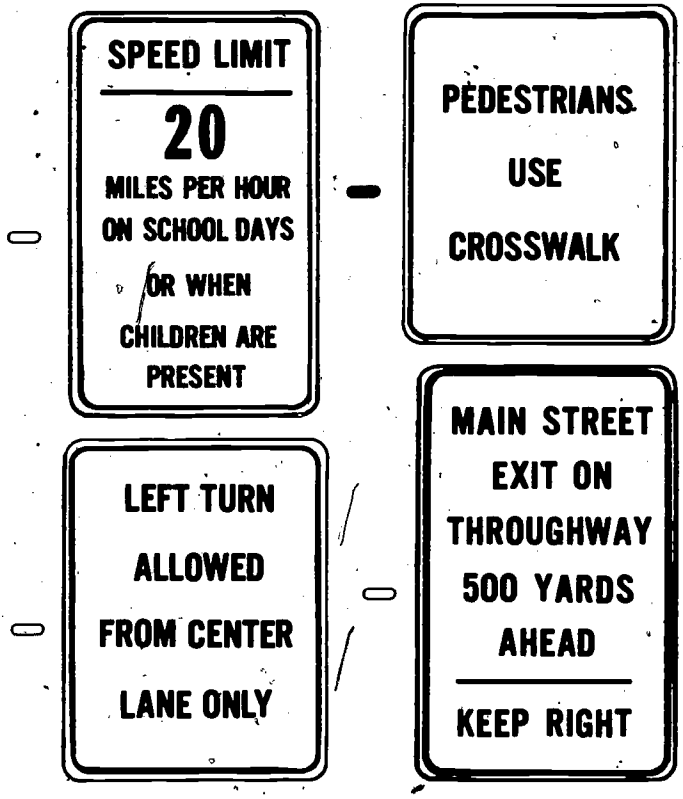
Graphic Materials

Most 9-year-olds seemed able to read common street signs and food wrappers, but many could not. The majority of 9-year-olds distinguished between signs for motorists, pedestrians and bi-

cyclists; could follow directions to use crosswalks; and read food wrappers for products such as bubble gum and dog food.

Some road signs tell people who are driving cars what to do. Other signs tell people who are walking what to do.

If you are walking, which sign tells you what to do? Fill in the oval beside the correct sign.

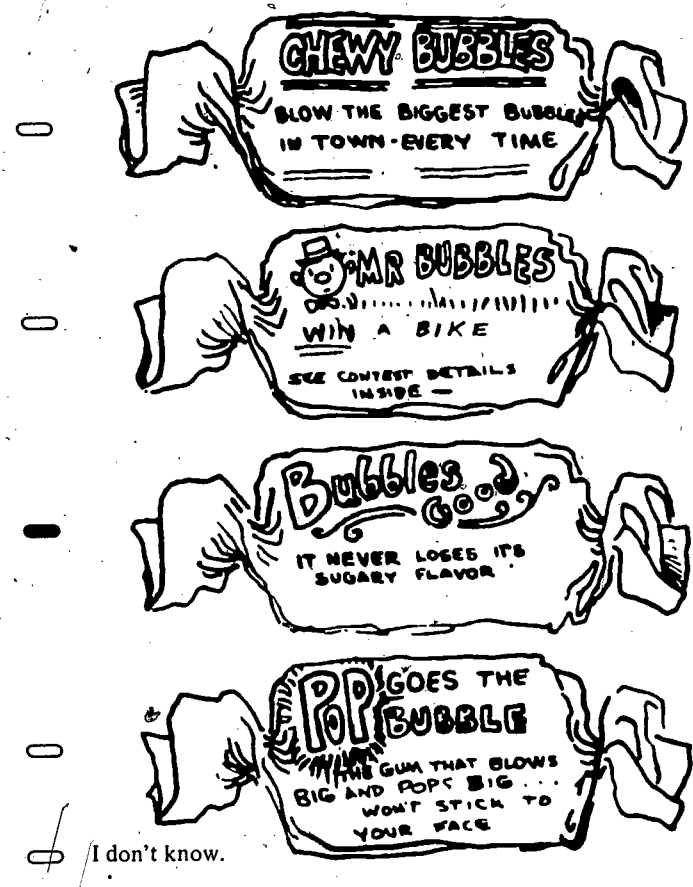


I don't know.

Thirteen-year-olds did much better than 9-year-olds, as would be expected. For example, while nearly 7 in 20 9-year-olds failed

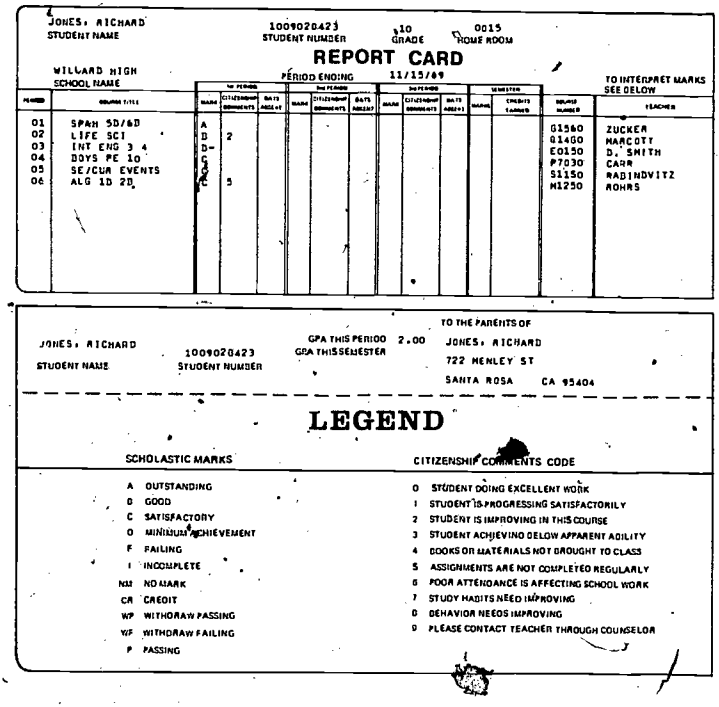
to read the bubble gum wrapper correctly, only 1 child in 20 at age 13 failed to read it correctly.

If you wanted to buy some bubble gum that would stay sweet for a long time, which of these would you buy? Fill in the oval beside the bubble gum you would buy.



I don't know.

On a slightly different kind of form, respondents were asked a variety of questions which required them to read symbols and interpret notations on a report card.



JONES, RICHARD
STUDENT NAME

1009020423
STUDENT NUMBER

10
GRADE

0015
HOME ROOM

REPORT CARD

WILLARD HIGH
SCHOOL NAME

PERIOD ENDING 11/15/69

TO INTERPRET MARKS SEE BELOW

PERIOD	COURSE TITLE	1st PERIOD MARK	1st PERIOD CITIZENSHIP COMMENTS	1st PERIOD DAYS ABSENT	2nd PERIOD MARK	2nd PERIOD CITIZENSHIP COMMENTS	2nd PERIOD DAYS ABSENT	3rd PERIOD MARK	3rd PERIOD CITIZENSHIP COMMENTS	3rd PERIOD DAYS ABSENT	SEMESTER MARK	SEMESTER CREDITS EARNED	SECTION NUMBER	TEACHER
01	SPAN SD/6D	A											G1560	ZUCKER
02	LIFE SCI	B	2										G1460	MARCOTT
03	INT ENG 3 4	B-											E0150	D. SMITH
04	BOYS PE 10	C											P7030	CARR
05	SE/CUR EVENTS		5										S1150	RADINOVITZ
06	ALG 1D 2D												M1250	ROHRS

JONES, RICHARD
STUDENT NAME

1009020423
STUDENT NUMBER

GPA THIS PERIOD 2.00
GPA THIS SEMESTER

TO THE PARENTS OF
JONES, RICHARD
722 HENLEY ST
SANTA ROSA CA 95404

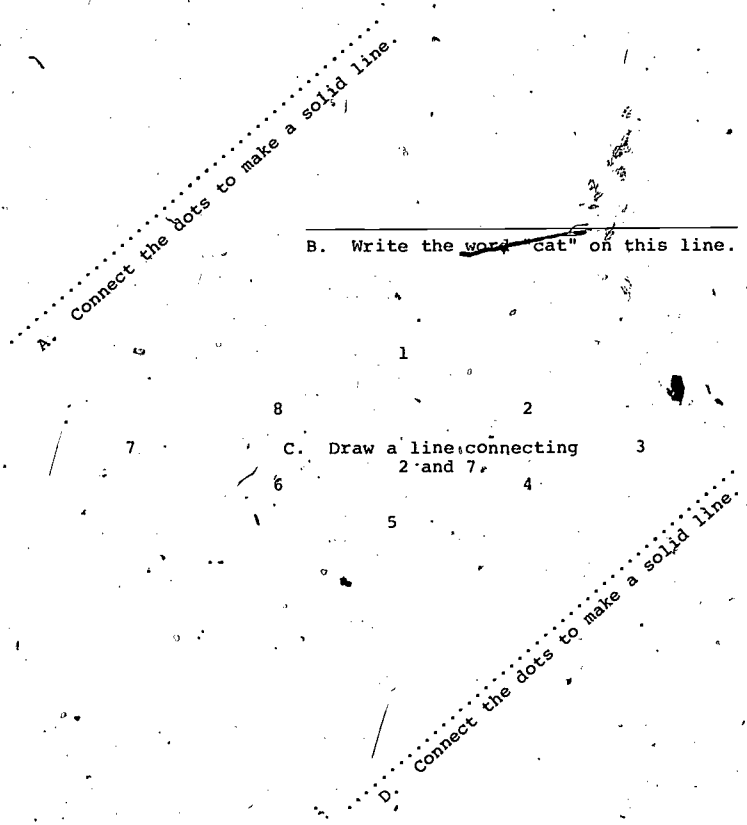
LEGEND

SCHOLASTIC MARKS		CITIZENSHIP COMMENTS CODE	
A	OUTSTANDING	0	STUDENT DOING EXCELLENT WORK
B	GOOD	1	STUDENT IS PROGRESSING SATISFACTORILY
C	SATISFACTORY	2	STUDENT IS IMPROVING IN THIS COURSE
D	MINIMUM ACHIEVEMENT	3	STUDENT ACHIEVING BELOW APPARENT ABILITY
F	FAILING	4	BOOKS OR MATERIALS NOT BROUGHT TO CLASS
I	INCOMPLETE	5	ASSIGNMENTS ARE NOT COMPLETED REGULARLY
NM	NO MARK	6	POOR ATTENDANCE IS AFFECTING SCHOOL WORK
CR	CREDIT	7	STUDY HABITS NEED IMPROVING
WP	WITHDRAW PASSING	8	BEHAVIOR NEEDS IMPROVING
WF	WITHDRAW FAILING	9	PLEASE CONTACT TEACHER THROUGH COUNSELOR
P	PASSING		

About 8 out of 10 13-year-olds correctly determined the time period the report covered, the student's best subject and the subject in which the student was having problems. However, on a fourth question — "The student is improving his work in which subject area?" — only half the 13-year-olds and 8 out of 10 17-year-olds answered correctly. A number of adults also erred on this question: they did slightly less well than the 17-year-olds. Although not all report cards used in the United States are identical to this facsimile, it might be somewhat disconcerting to teachers and school administrators that nearly one fifth of the 17-year-olds and half the 13-year-olds could not interpret some of the symbols on a report card. It might also be comforting to some students that nearly one fourth of young adults could not either.

Written Directions

In the area of written directions, respondents interpreted or followed directions for such activities as drawing a geometric figure, baking English muffins, using a can of insecticide spray and playing a hypothetical card game. The results tend to confirm what many teachers and parents already know: many students cannot follow simple directions. Three in 10 9-year-olds and 1 in 10 of the 13-year-olds failed to follow the four simple directions that follow. Among 9-year-olds who were black, from the inner city or whose parents had not attended high school, half failed to follow all the directions.



The ability of older ages to follow directions was not much better. Only two thirds of the people at ages 13 and 17 correctly read a receipe for muffins; one third could not tell how long the muffins should be baked. Three adults out of 20 had the same difficulty.

Reference Materials

Do students know what type of publication or what part of a book to refer to if they want information about such topics as Eskimos or windmills? Can students use a dictionary, the index from a science text, the table of contents from a weekly news magazine? How well can Americans read the program listings and descriptions in *TV Guide*? On some kinds of reference questions, American students did well; on others they did not, but no pattern for the inconsistency could be discovered.

For example, less than half the 9-year-olds knew that "the BEST way to find out if there is something about Eskimos in a book" is to look in the index. Slightly more than half would go to an encyclopedia to learn about windmills; at age 13, 9 out of 10 would turn to the encyclopedia.

Most 9-year-olds did not use dictionaries well, but 9 out of 10 at each of the other ages had no difficulty; few at the three older age levels had any trouble using a contents page of a weekly news magazine, provided they understood the vocabulary. Reading *TV Guide* created more problems: five questions were all answered correctly by only 1 out of 10 at age 9, 3 out of 10 at age 13, 5 out of 10 at age 17 and 6 out of 10 among adults.

