

ED 326 578

TM 015 944

TITLE Using National Assessment of Educational Progress Data To Improve Student Achievement and Citizenship: A Discussion Guide for Teachers and Administrators.

INSTITUTION Office of Educational Research and Improvement (ED), Washington, DC.

PUB DATE 24 Sep 90

NOTE 15p.

PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS \*Academic Achievement; Administrator Guides; \*Administrator Role; \*Citizen Participation; Cultural Awareness; Educational Improvement; \*Educational Objectives; Elementary Secondary Education; \*Group Discussion; Guidelines; Minority Groups; National Competency Tests; Second Language Learning; \*Teacher Role

IDENTIFIERS \*National Assessment of Educational Progress

## ABSTRACT

National Assessment of Educational Progress (NAEP) data included in America's Challenge: Accelerating Academic Achievement, indicate the scope of the task of reaching the National Goal for Education on Student Achievement and Citizenship. This discussion guide focuses on the five corollary objectives of the National Goal, which are to: (1) increase the academic performance of elementary and secondary school students in every quartile and achieve a distribution of minority students in each level that more closely reflects the student population as a whole; (2) increase the percentage of students who demonstrate the ability to reason, solve problems, apply knowledge, and write and communicate effectively; (3) involve students in activities that promote and demonstrate good citizenship, community service, and personal responsibility; (4) increase the percentage of students who are competent in more than one language; and (5) make students knowledgeable about the diverse cultural heritage of the nation and the world community. Under each objective the guide provides brief comments about the NAEP data in America's Challenge and other research findings, some illustrative graphics, and several discussion questions designed to help teachers and administrators re-examine current practices in their schools in order to find ways to better educate their students. (TJH)

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# Using National Assessment of Educational Progress Data to Improve Student Achievement and Citizenship

## A Discussion Guide for Teachers and Administrators

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September 24, 1990

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Office of Educational Research and Improvement  
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**Pop Quiz**

1. Which gets more status?  
a. learning  
b. sports

2. Which gets more hours?  
a. reading  
b. TV

3. Which gets more attention?  
a. a new idea  
b. a new car

4. Which gets more promotion?  
a. studying  
b. shopping

5. Essay Questions:  
Why do you think there is an education problem in this country?

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## Using National Assessment of Educational Progress Data to Improve Student Achievement and Citizenship:

### *A Discussion Guide for Teachers and Administrators*

#### Introduction

In October 1957, the Russians put Sputnik into space, and Americans reacted by launching an effort to regain the lead in educational attainment. "Why can't Johnny read?" was the cry as educators set out to revitalize the American educational system.

What were the results? Children entering school in 1958 graduated from high school in 1970, the first year of the National Assessment of Educational Progress (NAEP) data included in *America's Challenge: Accelerating Academic Achievement*. Despite the attention devoted to education during those years, student achievement in that period was unimpressive.

Now, in 1990, the data suggest that student outcomes in American education are little better — and in some cases worse — than they were 20 years ago. *America's Challenge* summarizes NAEP data that indicate the scope of the task of reaching the National Goal for Education on student achievement and citizenship. The data reveal it to be a daunting aim: while student achievement over the past two decades has remained fairly constant, the National Goal calls for sizable improvement in the decade to come.

The lesson of recent history is that public concern, with its accompanying policy and resource initiatives, is not enough to effect major changes in education. To achieve major improvements in student achievement, there must be radical changes in the way Americans view education and in the way education takes place in this country. Above all, everyone involved in education in the United States — and that is practically everyone — must ask why educational achievement matters. Only if achievement makes a genuine difference in people's lives — and they see that it does — will parents, educators, the public, and most importantly the students themselves care enough to carry out the changes required to improve learning in America.

**National Goal:** *By the year 2000, American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter including English, mathematics, science, history, and geography; and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.*

**Objective 1:** *The academic performance of elementary and secondary students will increase significantly in every quartile, and the distribution of minority students in each level will more closely reflect the student population as a whole.*

**Objective 2:** *The percentage of students who demonstrate the ability to reason, solve problems, apply knowledge, and write and communicate effectively will increase substantially.*

**Objective 3:** *All students will be involved in activities that promote and demonstrate good citizenship, community service, and personal responsibility.*

**Objective 4:** *The percentage of students who are competent in more than one language will substantially increase.*

**Objective 5:** *All students will be knowledgeable about the diverse cultural heritage of this nation and about the world community.*

