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ABSTRACT

Goal Five of the National Education Goals states that by the year 2000, every American will be literate and will possess the knowledge and skills to compete in a global economy and exercise the rights and responsibilities of citizenship. This report examines the challenges and progress of minorities compared to Whites in reaching Goal 5, focusing on educational achievement and workplace success. Overall performance of American students on national literacy assessments is low, and this is especially true for minority students. African American, Latino, and American Indian students take fewer mathematics and science courses than do their White and Asian American counterparts and are less likely to be in academic programs. Minority students are less likely to participate in postsecondary education and have less information about its importance. Young workers, especially minority workers, have the greatest difficulty in finding and keeping jobs, and are greatly underrepresented in professional jobs and technical specialities. Further research and evaluation show that new initiatives, such as apprenticeship programs and innovative occupational training, are necessary to close the gaps between minorities and the White mainstream. Seven tables and two figures present study data. An appendix contains the "Leadership Statement of Nine Principles on Equity and Educational Testing and Assessment." (SLD)

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Minority Success

SHEEO

A Policy Report of the State Higher Education Executive Officers
Minority Student Achievement Project

May 1993

ACHIEVING THE NATIONAL EDUCATION GOALS: THE STATUS OF MINORITIES IN TODAY'S GLOBAL ECONOMY

by

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ACHIEVING THE NATIONAL EDUCATION GOALS:

THE STATUS OF MINORITIES IN TODAY'S GLOBAL ECONOMY

A Report of the SHEEO Project
on Minority Achievement in Higher Education

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Achieving the National Education Goals: The Status of Minorities in Today's Global Economy

Highlights

Goal Five of the National Education Goals states that by the year 2000, *every* American will be literate and will possess the knowledge and skills to compete in a global economy and exercise the rights and responsibilities of citizenship. The intent of the goal cannot be realized, however, until federal and state policy makers examine the current status of minority populations compared to whites in the American education and economic systems. African American, Latino American, American Indian and Asian American populations in the United States are growing rapidly and by the middle of the next century the U.S. Census Bureau projects that the distribution of white and non-white populations will be about equal. Understanding where minorities are succeeding and where they are not could help policy makers direct resources toward strategies that will improve opportunities for minorities in America.

The good news is...

Secondary school students of every race/ethnic group who enroll and complete college preparatory curricula significantly increase their average composite scores on college entrance (ACT and SAT) examinations that are valid predictors of success in college.

Minority students have made steady progress in increasing their college admissions test scores.

Minority students who complete geometry and other advanced mathematics courses in secondary school are as likely as white students to continue into postsecondary education, can expect to complete a college degree, and increase their level of achievement.

Minority participation in postsecondary education is growing at a higher rate than white student participation, which should reduce minority underrepresentation in college. Over the past decade Latinos have increased baccalaureate degree attainment by slightly less than 50%.

The bad news is...

The performance of American students on national literacy assessments (showing the ability to read, write, compute, solve problems and work as part of a team) is low. This is especially true for minority students.

African American, Latino and American Indian secondary school students take fewer mathematics and science courses (especially advanced courses) than their white and Asian American counterparts, and are less likely to be enrolled in an academic track in high school.

Non-Asian minorities are significantly underrepresented in advanced placement courses.

Minority students are less likely than white students to participate in postsecondary education.

Minority students and students from low socioeconomic backgrounds are less likely to transfer from two-year to four-year baccalaureate degree programs.

Elementary and secondary minority students and their parents are seriously uninformed about the costs of college, the availability of student aid, the job market and economic gains that result from college attendance.

The postsecondary social and academic environments are often described as more alienating than supportive for minority students. Reports of racism and racial hostility are prevalent.

Non-Asian minority students are less successful in attaining postsecondary degrees (associate, bachelor's, master's, doctoral and first professional) compared to white and Asian American students.

A smaller percentage of non-Asian minorities earn degrees than Asians and whites in disciplines requiring mathematics and sciences, such as engineering and technologies.

Young workers (especially minority workers) have the greatest difficulties in finding and keeping jobs.

Too few minorities hold professional jobs (requiring postsecondary degrees) or jobs in technical specialties (requiring high technical skills).

Minorities are underrepresented in continuing education and job training, especially formal training supported by employers.

Further action needed...

Research and evaluation are needed to assess the distribution and impact of federal resources for vocational education and applied technology to schools with high concentrations of minority populations, and to assess the affect of this upon minority student achievement and employment success.

State policies that increase academic course requirements for high school graduation and college admission need to be analyzed to ascertain how they relate to improvements in postsecondary participation and achievement for minorities.

Evaluation is needed to monitor school restructuring strategies to determine whether these strategies lead to increasing minority academic achievement and progress.

State higher education boards should evaluate whether student feedback reports (from colleges to high schools) are being used by school districts and to improve student outcomes. For example, do they assess the quality of secondary academic programs or identify problems in school-to-college transition?

Policy makers should examine the potential impact on minority student achievement of proposed national student performance standards and assessments. To what extent will they promote minority student learning and achievement and predict collegiate and employment success?

Postsecondary institutions should maintain data on students that track the rates of retention and progress and other outcomes of students who enter through remedial or developmental programs compared to those entering the mainstream curricula.

State higher education boards need to evaluate the opportunities minority students have to successfully transfer from two-year to four-year institutions.

State higher education boards should evaluate early outreach strategies that aim to support student participation and achievement in college. These include school-college collaborations, academic counseling, remediation for those who are underprepared for college-level work, enhanced support services (i.e., tutorial programs and financial aid).

Strategies to improve postsecondary participation of Latino and other minority student populations should address issues related to education levels of their parents, parental involvement and participation in schools, commitment to educational values, high school drop-out rates, language and migration.