Gleaning Significant Facts From Passages

Respondents were asked to search for details and important factual information in various types of selections, most of which were from one to three paragraphs long. The majority of the passages were nonfiction; a few were fiction; other selections varied from a short William Carlos Williams poem to a fire prevention poster. Most Americans seemed to gather the facts asked about in all the forms used except the poetry; even in the poetry, a majority of the readers found the factual information.

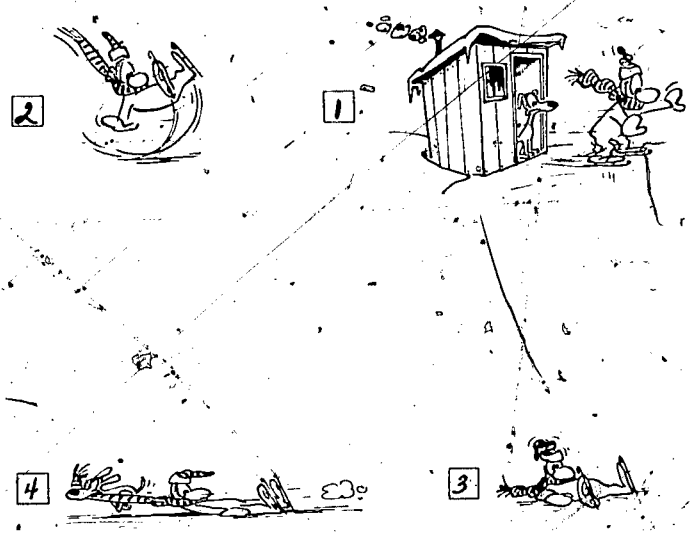
Perhaps the most interesting results in this area were concerned with a story that takes place in a small apartment in Brooklyn where a boy is contemplating running away from school. About 6 in 10 individuals nationally at each of the three older age levels correctly indicated the city, month and day in the story, but 7 in 10 13-year-olds in the inner city and in the big city groups recalled those facts. Seventeen-year-olds in the big city were also above the national levels for this exercise. Although this is only one exercise, it supports evidence elsewhere in the assessment: when interested, otherwise apparently disadvantaged Americans perform better than usual.

Main Ideas and Organization

Identifying the main idea of a passage or discovering its organization requires a higher level of comprehension than merely grasping important facts. Typically, about half the children at ages 9 and 13 were successful with this skill, while 7 in 10 17-year-olds were. Generally speaking, school-age Americans found this to be among the most difficult skills in reading. Adults found it somewhat easier than the children did; three fourths typically were successful.

When the three older age levels were asked to indicate the organization of a narrative sequence involving pictures and not words, however, fewer people found it difficult at all. More than four out of five at each age indicated the correct sequence for the following cartoon strip.

Below are the four sketches of a cartoon. Put these in the right order so that they make sense. Place a number (1,2,3, or 4) in the box beside each sketch to indicate the sketch that should come first, the sketch that should come second, and so on.



*Cartoon by Henry Syverson**

○ I don't know.

*Reprinted with permission from *THE SATURDAY EVENING POST*, No. 5, ©March 9, 1968, p. 60, The Curtis Publishing Company.

Groups that ordinarily read less well than the national levels did well on this exercise. Although still below the national level, their success on exercises of this type might well have important implications for teachers of reading skills: words themselves might be a cause of reading difficulty for some disadvantaged readers; either concentration on words or finding ways temporarily to avoid words might well aid some poor readers.

Drawing Inferences

Drawing inferences requires an individual to derive a conclusion not explicitly stated in the passage but which logically follows from the organization of the passage and the information it contains. In some cases, readers must draw on their own experiences in addition to information and implications provided in the selections. The results indicated that many students and adults do not draw inferences very well from difficult selections, but they can draw inferences about word meanings and concepts in passages that are not too complex. From 5 to 8 individuals out of 10 typically drew the proper inference from their reading of assessment exercises. For instance, on the following relatively easy exercise, 6 out of 10 9-year-olds and 8 out of 10 13-year-olds correctly inferred the date when the action probably took place.

Christmas was only a few days away. The wind was strong and cold. The walks were covered with snow. The downtown streets were crowded with people. Their faces were hidden by many packages as they went in one store after another. They all tried to move faster as they looked at the clock.

When did the story probably happen?

- ○ November 28
- ○ December 1
- ● December 21
- ○ December 25
- ○ December 28
- ○ I don't know.

On the more difficult passage that follows, however, considerably fewer individuals successfully answered the questions, less than half at each age and in some cases far less than half.

Until about thirty years ago, the village of Nayon seems to have been a self-sufficient agricultural community with a mixture of native and sixteenth century Spanish customs. Lands were abandoned when too badly eroded. The balance between population and resources allowed a minimum subsistence. A few traders exchanged goods between Quito and the villages in the tropical barrancas, all within a radius of ten miles. Houses had dirt floors, thatched roofs, and pole walls that were sometimes plastered with mud. Guinea pigs ran freely about each house and were the main meat source. Most of the population spoke no Spanish. Men wore long hair and concerned themselves chiefly with farming.

The completion of the Guayaquil-Quito railway in 1908 brought the first real contacts with industrial civilization to the high inter-Andean valley. From this event gradually flowed not only technological changes, but new ideas and social institutions. Feudal social relationships no longer seemed right and immutable; medicine and public health improved; elementary education became more common; urban Quito began to expand; and finally—and perhaps least important so far—modern industries began to appear, although even now on a most modest scale.

In 1948–49, the date of our visit, only two men wore their hair long; and only two old-style houses remained. If guinea pigs were kept, they were penned; their flesh was now a luxury food, and beef the most common meat. Houses were of adobe or fired brick, usually with tile roofs, and often contained five or six rooms, some of which had plank or brick floors. Most of the population spoke Spanish. There was no resident priest, but an appointed government official and a policeman represented authority. A six-teacher school provided education. Clothing was becoming citified; for men it often included overalls for work and a tailored suite, white shirt, necktie, and felt hat for trips to Quito. Attendance at church was low and many festivals had been abandoned. Volleyball or soccer was played weekly in the plaza by young men who sometimes wore shorts, blazers, and berets. There were few shops, for most purchases were made in Quito, and from there came

most of the food, so that there was a far more varied diet than twenty-five years ago. There were piped water and sporadic health services; in addition, most families patronized Quito doctors in emergencies.

The crops and their uses had undergone change. Maize, or Indian corn, was still the primary crop, but very little was harvested as grain. Almost all was sold in Quito as green corn to eat boiled on the cob, and a considerable amount of the corn eaten as grain in Nayon was imported. Beans, which do poorly here, were grown on a small scale for household consumption. Though some squash was eaten, most was exported. Sweet potatoes, tomatoes, cabbage, onions, peppers and, at lower elevations, sweet yucca and arrowroot were grown extensively for export; indeed, so export-minded was the community that it was almost impossible to buy locally grown produce in the village. People couldn't be bothered with retail sales.*

*Ralph L. Beals, "The Village in an Industrial World," *Scientific Monthly*, 77, No. 2, August 1953, pp. 67–73. Reprinted by permission of the American Association for the Advancement of Science.

Why was there primitiveness and self-containment in Nayon before 1910?

- ○ Social mores
- ○ Cultural tradition
- ○ Biological instincts
- ● Geographical factors
- ○ Religious regulations
- ○ I don't know.

By 1948 the village of Nayon was

- ○ a self-sufficient village.
- ○ out of touch with the outside world.
- ● a small dependent portion of a larger economic unit.
- ○ a rapidly growing and sound social and cultural unit.
- ○ I don't know.

Why was Nayon originally separated from its neighbors?

- ○ Rich arable land
- ○ Long meandering streams
- ○ Artificial political barriers
- ○ Broad stretches of arid desert
- ● Deep rugged gorges traversed by rock trails
- ○ I don't know

Critical Reading

Critical reading requires the highest levels of skills in the reading assessment: analysis and reasoning. In addition, the reader must form an opinion about a passage. Overall, critical reading represents a deep interaction between author and reader, possibly leading to an understanding that is greater than the contribution of either. Generally speaking, abilities in this area increased with age, as one might expect, and otherwise followed the patterns discussed at the beginning of this section. In other words, ability to read critically seems closely connected with general reading ability.

7

Literature

How well do people understand imaginative language? In what ways and how well do people respond to works of literature? How familiar are people with major characters and works of Western literature? What do people read and how do they feel about reading?

These four questions seem central to the problem of determining what young Americans know in the area of literature. For the purposes of reporting the hundreds of responses made at the four age levels in the literature assessment, each question served as a "theme" around which the National Assessment of Educational Progress (NAEP) organized its information. Obviously, definitive answers cannot be drawn from a single assessment, but, briefly, the results of the assessment may be summarized:

1. *How well do people understand imaginative language?* In general, people at all four age levels did well on exercises concerned with comprehension of metaphor and on exercises concerning ability to follow the rhythm or logic of a poem. The worst performances came on inference exercises, which asked people to explain why they made certain inferences about a work. Seventeen-year-olds seemed most successful with adults only slightly behind.

2. *In what ways and how well do people respond to works of literature?* When discussing more or less freely how they felt about a work, people responded in a variety of ways, as might be expected, although the younger ages tended more often to concern themselves with personal involvement or evaluation, and the older ages tended more often to tell what the work meant to them; that is, older respondents were concerned with interpretation. Age seemed an important factor in how well people could explain their responses: adults seemed to do best in this area, followed by 17-year-olds, while 13-year-olds varied considerably depending on what they were responding to. They did poorly on poetry, better on prose. Surprisingly, people did better at explaining their responses in writing than they did explaining them orally.
3. *How familiar are people with major characters and works of Western literature?* Again, age seemed an important factor in that adults were more successful than the younger ages, but other factors entered as well. Females did best on subjects that might be considered traditionally feminine, such as recognition of *Alice in Wonderland*, while males were more familiar with masculine figures and adventurous works. The sexes seemed to have about equal success in recognizing biblical figures, however.
4. *What do people read and how do they feel about reading?* From what they report, it would seem that most Americans read, and most view reading as a valuable activity. The most popular works were novels or long stories, with more than half of each age level (7 out of 10 at age 17) reporting titles. Only slightly behind novels in popularity were biographies and autobiographies.

Objectives

The four questions that provided the "themes" around which results were organized were implicit in the literature objectives. The committees charged with determining goals appropriate to the national educational effort in literature arrived at three major goals, or objectives. They hoped that Americans would

1. read literature of excellence;
2. become engaged in, find meanings in and evaluate works of literature; and
3. develop a continuing interest and participation in literature and the literary experience.

For all objectives, levels of expectation were established for each age level. Thus, under "read literature of excellence," children at age 9 were expected to recognize children's "classics" such as *Mother Goose* or *Winnie the Pooh*, while 17-year-olds and adults were expected to recognize typical passages of Shakespeare and major novelists and poets such as Conrad and Frost.

Overall Results

Understanding Imaginative Language

Overall, there was an increase in the percentages of people dealing successfully with imaginative language from age 9 to 13 to 17, with a slight drop in adult performance. Among regions, people in the Southeast typically had levels of achievement below the national levels, and the Central region was consistently above. At age 13, the Northeast was at about the same level as the Central region, and by the adult level the performances of the West,

Central and Northeast were about the same. The following exhibit is representative of group performances for Theme 1. It shows the range of responses for each age level. The national level is placed at zero, and the results for each group are shown as median points above or below the nation.

Group Median Differences on All Theme 1 Exercises

Variables and Groups	Age 9	Age 13	Age 17	Adult
Region				
Southeast	-4.1	-5.7	-5.0	-7.8
West	-0.5	1.0	0.8	1.5
Central	3.4	1.9	1.7	1.2
Northeast	0.5	1.8	1.1	1.2
Sex				
Male	-1.2	-1.8	-1.3	0.2
Female	1.1	1.8	1.3	-0.3
Color				
Black	-13.7	-16.0	-15.8	-20.0
White	2.2	2.8	2.2	2.7
Parental education				
No high school	-6.2	-11.7	-10.2	-9.0
Some high school	-4.4	-4.3	-7.0	-0.8
Graduated high school	0.3	0.2	-0.7	4.2
Post high school	5.2	7.1	5.9	8.2
Size and type of community				
Extreme inner city	-14.1	-7.5	-8.1	
Extreme rural	-3.2	-4.1	-5.0	
Small city	0.4	-0.2	-0.1	
Medium city	-0.8	0.8	-0.4	
Suburban fringe	2.7	1.7	0.5	
Rest of big city	-0.6	-1.1	-0.4	
Extreme affluent suburb	7.1	5.6	5.3	
Size of community				
Big city	-2.6	-1.1	-1.9	-1.3
Urban fringe	3.8	2.8	2.5	0.8
Medium size city	-0.3	0.3	-0.3	1.6
Smaller places	-0.5	-1.2	-1.1	0.1

People generally had least difficulty with metaphor or rhythm. For example, all four age levels were given a stanza by Emily Dickinson and were asked about the central metaphor.