*The following pages are designed to serve as a discussion guide for teachers and administrators in the United States. The five corollary objectives of the National Goal for Education on Student Achievement and Citizenship serve as topic headings. Under each heading there are brief comments about the NAEP data in America's Challenge and other research findings, some illustrative graphics, and several discussion questions. Ideally, the questions will help teachers and administrators re-examine current practices in their schools to find ways to better educate their students.*

## Objective 1

*The academic performance of elementary and secondary students will increase significantly in every quartile, and the distribution of minority students in each level will more closely reflect the student population as a whole.*

## Discussion

This objective addresses two American ideals. First, from the academically gifted to those with less ability, the objective calls for all students to do their best. Second, in keeping with the tradition of viewing education as a means for providing equal opportunities for all Americans, particular attention is given to realizing equal educational attainment on the part of student minorities.

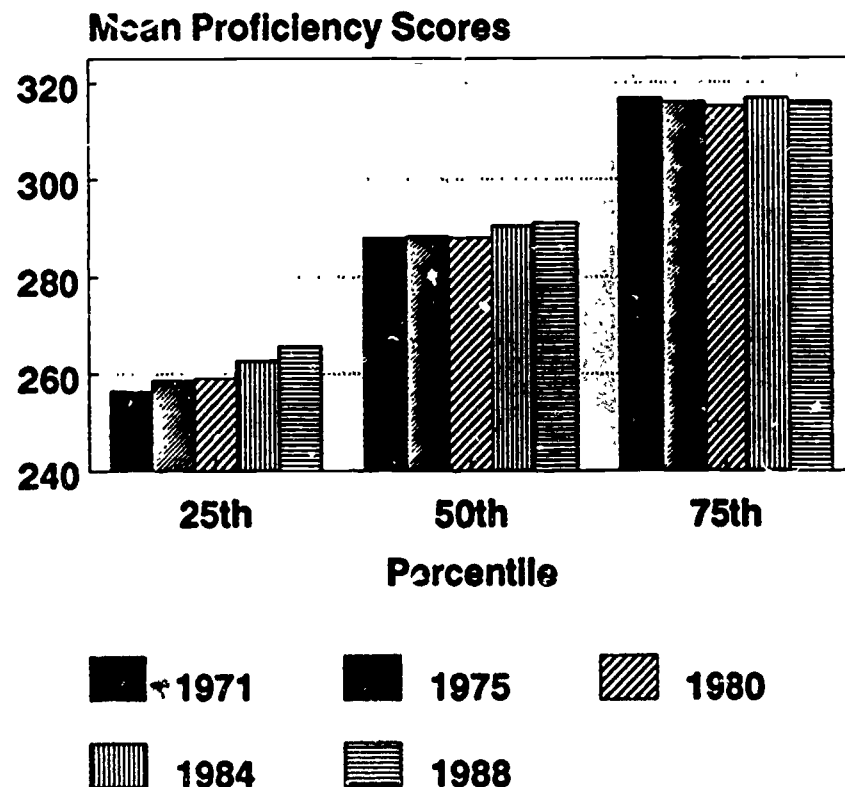
*Figure 1. NAEP Reading Scores at the 25th, 50th, and 75th Percentiles*

The objective calls for improvement at every quartile. To what extent is this occurring?

In Reading, 17 year old students in the bottom quartile have improved over time, but the students at the middle and upper ranges have not shown a comparable improvement in mean scores.

Source: *The Reading Report Card, 1977-88*, U. S. Department of Education, 1990

## NAEP Reading Proficiency Scores At Age 17



*America's Challenge* compares the educational achievement of White, Black, and Hispanic students, and compares achievement according to gender. Over the course of the past twenty years, Black and Hispanic achievements have always lagged behind White achievement. For gender, relative achievement varies by subject: females perform better in reading, writing, and literature; while males perform better in mathematics, science, history, geography and civics.

Comparisons among various groups of students analyzed by NAEP are revealing. The differences between White, Black, and Hispanic achievement roughly correspond to differences in socio-economic status, suggesting that the advantages provided by a home in which there are more resources, better-educated parents, and better access to educational materials, do indeed make a difference. Cultural differences, too, may be at work. In contrast, socio-economic status does not explain differences in achievement by gender, since males and females are evenly distributed across socio-economic lines, and each is better in some subjects.