> Hope is a thing with feathers
> That perches in the soul,
> And sings the tune without words,
> And never stops at all.*
>
> *Emily Dickinson, "Hope is a Thing With Feathers," *The Complete Poems of Emily Dickinson*, ed. Thomas H. Johnson (Boston: Little, Brown & Company, 1960), p. 116. Reprinted by permission of the publisher.

The question read: "Hope is made to be like (a) a bird, (b) the soul, (c) an Indian or (d) I don't know." Nationally, about half the 9-year-olds correctly selected "a bird"; almost 9 out of 10 17-year-olds made the correct choice while 3 out of 4 adults did.

The type of exercise that people generally did least well on concerned giving reasons for the inferences they drew after reading a work. For instance, people at ages 17 and adult were given the following:

> Here is a poem about which you are going to be asked two questions. I will read the poem aloud as you read it to yourself. When we have read the poem carefully, I will read you the first question and you are to fill in the oval beside the answer you think best. Then I will read the second question to you and you are to write your answer in the answer space.
>
> Sport*
>
> Hunters, hunters
> Follow the chase.
> I saw the Fox's eyes,
> Not in his face
> But on it, big with fright
> Haste, hunters, haste!

Say, hunters, say
Is it a noble sport?
As rats that bite,
Babies in cradles, so
Such rats and men
Take their delight.

*W.H. Davies, "Sport." Copyright 1963 by Jonathan Cape Limited. Reprinted from *The Complete Poems of W.H. Davies* by permission of Wesleyan University Press, p. 403.

		Age 17	Adult
A.	Which of the following do you think the poet is really doing?		
●	He is being angry at hunters.	50%	56%
○	He is cheering the hunters on.	6	6
○	He is feeling sorry for animals.	20	14
○	He is just describing hunters and animals.	21	20
○	I don't know.	3	3
	No response	††	1
B.	What are your reasons for choosing your answer to question A?		

†Plus equals rounded percents less than one.

While half of the people recognized anger as the major emotion conveyed by the poet, only 1 out of 10 was able to explain his/her choice with what English teachers judged to be a well-written essay. Another 3 out of 10 were able to adequately explain their choice, but 6 of 10 wrote less than adequate responses.

In general, imaginative language seems to create problems for readers. People who create art out of words demand more of language than most people do; they attend more carefully to

sounds and rhythms; they play with meanings and double meanings, flirt with ambiguity, honor suggestiveness as highly as specificity. A reader who does not understand this may well miss much that is happening in a work. Expecting the work's language to operate only as language does in ordinary discourse, he will be handicapped by a literalism that preempts both insight and delight. Apparently, many readers have this problem.

Responding to Literature

People respond in many ways to the same work, but when the total thrust of their comments is considered, most people seem most concerned with discovering what a work means. At the younger ages, this may involve simply retelling the work in the respondent's own words.

For example, 13-year-olds, 17-year-olds and adults were given the poem, "The Closing of the Rodeo," and were asked to read it to themselves as it was being read to them.

The Closing of the Rodeo*

The lariat snaps; the cowboy rolls
His pack, and mounts and rides away.
Back to the land the cowboy goes.

Plumes of smoke from the factory sway
In the setting sun. The curtain falls
A train in the darkness pulls away.

Goodbye, says the rain on the iron roofs.
Goodbye, say the barber poles.
Dark drum the vanishing horses' hooves.

*William Jay Smith, "The Closing of the Rodeo," *Celebration at Dark* (New York: Farrar and Strauss). Reprinted by permission of the publisher.

After finishing the poem, people were asked a series of nonspecific questions (e.g., Is there anything you want to say about this poem ?) in hopes of eliciting the most open responses possible. As people talked, their remarks were recorded and later each

statement was analyzed to discover in what way the person was responding. At some time during the discussion of "The Closing of the Rodeo," about half of the 13-year-olds made a subjective reflection or mentioned personal involvement; half attempted to interpret the work or some aspect of the work; half evaluated the work. Two out of five repeated some part of the work, and one in five made a remark describing or analyzing the form of the work. At age 17, the responses were similar, while adults tended to discuss meaning more — but the differences were not great.

In addition, the three older age levels were given a series of works and asked to write a brief essay about the work. Instead of analyzing each statement, the essays were analyzed according to the general thrust of the composition taken as a whole. When this was done, it was discovered that at age 17 and adult the general thrust of people's remarks tended to be interpretive, while at age 13 essays tended to be divided between interpretation and retelling. Much of the retelling, however, might have been an attempt at arriving at the meaning of the work, particularly if the person happened to be a literal reader. At no age level did very many people analyze the work's form or spend much time in evaluation. The following table shows the distribution of essays written about four works.

Percentage of Essays in Each Category

Literary Work	Age Level	Category					
		I	II	III	IV	V	VI
"Space Travellers"—poem	13	9	3	29	9	33	11
"Half a Gift"—story	13	12	—	21	4	55	6
"Snake Dance"—story	17	9	1	56	5	25	4
"Into My Heart"—poem	17	3	1	86	1	1	3
"Snake Dance"—story	Adult	8	1	69	2	16	1
"Into My Heart"—poem	Adult	9	1	81	1	3	2

I = Engagement-Involvement
II = Perception (discussion of form)
III = Interpretation
IV = Evaluation
V = Retelling
VI = Unclassifiable

To determine how well people could describe their responses — as a possible indication of the depth of the response — all the essays and oral responses were judged on a four-point scale of quality. An adequate response had to use details from the work to support an assertion about it; a superior response had to demonstrate insight, command of detail and sophistication. One of 5 of the 9-year-olds received adequate or better rating for their responses to the story "Sam, Bangs, and Moonshine," by Evaline Ness, but only 1 of 10 adequately described their response to the doggerel "If Apples Were Pears" and 1 of 20 were rated adequate or better for the poem "Space Travellers," by James Britton; 3 of 20 of the 13-year-olds could explain their responses to "The Closing of the Rodeo" adequately or better, while almost 3 out of 10 17-year-olds and 4 out of 10 adults gave remarks that were scored at least adequate.

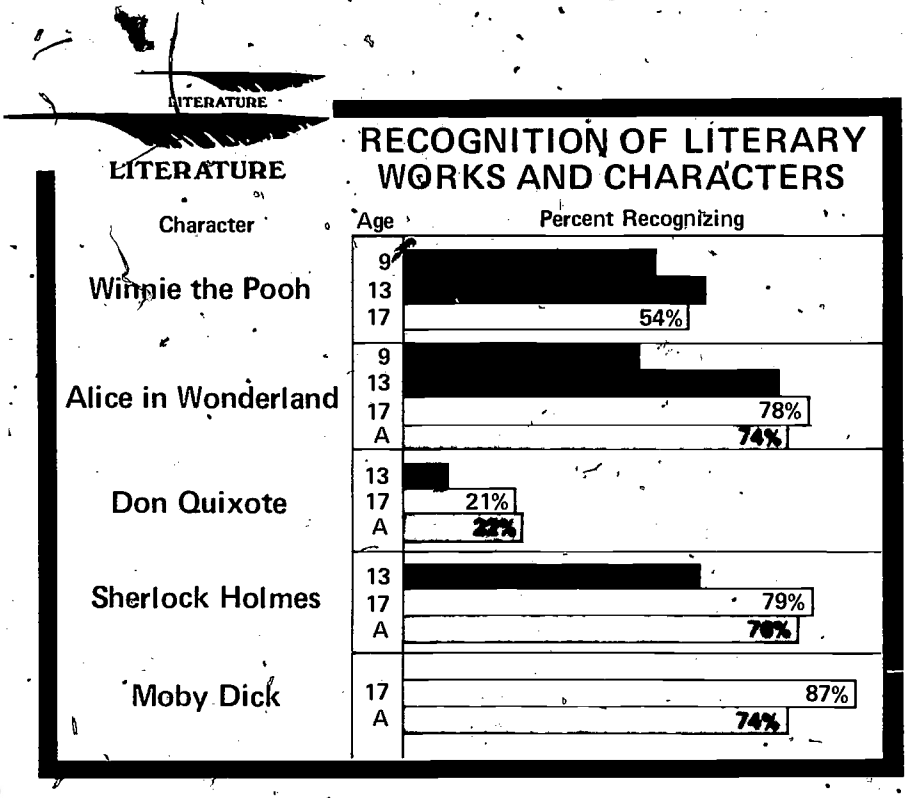
Representative of the responses at age 13 are the comments of one youth: "The free feeling, but I like the sentence, 'the curtain fall,' and I really think it's true, because there is so much of a division of the different lives that they give. . . .The cowboy, he rides on a horse, he's his own man, and he's not tied to anybody. He doesn't worry about society and what will people think if he does a certain thing." A 17-year-old responded: "It says the closing of the rodeo, but I think the author is thinking back when cowboys were king and tells kind of how he wishes he could be back there cause of the last verse, 'goodbye says the rain' and 'goodbye says the barber poles'. . . ."

In general, the percentage of acceptable responses was greater on the written responses than on the oral. One out of five of the essays by 13-year-olds on a poem was at least adequate, and one of four about a story was adequate or better. Students in the inner city did poorly on the poem but performed as well as all 13-year-olds in their essays on the story "Half a Gift" by Robert Zachs — a sensitive portrait of an impoverished inner city family. Their performance on this exercise would seem to support the view that children become more involved in materials they can relate to and that involvement can often compensate for deficiencies in writing and reading skills.

Recognizing Literary Works and Characters

In general, there was a steady increase from age to age in the percentage of people who recognized individual works and characters. For instance, almost half of the 9-year-olds recognized an illustration of the Mad Hatter's tea party from *Alice in Wonderland*; 7 out of 10 at age 13 and 8 out of 10 at age 17 made the identification.

Some figures, however, were not familiar to many people at any age. Only 1 of 5 adults and 17-year-olds recognized the illustration of Don Quixote; at age 13, 1 in 10 recognized the Don. On the other hand, a good many figures seemed relatively familiar especially for the older participants as shown in the following graph.



Above is a picture of two people who appear in another story.

This is a picture for what *story*?

Write your answer on the line provided.

Don Quixote, Ivanhoe

	Age 13	Age 17	Adult
Acceptable responses	8%	21%	22%
Unacceptable responses	14	16	18
I don't know.	78	63	59
No response	1	1	1

Group results varied more on some exercises in this area than on others, possibly indicating that the familiarity of characters and works varies more from group to group than some of the other factors investigated in the literature assessment. For instance, in an exercise dealing with a parody of Longfellow's "Village Blacksmith," both blacks and the Southeast region at age 13 did as well as the rest of the nation. Again at age 13, children in the inner city performed as well as children generally in correctly identifying the Mad Hatter's tea party. Although these are small examples, they may reflect changes in English curricula over the last few years. Seventh and eighth graders today are being exposed to materials that differ considerably from those used only a few years ago.

In general, people in the Central region performed best at the two lower age levels: nine-year-olds in this group were particularly good at describing Paul Bunyan, a traditionally midwestern folk hero. People in the Northeast tended to have slightly higher levels of success at the two older age levels than people in the Central and Western regions. Regardless of age, people in the Southeastern region typically did least well; however, relative to their usual performance, people in the Southeast did well in recognition of biblical figures at age 9 and 13 — although still below the levels of the nation as a whole.

At each age, females did slightly better overall than males, but the pattern was reversed on certain exercises. Generally, the girls did best on subjects that might be considered traditionally feminine while boys were superior in more traditionally masculine areas. Over all age levels, males performed better than females in exercises concerning masculine figures, such as Robin Hood, Paul Bunyan, Daniel Boone, Samson and John Henry, and were better at recognizing adventurous works such as *Moby Dick*, *Treasure Island* and *Gulliver's Travels*. Females outperformed males on poems, nursery rhymes and works such as *Charlotte's Web*, *Alice in Wonderland* and *Winnie the Pooh*. Relative to their usual performance, blacks and people in the inner city did well in recognizing heroic characters like Tom Sawyer, Achilles and John Henry but did quite poorly on works such as *Alice in Wonderland*, *The Wizard of Oz* or *Charlotte's Web*.

The message for curriculum planners seems quite clear: if material is properly tailored to the individual, results are much improved. Once an improvement was effected, it might carry over into areas where the group in question was traditionally disadvantaged.

Reading Habits

Almost all Americans reported that they read at least one type of literature. In addition, a majority of young Americans felt it is important to read and to study literature. At age 13, slightly more than 3 out of 4 students agree that it is important that literature be taught in school; among older students and adults the proportions were larger: 9 out of 10.

Among blacks, reading is not only seen as a valuable activity (98% of black adults feel literature should be taught), but certain types of literature are read in greater proportions than are read nationally. At age 9, larger percentages of blacks reported reading poetry; at age 13, considerably larger percentages of blacks read poetry and drama; and at age 17, more blacks read biographies and drama.

In the area of attitudes, the assessment asked questions concerning the value of teaching literature and the value of reading literature. A majority of people (about four out of five 17-year-olds and adults) reported that reading great literature had value for them, and some three out of five explained satisfactorily what the value was. They also felt that literature should be taught in every school.

When asked why it should be taught, most people responded with utilitarian reasons. A 17-year-old put it succinctly! "We need literature to go to college." A few, however, seemed in tune with deeper responses to literature. One 17-year-old wrote: "There is more lessons to be learned. . .like I read a great book that had a little theme at the end where a man himself enjoyed seeing others suffering and I found out about myself. And if you read a book openly, you become critical of yourself like I did. I said, 'Gee, am I really like that?' " Among those who reread books, a majority reported that they did so for enjoyment. Slightly more than half the teen-agers (13- and 17-year-olds alike)

reported titles of books they had reread, while almost two out of five adults reported such titles.

The inventory part of the assessment attempted to determine the kinds of literature Americans read. Eight categories were presented, and the vast majority of respondents reported that they read works in at least one. When asked to name titles of works they had read, percentages remained high: 86% at age 13, 87% at age 17 and 76% among adults. The percentages giving titles in each category are shown in the following.

Percent Giving Titles in Novel Categories

Type of Book or Long Story	Age 13	Age 17	Adult
Adult & young adult classics Representative titles named: *The Scarlet Letter, Moll Flanders, Lord Jim*	11%	18%	14%
Adult popular fiction Representative titles named: *Herzog, Black Boy, Lord of the Rings*	14%	56%	56%
Other adult fiction Representative titles named: *I, The Jury, Candy, Hondo*	3%	5%	8%
Young people's classics Representative titles named: *Black Beauty, Winnie the Pooh, Alice in Wonderland*	11%	4%	3%
Young people's general literature Representative titles named: *The Secret Staircase, Old Yeller, Johnny Tremain*	25%	11%	2%
Children's books Representative titles named: *Charlotte's Web, Stewart Little, Little Toot*	15%	2%	1%

Percent Giving Titles in Popular Reading

Type of Literature	Age 13	Age 17	Adult
Long stories or novels Representative titles named: *Moby Dick, The Hobbit, Invisible Man*	54%	69%	65%
Biographies or autobiographies Representative titles named: *Lust for Life, JFK, Malcolm X*	55%	52%	48%
Short stories Representative titles named: "A Perfect Day for Bananafish," "The Killers"	38%	36%	24%
Plays Representative titles named: *Hamlet, The Glass Menagerie, A Raisin in the Sun*	22%	33%	17%
Poems (epic or narrative) Representative titles named: *The Cremation of Sam McGee, The Ancient Mariner, The Odyssey*	21%	23%	15%
Poetry Representative titles named: "Jabberwocky," "Stopping by Woods on a Snowy Evening"	23%	24%	18%
Essays Representative titles named: *Do It, Steal This Book*	4%	15%	24%
Literary History or Criticism Representative titles named: *Ernest Hemingway: The Early Years, Science Fiction: What It's All About*	1%	5%	5%

Although larger proportions of blacks reported reading poetry and drama, in general, smaller proportions of blacks reported reading in each of the other categories. Among other groups,

girls read more than boys, particularly fiction and poetry. Males, however, indicate a greater interest in nonfiction, especially biography; among adult males, larger proportions gave adequate reasons why literature should be taught in school and suggested values to be gained from reading great literature. Among regions, clear-cut differences appeared only at the adult level, indicating that youths and children are interested in reading in about the same proportions throughout the nation. At the adult level, however, more people read in the Northeast and West, fewer in the Central and Southeast regions.

8

Music

Young Americans appear to be highly involved in American music; they know less about European music and very little about technical aspects of music. Almost every young American seeks out opportunities to listen to music regularly; most listen to rock music or country and western, but 1 young adult out of 10 prefers art music — symphonic, operatic or other kinds. For a nation of so-called spectators, Americans are actively involved in music to an amazing degree: 8 out of every 10 Americans enjoy singing, and among adults, 9 out of every 20 actually sing reasonably well — that is, they maintain pitch and rhythm. At the younger ages, 1 individual out of every 5 belongs to a singing group of some kind. In addition, about a quarter of the population play instruments; 2 out of 10 played for the assessment. Of those who performed, two thirds played reasonably well.

Young Americans are also highly conversant with American music: they had no difficulty recognizing piano renditions of indigenous American tunes like "This Land is Your Land" or "When the Saints Go Marching In." They are less knowledgeable about the technical or historical aspects of music: few knew that two eighth notes equal one quarter note; and Renaissance, Baroque and Classical music are simply part of an ill-defined pre-Romantic period for most Americans.

With such interest in music nationally, it is gratifying to discover that music and musical ability seem accessible to all, regardless of other factors: those groups that appear disadvantaged in so many educational areas were not as disadvantaged in music. For instance, southerners listen to more music, enjoy more kinds of music and sing more music than people in other regions. They were somewhat behind the nation in playing instruments and in joining instrumental groups. Blacks were much more favorably disposed toward music than their white counterparts. Blacks listen to music more often than whites, attend musical programs much more often and larger proportions of blacks participate in musical activities. Larger proportions of blacks than whites join vocal groups, although fewer blacks play instruments. People from rural communities tended to join singing groups more often than people from other communities. The other groups tended to fall into the patterns found through other assessment areas, but usually the differences were not so great. That is, girls seemed more interested and more involved in music than boys; people from better educated or wealthier families tended also to be more involved, particularly in playing instruments.

The areas in the music assessment in which the usually disadvantaged groups were once again at a disadvantage were those areas most closely connected with academic concerns: notation and terminology, instrumental and vocal media, music history and literature. In these areas, people in the Northeast and Central regions, whites, females and individuals from the affluent suburb and highest parental education groups were above national achievement levels, while people in the Southeast, males, blacks and individuals from rural and inner city communities were below the national achievement levels. It is almost as if those areas of music taught by the schools were available only to the educationally advantaged, while those areas picked up from records, tapes, radio, television, at dances, in jam sessions retain the fascination necessary for true involvement and enjoyment for all. Fortunately for many people, knowledge of notational systems or historical periods is not necessary for enjoyment: because music can be so many different things for so many

different people, every American finds something in it for himself or herself.

Objectives

Music is, first of all, a personal, aesthetic experience — in terms of composition, production or response. To some people it is the minimum of timbre and rhythm that gives a reason for dancing; to others it is the intricate balance of harmonic structure in polyphony. To still others it is a pleasing melody or a swelling crescendo of sound or simply the idle notes plucked off a banjo. One person may define music for himself in terms of rhythm, another in terms of melody or meter; another may respond to a given range of pitch or to all these aspects of music. It is not easy to assess such an experience and certainly not easy to set standards for it. For this reason, the music objectives are concerned primarily with knowledge, skill, recognition and taste.

Four of the goals are related to direct involvement in the musical experience, either performing or listening. The other two are concerned with attitude and knowledge, for although these are not aspects of music itself, they can enhance the appreciation of music and lead to further involvement. Thus the committees charged with discovering educational goals in music hoped Americans would:

1. perform a piece of music;
2. read standard musical notation;
3. listen to music with understanding;
4. be knowledgeable about some musical instruments, some of the terminology of music, methods of performance and forms, some of the standard literature of music and some aspects of the history of music;
5. know about the musical resources of the community and seek musical experiences by performing music; and
6. make judgments about music and value the personal worth of music.

Overall Results

The National Assessment of Educational Progress (NAEP) organized the information it gathered about musical achievement into five major areas: musical performance, music notation and terminology, instrumental and vocal media, music history and literature and attitudes toward music. In the area of performance, NAEP attempted to find what people performed and how well they performed; in the attitudes area, NAEP wanted to determine how people felt about music. The other three areas concerned skills typically taught in the classroom: the ability to use traditional notation and other graphic representations of music, the ability to discriminate and label the instruments and voices used in the performance of music and the ability to recognize important aspects of music history and literature. Achievement in these areas was thought to contribute toward a full participation in musical experience — a primary goal of music education.

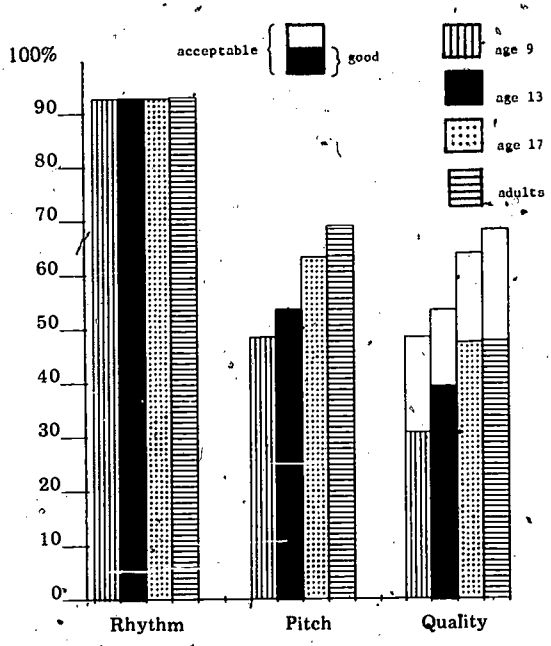
Musical Performance

A relatively large number of Americans were able to sing a familiar song such as "America" and improvise rhythmic or melodic patterns, while fewer could repeat unfamiliar musical material or provide harmony. Overall, females demonstrated better performance abilities than did males. They were especially better at singing. The performance abilities of blacks were about the same as for whites, although there were differences in particular categories. For instance, blacks were better at repeating or improvising rhythms, while whites at ages 9 and 13 seemed better at singing familiar songs. At the adult level, however, blacks did as well as or better than whites in almost all the familiar song, rhythm, melody and harmony tasks. People in the affluent suburbs also did well musically while those in the inner city performed less well. The region of the country a person lived in seemed to have little effect on performance ability; there was little difference across the nation in achievement. The greatest difference in performance abilities seemed connected with the educational level of the family: people from families with little

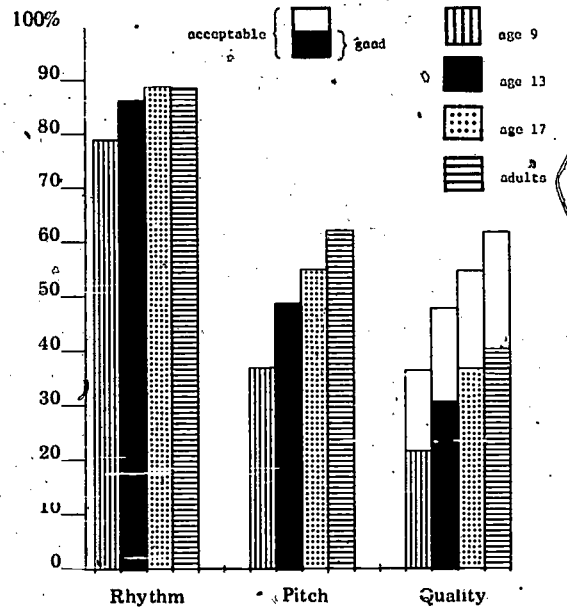
education performed exceptionally poorly; those from better educated families performed quite well.

One of the discoveries of NAEP was the degree of interest in singing among Americans. Almost every American either listens regularly to singing or sings himself. To measure singing abilities, several familiar songs were used, one of which was "America." The following graphs show the proportions of Americans at each age who could adequately sing "America" with and without accompaniment. The bars representing overall quality show two values: the entire bars represent the proportions of adequate singing; the shaded segments represent "good" responses – those that maintained correct pitch and rhythm. As can be seen, maintaining rhythm while singing was easy – for almost everyone; maintaining pitch was more difficult, although it seemed easier as people grew older.