#### Questions

1. Are Blacks, Whites, and Hispanics treated differently in your school? If so, what affects do you think these treatments have on student achievement? How are these differences destructive? Constructive?
2. What are some examples you have experienced which enable students with different abilities to achieve their greatest potential?
3. What can teachers and administrators at your school do to overcome the obstacles created by economic and other social disadvantages?
4. What activities do you believe have been successful in eliminating discriminatory treatments of gender, racial, and ethnic groups?

**Objective 2**

*The percentage of students who demonstrate the ability to reason, solve problems, apply knowledge, and write and communicate effectively will increase substantially.*

**Discussion**

At home, at work, and in society, people need to think for themselves. Raising children, appreciating excellence in the arts or sports, performing well on the job, and contributing to the community all require people whose reasoning and communication skills are well-developed.

*America's Challenge* suggests that students are not learning how to think. Student learning of facts and basic skills has improved slightly over the past twenty years, but the development of more advanced reasoning abilities has declined. There are various efforts to turn this trend around. In mathematics, for example, the recent recommendations of the National Council for the Teaching of Mathematics emphasize the teaching of reasoning and thinking skills. In science, *Project 2061: Science for All Americans*, from the American Association for the Advancement of Science, tries to convey to students a fundamental understanding of how science advances. In educational assessment, researchers are evaluating how various kinds of tests — including NAEP — can be designed to help rather than hinder the cultivation of student reasoning abilities.

Even the logic of student learning is being re-examined. The common organization of educational tasks, which is reflected in the construction of the tables of achievement data in NAEP reports, assumes that students generally learn first by acquiring facts and basic skills, and then by learning how to understand, connect, and interpret that basic knowledge. But research now suggests that understanding and knowledge acquisition occur in tandem, as concepts organize information, and new facts lead to revised ideas. The learner's cognitive development may be very different if educational activities are designed to encourage both reasoning ability and knowledge acquisition from the earliest years; such programs in the National Diffusion Network as *Philosophy for Children* and *Higher Order Thinking Skills*, which teach reasoning to young children, offer real promise of success.



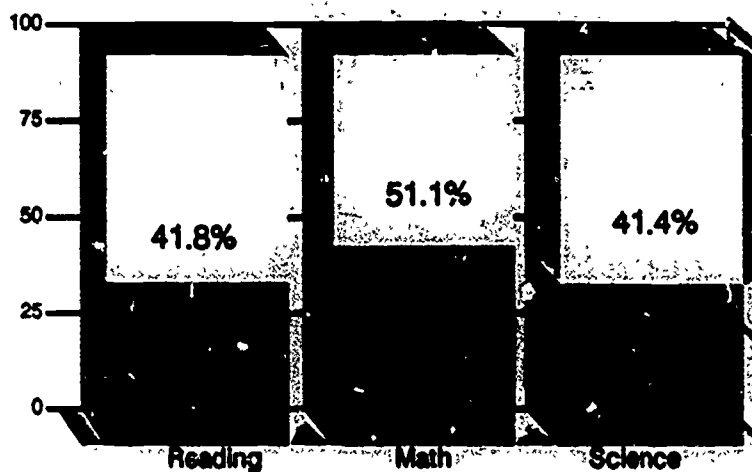
**Figure 2. Percent of 17 Year Old Students Scoring At or Above 300 on the NAEP Reading (1988), Math (1986), and Science (1986) Assessments**

The objective calls for students to be able to be able to reason, solve problems, and apply knowledge.

However, a large proportion of 17 year students are unable to function at this level in reading, math, and science.

Source: *Accelerating Academic Achievement*, U. S. Department of Education, 1990

## Percent of 17 Year Old Students At or Above 300



NOTE: Level 300 is the fourth highest of five levels of proficiency reported by NAEP.

### Questions

1. What kinds of readings and academic work assignments enable students to understand and develop ideas about the material at hand?
2. How do you and your students spend their time in the classroom? What kinds of classroom activities encourage students to master the facts, explore their implications, and reason persuasively?
3. At each grade level, what outside activities do you provide to encourage your students to think and reason?
4. How do you evaluate student achievement? Do you provide assessments of student learning that call for demonstration of student reasoning ability as well as factual knowledge even in the early years of schooling?