Proportions Able to Sing "America" With Accompaniment

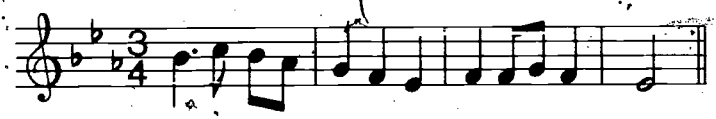


Proportions Able to Sing "America" Without Accompaniment



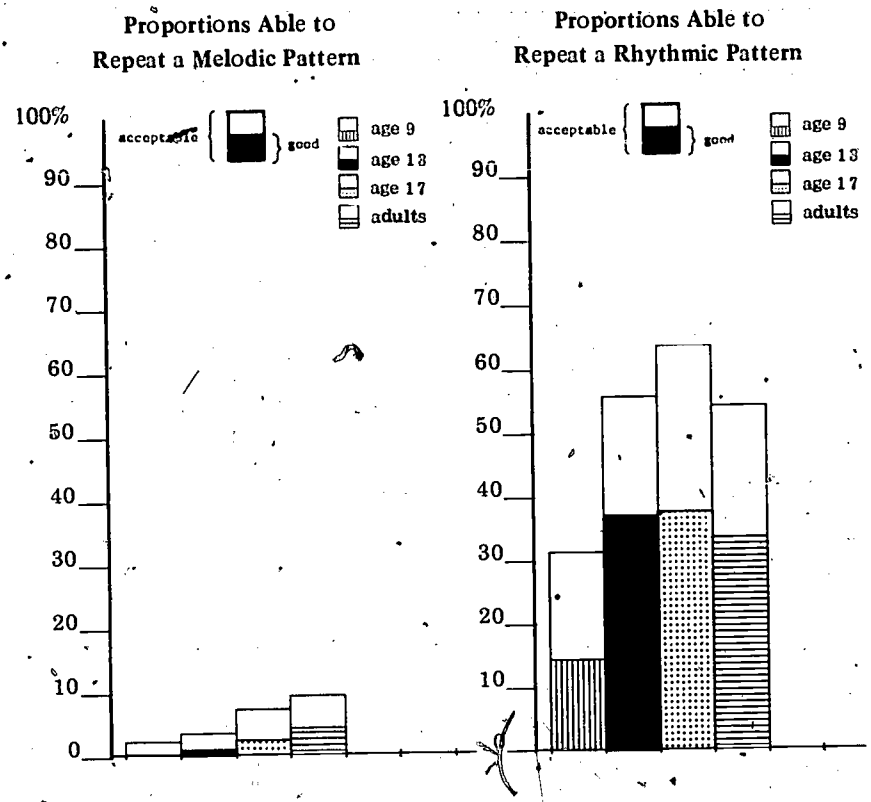
Everyone had considerably greater difficulty when faced with unfamiliar material. Fewer than 1 adult in 10 could repeat a melody after hearing it only twice; at age 9, the proportion was 2 out of 100. Surprisingly, people were slightly better at repeating harmony; but, as with the singing of familiar songs, rhythm was the easiest feature of music to capture.

The following line was the melody people were asked to repeat after listening to it twice:



The rhythmic pattern was also played twice.

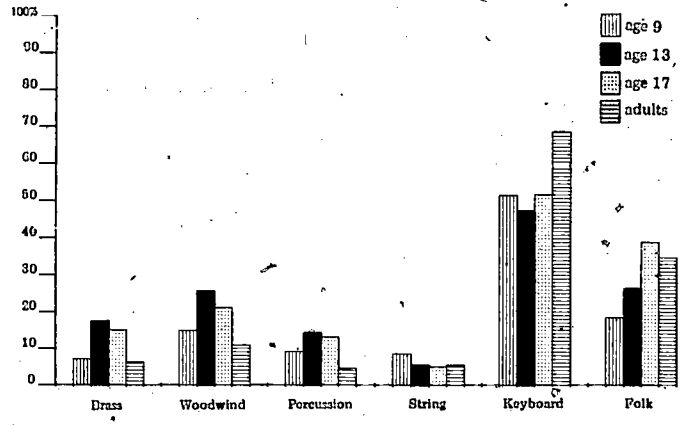
With both lines, respondents did not see the notation but were asked to repeat the phrases from memory. The following graphs show the proportions that could repeat the melody and those that could repeat the rhythm.



People at all four age levels also reported if they played a musical instrument; about a quarter of the population said they did. The age when the greatest number played was 13; 7 of 20 at that age said they played some kind of musical instrument. The most popular type of instruments were keyboard instruments like the piano and organ; the next most popular were folk instruments. These included guitar, ukulele, banjo, mandolin,

lute and many others. They were most popular at age 17, and more boys than girls acknowledged playing them. Among orchestral instruments, boys tended to play brass and percussion, while girls more often played woodwinds and strings. The following graph illustrates the relative popularity of the various types of musical instruments among instrumentalists at each age. Since many instrumentalists play more than one instrument, the graph reflects the fact: the bars for each age add up to more than 100%.

Popularity of Musical Instruments Among Instrumentalists



While about a quarter of the population professed to play, only 1 or 2 out of 10 played for the assessment. Many chose to play easy pieces; about two thirds of those who performed at each age gave an adequate performance. A larger proportion agreed to sing for the assessment. Almost all chose very simple selections; about 1 in 4 of all 17-year-olds and 9 in 20 adults sang reasonably well.

Music Notation and Terminology

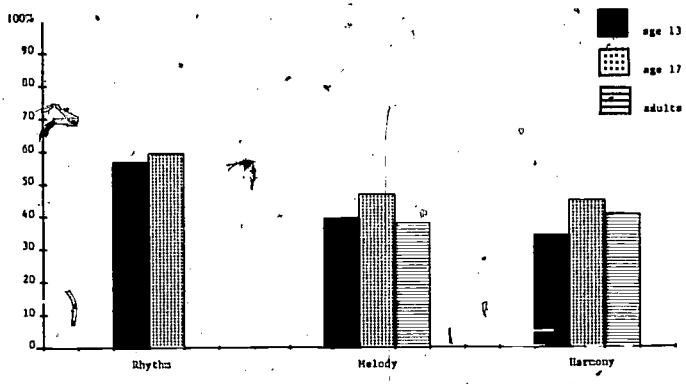
Most people have a very superficial knowledge of notation and terminology. Most people could discriminate between simple

terms like *loud* and *soft*, but they had difficulty with terms like *steps, skips, phrase, melody* and *harmony.* Many could identify such notation as clef signs, note names, sharps and flats: but few knew that two eighth notes equal one quarter note. Many could also follow the general contour of a score, but few could detect specific deviations in what they heard from what they read.

Most of the terminology exercises involved describing an actual piece of music. For example, individuals were played music with the second half markedly louder than the first and then were asked which element had changed: "The second half is *louder, softer, slower* or *exactly the same.*" This exercise was one of the few on which more than 9 out of 10 individuals succeeded.

Similar exercises were used to measure knowledge of such concepts as rhythm, melody and harmony. Americans might be able to define the concepts, but many could not discriminate among them in listening to music. The following graph shows the proportions that could discriminate among these basic musical concepts.

Proportions Able to Discriminate Basic Musical Concepts



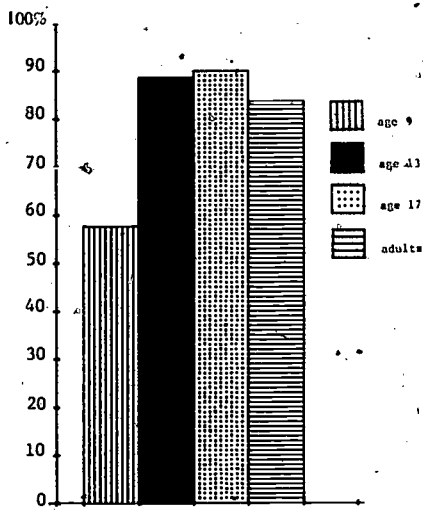
People were also given scores to follow while listening to music. In the easiest situation, they followed a single line notation; 4 out of 10 people at the upper three age levels fol-

lowed the general contour of the line, or actually read the music, well enough to indicate on the score where the music stopped playing. At the most difficult level, they followed a 12-part score from the beginning of Beethoven's *Symphony No. 7.* About 1 person in 10 throughout the nation followed the score well enough to indicate where the music stopped.

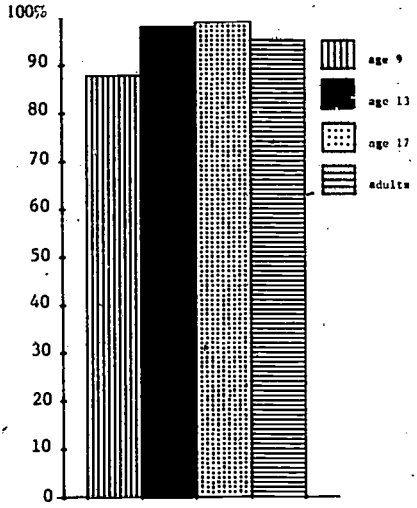
Instrumental and Vocal Media

The instrumental and vocal media area required discrimination among performing media and also required recognition of the instrument or voice that produces a given timbre. In the aural recognition tasks individuals heard a recording of short excerpts and were asked to identify from the sound sometimes a single instrument, sometimes the lead, the combination of instruments or sometimes voice types. Most people did so with ease; children apparently learn early the sounds and names of familiar instruments. The following graphs show the proportions identifying two solo instruments from sound alone.

Proportions Able to Identify a Trumpet Solo



Proportions Able to Identify a Piccolo Solo



The majority of Americans also had little difficulty identifying orchestral instruments from drawings or diagrams, and most Americans also understood how the sounds of particular instruments are produced.

The only category that was difficult for most people concerned voice: few people could identify voice types — soprano, alto, tenor, bass — from their sound alone. Since few Americans could name their own voice types either, the low levels of success on exercises concerned with voice probably had more to do with the lack of familiarity with the terms themselves than with an inability to discriminate between types.

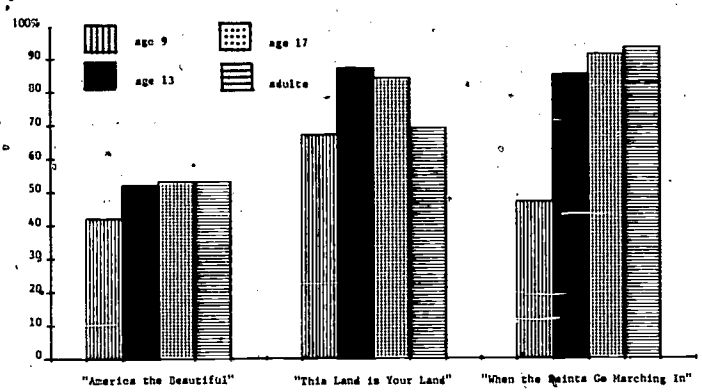
Music History and Literature

In measuring knowledge of music history and literature, the assessment included not only traditional European art music but also modern popular music, folk music, music of earlier periods and electronic music. In general, people did not recognize excerpts from compositions in the standard repertoire like Beethoven's *Fifth Symphony* or Handel's "Hallelujah Chorus." Moreover, it appears that most individuals do not command enough knowledge of music history to recognize periods of European art music.

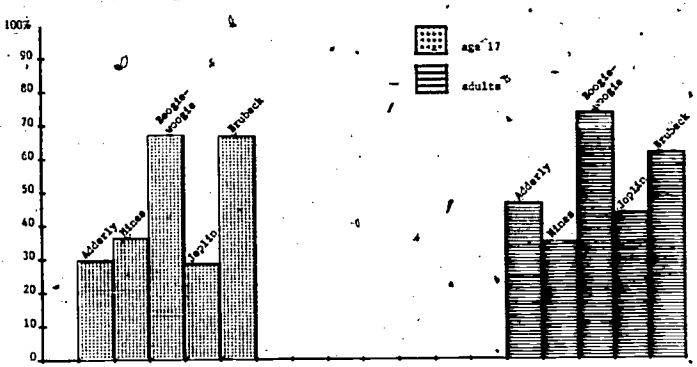
Nevertheless, individuals were generally able to recognize style similarities and differences if they were not required to label the style. In addition, many individuals were able to recognize and label jazz styles. In fact, Americans seemed to know American music of all kinds – jazz, blues, Sousa marches, traditional songs – better than they know European art music.

For instance, although as few as 5% (at age 13) recognized the "Hallelujah Chorus" from Handel's *Messiah*, at no age did the proportions fall that low in identifying familiar American songs. The following graphs indicate the proportions at each age that identified three traditional songs, and the proportions that identified particular jazz styles.

Proportions Able to Identify Familiar Songs



Proportions Able to Identify Jazz Styles



This exercise was administered to groups, and the directions were read aloud. Excerpts from the following selections were played.

A. Julian Adderly, "You Got It," Cannonball Adderly Quartet

B. Earl Hines, composer and performer, "My Monday Date"

C. J. Dapogny, improvised boogie-woogie

D. Scott Joplin, "Maple Leaf Rag," J. Dapogny, pianist

E. Dave Brubeck, "Unisphere," the Dave Brubeck Quartet

Listen to the recordings of five jazz musical selections. As you listen to each selection, fill in the oval beside the jazz style of that selection. If you do not know the answer, fill in the oval beside "I don't know."

A. What is the jazz style of selection 1?

- ○ Ragtime
- ○ Boogie-woogie
- ○ Chicago school (early 1930s)
- ● Modern
- ○ I don't know.

B. What is the jazz style of selection 2?

- ○ Ragtime
- ○ Boogie-woogie
- ● Chicago school (early 1930s)
- ○ Modern
- ○ I don't know.

C. What is the jazz style of selection 3?

- ○ Ragtime
- ● Boogie-woogie
- ○ Chicago school (early 1930s)
- ○ Modern
- ○ I don't know.

D. What is the jazz style of selection 4?

- ● Ragtime
- ○ Boogie-woogie
- ○ Chicago school (early 1930s)
- ○ Modern
- ○ I don't know.

E. What is the jazz style of selection 5?

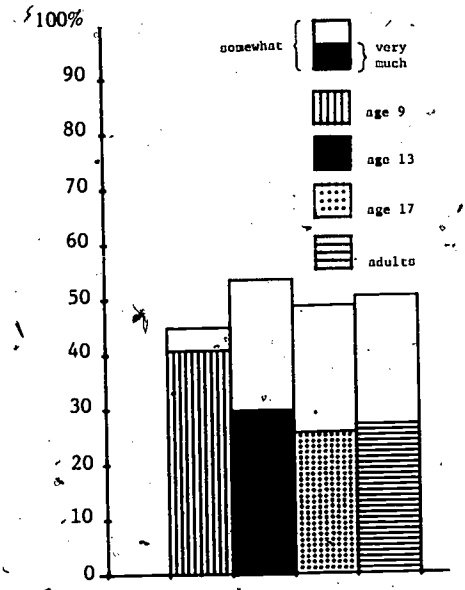
- ○ Ragtime
- ○ Boogie-woogie
- ○ Chicago school (early 1930s)
- ● Modern
- ○ I don't know.

Attitudes

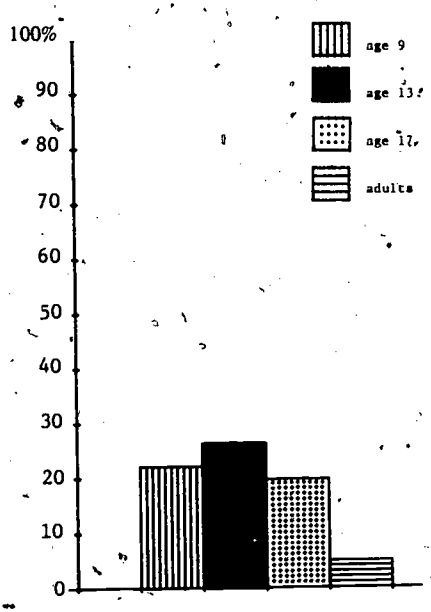
Almost all Americans strongly like music; many like to play instruments; many more would like to learn to play an instrument. Almost all like to listen to music and actively seek out opportunities to do so.

About 3 of 10 individuals reported that they enjoyed singing very much, while 5 of 10 more said they enjoyed singing at least somewhat. Generally, individuals reported singing the same kinds of music they liked to listen to: rock music was the most popular with the younger ages; with adults, rock was joined by country and western, art and religious music. Folk music, however, was listed by many as a type they liked to sing, while fewer declared that they liked to listen to it. The following graphs illustrate the proportions at each age who liked to sing and the proportions who actually belonged to a singing group.

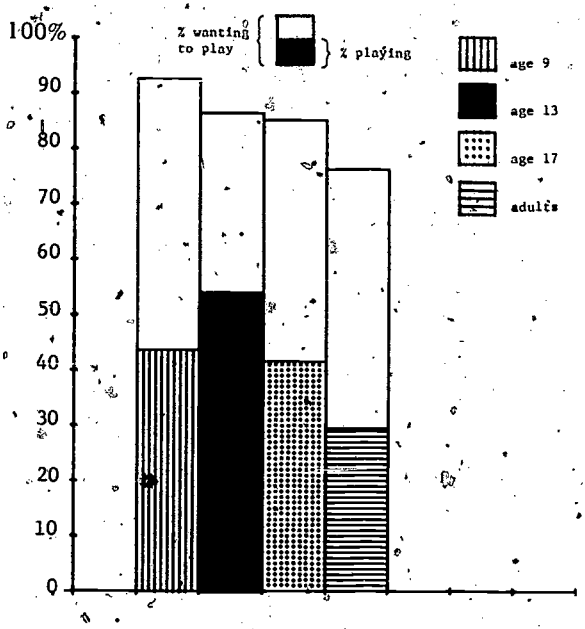
Proportions of Individuals Who Like to Sing



Proportions of Individuals Belonging to a Singing Group



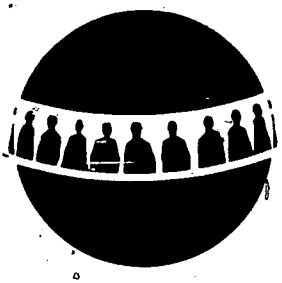
Proportions of Individuals Who Play Instruments or Would Like to Learn to Play



More people claimed they enjoyed playing an instrument than admitted to playing when they were asked to actually perform. About 4 of 10 at each age also reported that though they did not play, they would like to learn. Although most individuals preferred singing with a group, instrumentalists enjoyed playing alone as often as with a group. As with listening and singing, most instrumentalists enjoyed playing popular music, but some older individuals enjoyed playing art music.

9

Social Studies



The levels of achievement among educationally disadvantaged groups were often well below national levels in social studies, particularly in such areas as attitudes toward the rights of others. Generally, people from low-income communities, people from poorly educated families and people living in the Southeast were less willing than people from other groups to defend freedom of the press, freedom of religion, freedom of assembly and other freedoms guaranteed by the First Amendment to the Constitution. At the same time, people from well-educated families, from affluent suburbs and from the Northeast were more willing than Americans generally to defend or support these rights.

Other results of interest:

1. More young people can name famous black Americans than can name famous people from other minority groups. Thirteen out of 20 17-year-olds and 15 of 20 adults named three famous blacks; no more than 1 of 20 named two famous Oriental Americans.
2. About half the 17-year-olds and young adults understood the effects of big business on foreign nations, and half understood the meaning of the term monopoly.
3. One fourth of the 13-year-olds and 7 of 20 17-year-olds understood a map and accompanying table.

4. Seventeen of 20 17-year-olds thought teen-agers should help plan the course offerings in their schools; 12 of 20 adults and 13 of 20 13-year-olds thought so.
5. Males consistently knew more than females; paradoxically, females exhibited better knowledge-gathering skills.
6. Less than one half of America's 17-year-olds and young adults understood how to use all parts of a simple ballot.

Objectives

Social studies is an area of the school curriculum that seeks to communicate about man in society. The area includes history, political science, economics, geography, sociology, psychology, anthropology and philosophy as well as influences of literature, art, music, religion and science. In actual school classrooms, however, the subject matter is frequently restricted. In some instances, social studies classes integrate or combine two or more subjects with or without an emphasis on contemporary problems; but often in grades 5 through 12, social studies tends to be simply a history, geography, government or economics course with materials adapted to the appropriate grade level.

Given such a wide range of subject matter and variety of teaching practices, the groups charged with compiling national objectives for social studies correspondingly arrived at general goals for education in the area. They hoped that young Americans would:

1. have curiosity about human affairs,
2. use analytic-scientific procedures effectively,
3. be sensitive to creative-intuitive methods of explaining the human condition,
4. have knowledge relevant to the major ideas and concerns of of social scientists and
5. have a reasoned commitment to the values that sustain a free society.

Overall Results

To assess the degree to which young Americans were attaining these goals, National Assessment measured three major areas of achievement: the skills people need to deal with the broad field of social studies, the knowledge covered by four subjects within the field and the attitudes people hold toward two goals of studies in the field.

Skills

Skills were divided into two categories: the skills necessary to obtain information and the skills necessary to interpret information. Some of the questions the assessment hoped to provide answers for included: are young Americans able to raise questions and seek answers related to a variety of issues? can they identify sources most suitable to solve a particular problem or to find particular information, and can they use standard reference sources and aids to locate information? do they use basic problem-solving techniques of the social sciences? can they interpret maps, graphs and tables effectively? are they able to use nontraditional sources of information to draw conclusions?

Usually, more than half the individuals at each age possessed the skill required to perform the tasks asked for, and frequently 8

or 9 out of 10 successfully completed a task. The single category that gave the most trouble was reading maps, graphs and tables: well over half the people did not possess these skills; and at age 13, almost three fourths of the individuals did not read the maps or graphs well. Lower-income groups and people from less-educated families tended to be more familiar with nontraditional sources of information than they were with academic and literary sources.

Seventeen-year-olds generally seemed to possess the most polished skills, but adults and 13-year-olds usually were not far behind.

Knowledge

Over all the ages, 17-year-olds seemed to possess the most knowledge of social studies subjects, with adults only slightly behind. Thirteen-year-olds were well behind the older ages, and 9-year-olds were well behind the 13-year-olds.

Age 9. Economics – Although more than four of five 9-year-olds had a rudimentary understanding of such concrete matters as sales tax and credit buying, less than half understood more theoretical issues like the relationship between prices and wages.

Geography – Anywhere from 40% to 80% of 9-year-olds could locate major landmarks like rivers, lakes, cities and states, especially if they were nearby; yet, only 1 9-year-old in 4 knew that Columbus sailed west in search of new water routes to the East.

History – Four 9-year-olds out of 10 knew that England was the country that had the greatest influence on the United States and that the American Revolution was fought for independence from English rule.

Political Science – Approximately three fourths of the 9-year-olds knew that the judge is responsible for a fair trial.

Age 13. Economics – Less than one fourth of the 13-year-olds knew the purpose of the Common Market. One of two knew that the organization of industry in the U.S.S.R. is based on government ownership and control.

History – Less than half of the 13-year-olds could answer questions about the American Revolution.

Political Science – One third of the 13-year-olds knew that the Supreme Court had the power to declare an act of Congress unconstitutional; less than one of five knew that presidential candidates are nominated at national conventions.

Age 17. Economics – One of two 17-year-olds knew the meaning of the term monopoly or knew ways in which big business can affect the internal affairs of foreign nations.

Geography – Less than one fifth of the 17-year-olds knew some of the factors that determine whether a society has a low birth and death rate.

Political Science – About one half the 17-year-olds knew the basis of the Supreme Court decision forbidding prayer in school; three fourths knew the Supreme Court could declare an act of Congress unconstitutional.

Attitudes

Two areas of attitudes were measured: attitudes toward individual rights guaranteed by the First Amendment to the Constitution and attitudes toward the worth of the individual. In the tasks concerned with measuring attitudes toward First Amendment rights, individuals made value judgments about situations in which freedoms of speech, press, religion, petition and assembly were involved. Since the tasks were geared to measure attitudes and not knowledge about the rights, the questions purposefully asked whether individuals should be allowed to do certain things, not whether in fact they can by law do them. The questions centering on the worth of the individual dealt with attitudes toward participation in school and community, sensitivity to the needs and feelings of others, respect for the views of others and belief in the rule of law.

In general, 17-year-olds were slightly more likely than adults to defend First Amendment rights, but the two age levels were similar in their attitudes toward the value of the individual; 13-year-olds generally were less generous in their desire to grant others rights or in their concern about the feelings and well-being of others.

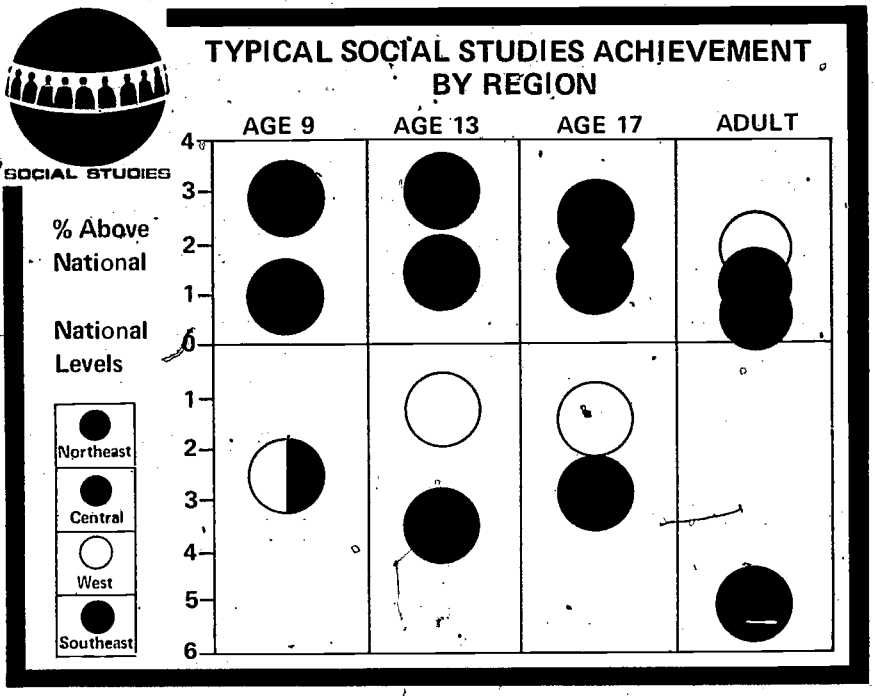
Attitudes about poverty and a commitment to do something about it were low at all ages. While most people could give one reason why people in poor neighborhoods do not move, only 1 17-year-old in 4 gave three reasons; 2 adults and 13-year-olds out of 10 gave that many reasons. Four of 10 adults and 17-year-olds showed a commitment to removing poverty and suggested two ways to do so; at age 13, the figure was 3 out of 10.