### Objective 3

*All students will be involved in activities that promote and demonstrate good citizenship, community service, and personal responsibility.*

### Discussion

To be good citizens, American youths must understand our democratic system. The actions of free individuals play a critical role in shaping American society. The final goal of citizenship education is not merely to know how democracy is preserved but to participate in sustaining it.

*America's Challenge* suggests that almost all students possess a basic competence in civic knowledge by the fourth grade, but that few of even the twelfth graders achieve a thorough understanding of how the political system works. Substantial improvements are called for, and efforts are underway—such as the *CIVITAS* project of the Council for the Advancement of Citizenship and the Center for Civic Education, or California's *History - Social Science Curriculum Framework*—to make the civics curriculum more engaging and meaningful. In addition, educators should not limit themselves to the classroom setting in looking for ways to make progress. The current efforts to restructure schools may also provide interesting object lessons about shared decision-making authority. For students, extra-curricular activities, community service projects, and everyday life all offer opportunities for civic learning.

The NAEP data, and other education research, have found a relationship among academic achievement, student participation in civic-oriented extracurricular activities, and voting behavior in adult life. American youth have indicated a willingness to include community service in their high school programs, and research suggests that carefully designed activities can produce several different positive outcomes, including feelings of social responsibility and improved knowledge of the American political system. Every part of life presents opportunities to learn personal responsibility—the question is how parents, teachers, and others can guide young people's learning.

## Questions

1. Do your civics and social studies classes present material in ways that encourage students to reflect on the current challenges of citizenship? Provide examples. How do your school's teachers handle controversial issues in their classrooms?
2. In the classroom and in the school, how are students involved in setting rules and policies, and how are they held responsible for abiding by them? Are the children's parents aware of these rules and are they involved in helping implement them? What kind of role models do teachers and other school personnel present?
3. Are there good community service programs in your neighborhood? What are their goals and characteristics? How could other constructive activities be developed in your community?
4. What are some successful examples of using community service to enhance the teaching and learning of the different subjects in the curriculum?

**Objective 4**

*The percentage of students who are competent in more than one language will substantially increase.*

**Discussion**

Americans for too long have viewed bilingualism as a handicap, and not as an advantage. We should recognize that fluency in other languages not only improves our economic competitiveness in a global economy but also improves our understanding of other cultures.

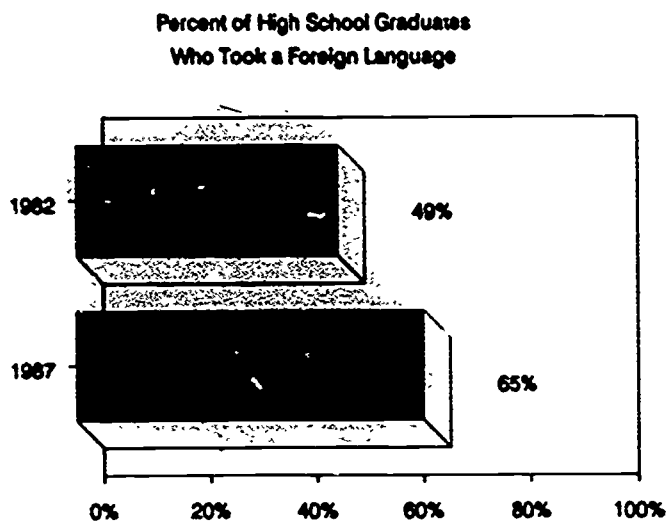
In a world economy based on competition and cooperation, the ability to speak to people from many lands — and to understand their different cultures — is a necessity. One of the first ways a child is shaped by a culture is by learning to speak its language. Speaking and understanding other people involves not only learning words and grammar, but also understanding the ideas, customs, and activities that define a culture. Participation in a second culture means developing a second linguistic competence and becoming familiar with a second set of ideas, customs, and activities.

There are a number of instruction programs for limited English proficient children which teach them the English skills needed for life in America. However, it is equally important that native English speakers learn other languages. Teaching foreign languages to native English speakers is not just an ideal luxury. However, only two-thirds of American students study a foreign language, often for a very short time, in high school. While this is an improvement over 1982 figures, increases in course taking do not necessarily indicate that more students have achieved competency in the language they are studying. In addition, too few schools offer language instruction in the elementary grades.

**Figure 4. Percent of High School Graduates Earning At Least One Credit in a Foreign Language Course, 1982 and 1987**

One objective of the National Goal calls for students to be competent in more than one language. The percentage of students taking a foreign language in high school has increased, but information is not available on how many of these students can read, write, and speak the language fluently.