About a third of the 17-year-olds and adults and three of five 13-year-olds denied or did not unreservedly support the right of a newspaper to criticize elected public officials. Less than half of the older two age levels supported rights of the individual to criticize: on the question of picketing a rock festival or a police station, 7 in 20 at age 17 and 8 in 20 adults felt that people should be allowed to picket both; 6 in 20 at both age levels felt people should not be allowed to picket either one.

Group Results

Region

Throughout the social studies assessment, people from the Southeast showed lower levels of achievement than people elsewhere. School-age individuals from the West were also below national levels although not so far below as southerners.



Although fewer people in the Southeast generally possessed social studies skills, the typical difference from national levels was not very great. At age 9, southerners had most difficulty in interpreting information. Fewer southerners also possessed knowledge of social studies subject matter; the difference again was not great, but the disadvantage tended to increase with age.

Despite their general disadvantage, 9-year-olds in the Southeast were better than 9-year-olds elsewhere at identifying southern geographical features. At age 13, southerners did better work on history tasks than on geography, although they were below national levels in both categories. Thirteen-year-olds were particularly poor in knowledge of current affairs, including such issues as evaluation of politicians, problems of large cities and effects of highway construction.

School-age westerners also knew less about social studies than Americans generally; their disadvantage was less than that of people in the Southeast. Among adults in the West, achievement was slightly above the national level. At age 13, westerners did most poorly on economics and geography. Western 13-year-olds were above the national level, however, in knowledge of the contributions of American Indians to the nation's history and culture; at age 17, more people in the West than elsewhere named famous American Indians and famous Spanish-speaking Americans.

Fewer southerners than Americans generally held attitudes thought necessary to a democratic society. The discrepancy was especially great among adults. Southerners at all ages were especially unwilling to grant others the rights guaranteed by the First Amendment; they were more willing to consider personal worth, but they were especially unwilling to support the right of an atheist to hold public office. At ages 13 and 17, however, more people in the Southeast than elsewhere showed concern for public property and belief in the rule of law.

At ages 13 and 17, people in the Northeast did especially well in support of First Amendment rights and also in support of the religious freedom of elected officials. At age 17, however, people in the Northeast were well below the national level in attitudes concerning the citizen's responsibility to uphold the rule of law.

Sex

Males and females possessed about the same level of skills in social studies, with girls having a slight edge during the school years and men having the edge afterward. At age 13, boys were considerably less adept than girls in library skills such as using a

book index or a card catalog. At age 17 and adult, males were better at reading and interpreting graphs, maps and tables. For instance, on the following exercise, 9 out of 20 men read the map correctly; 5 out of 20 women did.

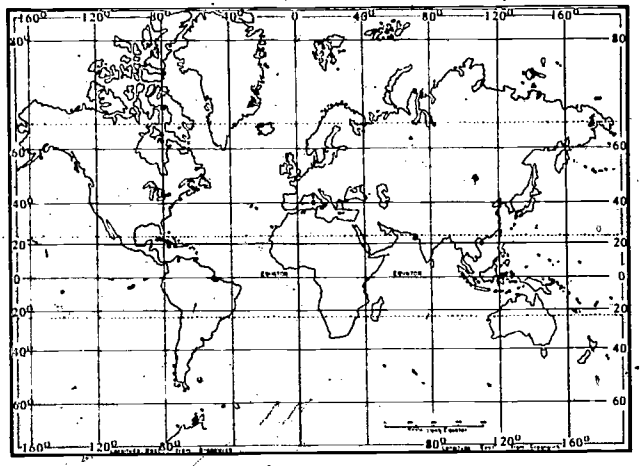
The table below gives the latitude and longitude of five places.

You may use the map on the opposite page to answer the question below the table.

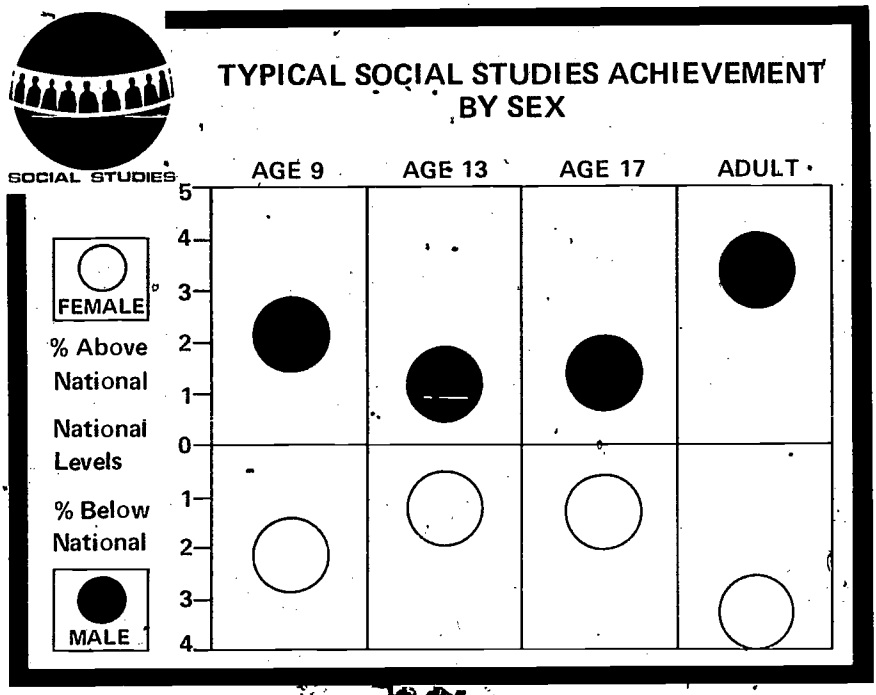
Place	Latitude	Longitude
A	2° N	65° W
B	46° S	171° E
C	42° N	83° W
D	48° N	14° E
E	30° S	31° E

Which one of the five places is located in or near the Pacific Ocean?

- ○ A
- ● B
- ○ C
- ○ D
- ○ E
- ○ I don't know.



When it came to knowledge of social studies subject matter, however, males were better at every age, as shown in the following graph.



At ages 13 and 17, boys were well above girls in knowledge of geography. For instance, at age 17, almost twice as many males as females answered the question posed in the following exercise.

The table below gives the latitude and longitude of five places which are assumed to be at the same altitude. Use the information given in the table to answer the question below it.

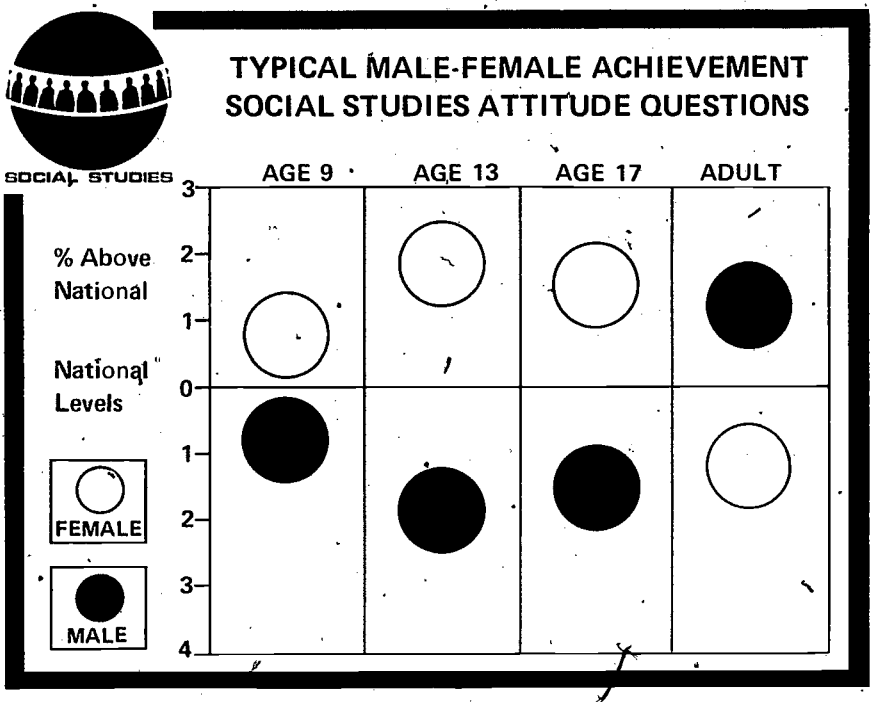
Place	Latitude	Longitude
A	2° N	65° W
B	46° S	171° E
C	42° N	83° W
D	48° N	14° E
E	30° S	31° E

Which one of the five places probably has the WARMEST climate?

	Age 13			Age 17			Adult		
	M*	F*	N*	M	F	N	M	F	N
● A	3%	-3%	30%	11%	-11%	34%	8%	-8%	22%
○ B									
○ C									
○ D									
○ E									
○ I don't know.									

**M represents the male group; F, female; N, national.*

Females seemed generally to have slightly better attitudes than males throughout the school years, but among adults, males were slightly better as can be seen in the following graph.



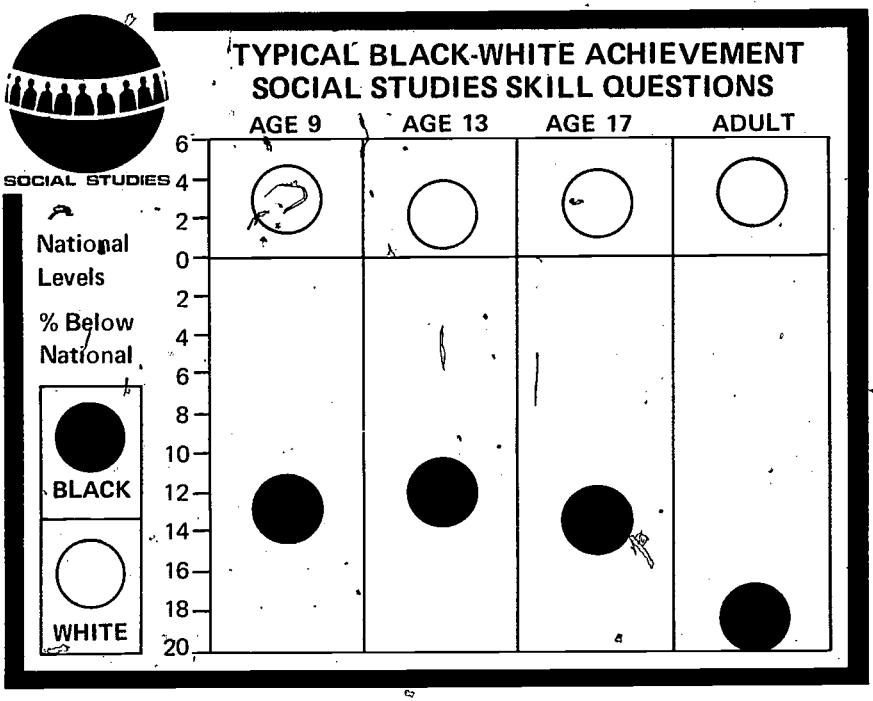
At all ages, females seemed to have a greater commitment to social participation and a strong positive self-image. Males, on the other hand, had a stronger commitment than females to First Amendment rights such as freedom of religion, press and speech and the right to picket.

Color

Blacks appeared to have serious problems in social studies. They showed disadvantages in skills, knowledges and attitudes, and generally the disadvantage increased with age, as illustrated by the following graph.

At age 9, although still below national levels, blacks were better acquainted with nonacademic sources of information, such as television and newspapers, than they were with more academic sources. They did least well at age 9 in geography. At age 17, blacks were particularly poor in map and graph-reading skills and in using reference materials. Seventeen-year-olds did their best work in gathering information from nontraditional sources. For instance, black 17-year-olds did as well as 17-year-olds generally in response to Diego Rivera's painting, *Mother and Child,* which shows a Mexican mother sitting on a mat in a bare room holding her two children. Students were asked to tell as much as they could about the family.

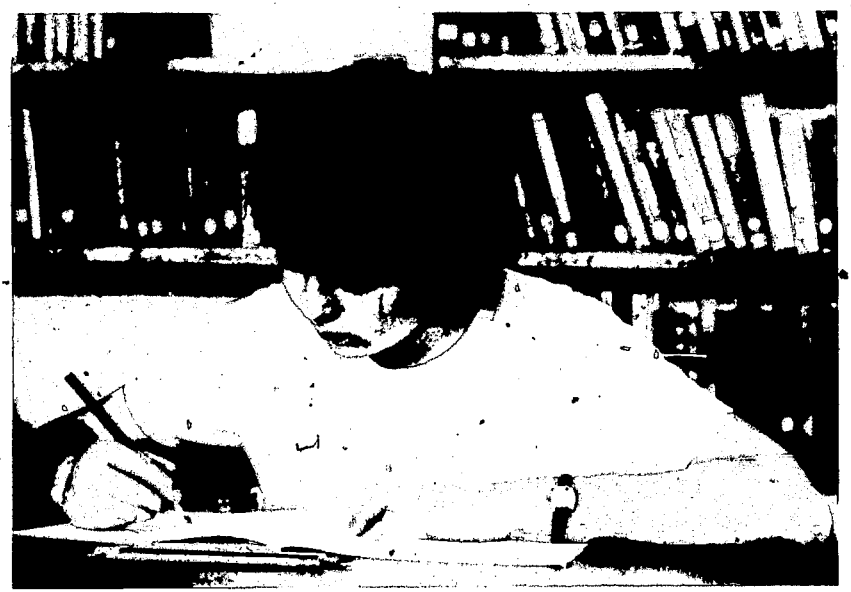
Blacks seemed to possess greater knowledge than other Americans about the contribution of blacks to the nation's history and culture. At school ages, blacks knew more than whites about



such contributions; on this question, blacks at age 17 were 31 percentage points above their typical performance levels.

At age 13, geography and political science seemed the most difficult subjects for blacks. At age 17 and adult, blacks were at an especial disadvantage in knowledge of the use of a ballot and knowledge of the political process.

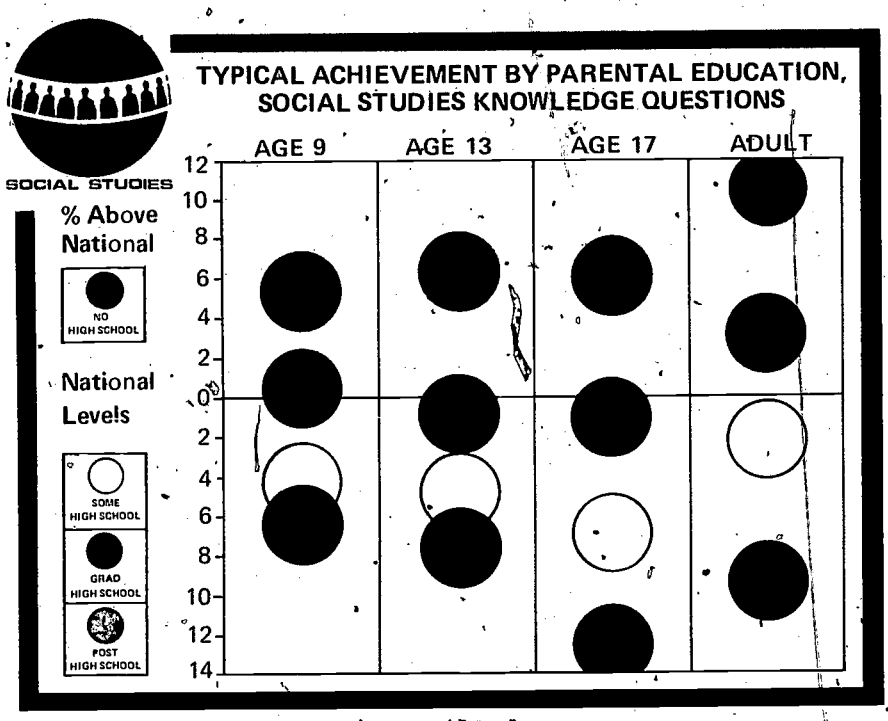
Attitudes of young blacks generally were below those of other young Americans; but at age 17, the attitudes were roughly the same on such ideas as defending the right to picket a police station (although the proportion of blacks that would allow picketing a rock music festival was well below the national proportion), allowing the community to control who lives in it and suggesting ways of removing poverty. Generally, the attitudes of blacks were closest to attitudes held by other Americans in areas concerning personal worth, including commitment to open housing, removing poverty and allowing teen-agers to plan their own curricula; about 20% of black 17-year-olds felt that race should not be a factor in hiring for jobs.



Parental Education

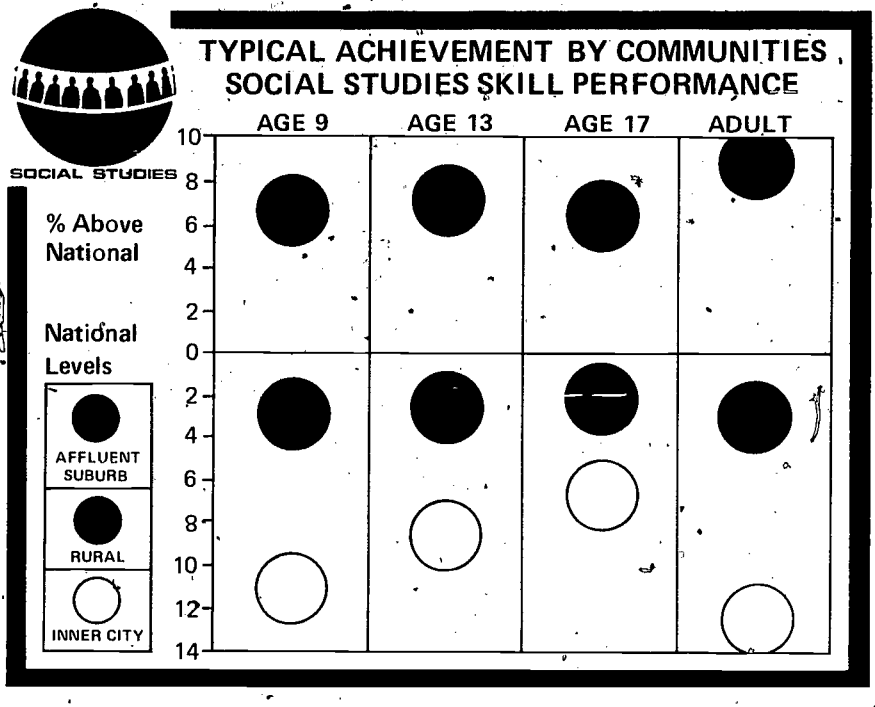
In all areas of social studies, people whose parents had not attended high school showed low levels of achievement, while people from more-educated families showed higher levels. This was true in terms of skills shown, knowledge obtained and attitudes held. The difference between the two extreme groups was often large as illustrated by the following graph.

The implications for the nation, as well as the nation's schools, are particularly distressing when the disparity in attitudes is examined. At each age, people from poorly educated families were considerably less willing to defend or support the rights and freedoms protected by the First Amendment; among young adults, in not a single exercise did the attitudes reach even the national level. Adults from well-educated families, in contrast, were considerably more willing than Americans generally to defend these rights.



Size and Type of Community

People in two types of communities stood out in typical performances in social studies. People in the low-income city group had considerably more difficulty in every area of social studies than did people in other types of communities, while people in the affluent suburb group showed somewhat greater abilities than Americans generally. People from lower-income city neighborhoods showed a particularly large disadvantage in skills at age 9; the disadvantage was less after more years of schooling until adulthood when whatever skills that had been acquired during the school years seemed to be lost. The graph following, of relative skills, illustrates the typical range and performance levels for people from each size and type of community throughout the social studies assessment.



At age 9, inner city children did unusually poorly on exercises involving familiarity with information sources to which the poor generally do not have access: books, dictionaries, encyclopedias, maps, globes. Among the exercises on which 9-year-olds in this group performed best were three involving more popularized information sources: radio, television, newspapers. At age 13, inner city children were particularly poor at reading and interpreting graphs and maps.

At age 17 and adult, people in the inner city group were worst informed about the political and electoral processes. They had particular difficulty in filling out a simple ballot and were not well informed about how presidential candidates were nominated or how to find information about a political candidate in order to make an evaluation of him.

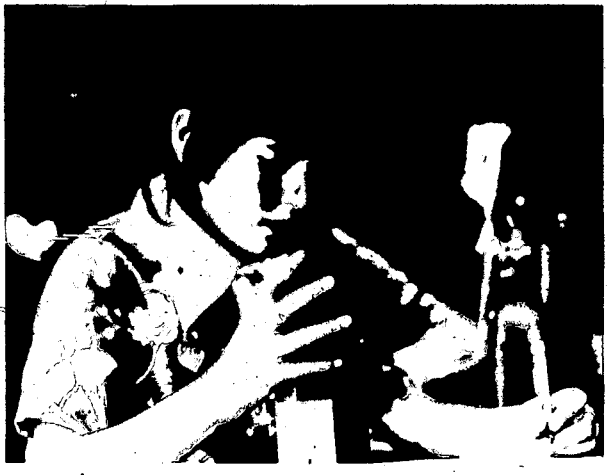
People in the affluent suburb group were much more likely to hold attitudes thought beneficial to a democratic society than people from other types of communities; they were particularly strong in defending rights guaranteed by the First Amendment. People from inner city and rural groups consistently held attitudes below national levels; for the most part, people in these two groups were less interested than people generally in defending First Amendment rights.

10

The Usefulness of National Assessment

The use of National Assessment (NAEP) techniques and data is growing daily. Many professional organizations in the measurement and education fields have studied the pioneering work the project has done in the objectives-referenced assessment area and have emerged with endorsement and suggested refinements. Curriculum builders and textbook publishers have examined the findings with an eye toward curriculum reform. Departments of education in the various states have been especially active in the use of the National Assessment model, its data and its exercises. NAEP has provided consulting services, technical assistance, assessment materials and/or data to 28 states interested in developing their own state education evaluation programs. The services the project provides range from exploratory and planning sessions with state education officials, governors and legislators to providing special materials for state use.

In addition to assistance to individual state education agencies, National Assessment annually sponsors a series of workshops on assessment methods which offer state officials an overview of the techniques and materials of large-scale assessment pioneered by NAEP. The workshops also afford state officials the opportunity to share experiences in this relatively new field.



To help states develop greater expertise, National Assessment has assisted six states in forming a new organization – the National Council for the Advancement of Educational Assessment – which will explore mutual assessment problems on a continuing basis. Charter members of the new group include representatives from California, Florida, New Jersey, New York, Pennsylvania and Texas.

Some states need no more than technical assistance with the methods of large-scale assessment. Others find that the full range of materials, data and services of the project can be economically adapted to fit their needs.

Minnesota is an example of a state that found it beneficial to adapt NAEP materials to its statewide evaluation and planning needs. In a study conducted in the spring of 1973, the state administered 100 reading exercises to 4,600 17-year-olds in the state. Twenty-six of these were NAEP exercises. Comparisons on these 26 exercises show that Minnesota 17-year-olds are better readers than their counterparts in the rest of the country. These results are only the beginning of a 10-year state assessment program that will measure achievement of three age levels in 10 learning areas. Materials used in these surveys will again include NAEP exercises.

Connecticut, following its first statewide assessment in reading, was able to make direct comparisons between state and national levels of performance. Connecticut used this information to plan more effective use of state education resources. One outcome of that evaluation and planning effort was a new stress on urban reading programs. Connecticut also used National Assessment exercises in a statewide science assessment in the fall of 1974.

The Maine Assessment of Educational Progress was conducted with NAEP materials from several learning areas. Analysis of reading results revealed that Franco-American students in Maine performed considerably below other children of the same age. Using the NAEP/MAEP data to substantiate this educational inequity, the Maine Public Broadcasting Network applied for Emergency School Aid Act (ESAA) funds to support a series of television programs designed to enrich the educational opportun-

ities of Franco-American youngsters. They received a $250,000 grant to conduct such a program for two years.

Iowa used National Assessment objectives and exercises in 1971 and 1972 to assess a statewide sample of students in three academic areas — science, reading and literature. The Iowa assessment was designed to find out how well state education objectives were being met. Iowa also uses NAEP materials in its continuing assessment service to local school districts. The state helps local school officials tailor assessment methods to local program evaluation needs.

States that have employed the National Assessment model, materials or data in their own educational evaluation programs include:

Colorado	Louisiana	Ohio
Connecticut	Maine	Oregon
Hawaii	Maryland	Virginia
Illinois	Massachusetts	Wisconsin
Iowa	Minnesota	Wyoming

States that have used the project's consulting services to explore or start planning development of evaluation programs include:

Alabama	Idaho	South Carolina
Arizona	Michigan	Texas
California	New Mexico	Virgin Islands
Georgia	North Carolina	West Virginia
Florida		

National Assessment data are receiving more attention from "noneducational groups" also. The League of Women Voters is deeply involved in the review of NAEP results as are such groups as the Council of Great City Schools, the American Bar Association (through its Special Committee on Youth Education for Citizenship), the Brookings Institution, Constitutional Rights Foundation, the Ford Foundation, and business and industry representatives.

But the potential benefits are yet to come. When second and subsequent rounds of assessment have been completed and analyzed, we will know for the first time whether young

Americans are improving their education in 10 basic learning areas. Professional educators will be able to use the "change data" in curriculum reform, instruction and methods revision and planning, while pointing the way for further studies of causation and implications. For the first time in the history of the United States, we will have solid information about educational progress or decline. With that we can more confidently make the decisions that guide the future of the educational experience which America relies upon so heavily for an effective participatory democracy.