Source: High School Transcript Study, unpublished tables, NCES.



### Questions

1. What can be done to impress upon students the importance of learning a second language?
2. How does your school take advantage of the linguistic diversity in its classrooms?
3. How can second language learning be integrated with other subjects; for example, literature, geography, history, civics, science?
4. What can be done to increase the opportunities for learning another language before students enter high school?

**Objective 5**

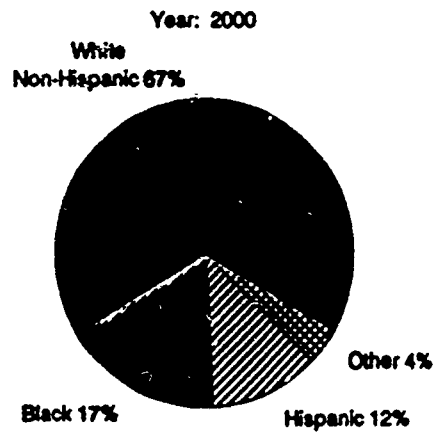
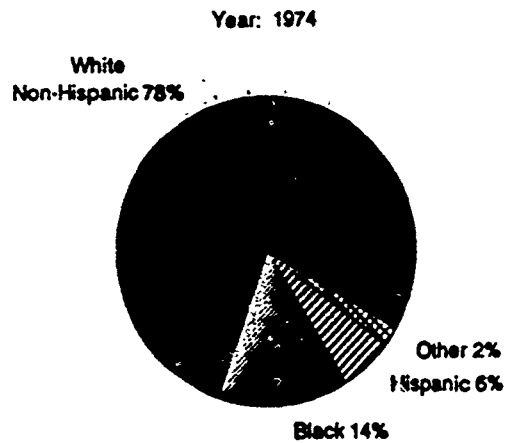
*All students will be knowledgeable about the diverse cultural heritage of this nation and about the world community.*

Cultural diversity has always been part of American history. Native American Indians have always had a variety of cultural beliefs and practices. Immigrants have come to the American continent wishing to begin anew, while seeking to preserve something of their cultural heritage. America's own culture, in its various forms, includes a recognition of cultural diversity. Tolerance of religious and cultural differences, and provision of equal opportunities for all, are ideals that mark the American tradition, and form its educational system. As American classrooms become more ethnically diverse, these ideals become even more important.

*Figure 5. Percent of Children Aged 5 to 17 by Race/Ethnic Group: Actual 1974 and Projected 2000*

Our students are becoming more diverse. By the Year 2000, only 2 in every 3 students will be white, compared to nearly 4 out of every 5 in 1974.

Sources: Unpublished Tables, U. S. Department of Education (1974 data) and Spencer, G., *Projections of the Hispanic Population: 1983 to 2080*, Current Population Reports, Series P-25, No. 995, U. S. Department of Commerce, Bureau of the Census, November 1986



Living up to these ideals is a challenge that the United States has always accepted, not always met, and must continually strive to achieve. The value of familiarity with diverse cultural perspectives is genuine. At the same time, conflicts among those perspectives, or simple ignorance of the perspectives of others, can lead to genuine problems. The number of people immigrating to the United States from all over the world serves as a daily reminder of the continued existence of cultural diversity in this country. The educational system cannot avoid addressing the problems arising from that cultural diversity and it should not waste any constructive possibilities which present themselves.

The NAEP assessments of history and geography provide some items that are relevant to this objective. The data are not particularly encouraging: In history, only 39% of the seniors correctly answered a question about religious toleration in the colonies, and only 57% correctly answered a question about European immigration between 1850 and 1914. While Black students are better able to identify the nonviolent philosophy of Martin Luther King Jr. than are other students, they still perform below average on questions about Rosa Parks and the civil rights movement. In geography, average student proficiency in the subject area of cultural geography was slightly higher than in the other three categories, but even so this knowledge is fairly rudimentary. Only 41% of the high school seniors asked could identify the definition of cultural diffusion, and only 36% correctly answered a question about the boundaries of present-day African nations.

## Questions

1. What history and civics materials do you use that are engaging, coherent, and meaningful?
2. How can your own family background and the family backgrounds of your students and colleagues be used to enliven student awareness of cultural heritage and world populations?
3. How do students view current events? How do you use historical precedent to inform their opinions?