To shed light on whether minority students are being offered opportunities to learn and progress, studies are needed to identify whether: (1) the schools minorities attend provide quality curriculum and instruction; (2) teachers support and encourage students to pursue rigorous academic courses; and (3) counselors guide students into college preparatory courses and provide them information about college admissions and financial aid.

Education leaders should develop strategies to better inform students and their parents about postsecondary education financial aid availability.

Federal and state policy makers should provide financial resources to support programs that couple early outreach and academic support with college tuition guarantees. These programs should be monitored and evaluated to determine whether they meet their objectives to raise minority student expectations and achievement levels.

State and institution policy makers need to address campus climate in their policies to increase diversity at postsecondary institutions.

New proposed apprenticeship strategies that focus primarily on students ages 16 to 20 should have assurances to include diverse student populations. These strategies also should ensure continuing access to postsecondary degree programs and career advancement.

Information is needed on minority success in professional and technical occupations and jobs not requiring advanced degrees. These studies should examine differences in education, training, employment opportunities and wages, by race, ethnicity and gender.

Studies should examine the relationship of the quality of worker training and development to occupational attainment and progress. Research is necessary to understand the reasons for gaps in wages between white and minority workers, especially where levels of education and experiences are comparable.

Preface

America is a goal-driven society. We seek to shape, not to be shaped by, the future. This is especially true in education and no better statement of this commitment to definable purpose can be found than in the National Goals initiative. "By the year 2000," we declare, "every American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship."

"Every American" conjures up the image of the satellite photo often used by Harold Hodgkinson — an arc of light running down the length of the East Coast and another rimming the Great Lakes and then massive spotlights shining from California and across the Southern tier. Beneath those street lamps is an incredibly diverse population reflecting the porous political and economic borders of this nation. No statistic, among the many presented by the authors of this report, is more dramatic than the documentation of the rapid rise of America's minority population — a Latino population which increased by half in the 1980s and an Asian population which doubled. There is no end in sight for this exponential growth.

We take the authors of the national goals — the governors of the 50 states and our past and current presidents — at their word. An education commitment to "every American" is quite a commitment but one worthy of the world's greatest democracy.

And the year 2000. It had, at least until recently, a far-off ring to it — time enough for us to achieve our purposes. But time has a way of rushing past us as if we were standing still. We hurtle toward that year at a speed which far outpaces our good intentions. This report on the status of minority achievement demonstrates how far we must go to close the gap between our rhetoric and our performance.

There is still much to be done to realize the goals we have set for ourselves. Let the work begin anew — not with someone else or someone else's institution, but with our own. Time is wasting. It will be the year 2000 in less than 2500 days.

James R. Mingle
Executive Director

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This special issue of Minority Success was written at the request of the U.S. Department of Education Office of Educational Research and Improvement (OERI) to identify areas of research necessary to fulfill the objectives for Education Goal Five of the National Education Goals: Adult Literacy and Lifelong Learning. Specifically, OERI asked the authors to address issues related to increasing the number of minority students graduating from postsecondary degree programs. To provide a resource for state higher education and institutional policy makers also addressing related goals, we have expanded our original "working paper" framework. We hope this status report on the educational and economic achievements of minorities will influence new and continued strategic policy development to improve the opportunities for minorities to be active participants in the mainstream of an increasingly dynamic and global economy.

The authors would like to thank SHEEO staff — James Mingle, Alene Russell and Charles Lenth — for their thoughtful comments and adept editing skills. We also especially thank OERI and SHEEO for their support and commitment to these vital issues.

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Introduction

By the year 2000, every American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship.

Goal 5 of the National Education Goals presents an ambitious and necessary challenge to postsecondary education that has relevance for both academic and workforce preparation programs. Broadly, the goal reflects the importance of education for ensuring that American citizens are competitive in a global economic marketplace. More importantly, the goal reinforces the need for *all* Americans to be provided opportunities for high quality education as a basis for full participation in this country's democratic process.

The National Education Goals Panel (comprised of governors, members of the U.S. Congress and the executive branch) is charged with ensuring that the education goals are met. Specifically for Goal 5, part of the strategy is to measure the achievement of American adults in various categories including: (1) workers' attitudes, (2) adult education and training, (3) literacy, (4) college enrollment, (5) college completion and (6) voting registration and (7) voting behavior.[1]

Because of the growing racial and ethnic diversity in the U.S. population, much of the challenge of Goal 5 is ensuring that members of American racial and ethnic minority groups have opportunities to acquire the skills needed for the 21st century. Since minorities, especially African Americans, Latinos and American Indians, have typically experienced higher rates of poverty, drop out of school at a higher rate, attend lower quality schools and are underrepresented in postsecondary institutions, the strategies and resources necessary will need to be extraordinary. New incentives may be required just to motivate members of these minority groups to participate in achieving goals and higher levels of education because historically, even when they have achieved educational success by pursuing diplomas, certificates and degrees, these minority groups have not reaped the employment status and social mobility equivalent to their white counterparts.

This special issue of *Minority Success* examines the challenges and progress of minorities compared to whites in reaching Goal 5. In particular, the focus is primarily on the levels of minority achievement (in the aggregate and by specific racial and ethnic subgroups) in education and the work place. Because success is often conditioned on other social and institutional practices, some of the barriers to success that minorities frequently face are also examined. In addition, a few national education and workforce training efforts and state higher education policies that have been developed to help "level the playing field" are highlighted.

Demographic Changes of Minority Populations in the U.S. (1980-1990)

Recent U.S. census data reveal that the nation is experiencing unprecedented change in the characteristics of its population. Since the 1980 census, minorities have represented a steadily growing proportion of the population. The large growth reflected in the 1990 census was due primarily to the relative increase of minority birth and immigration rates between 1980 and 1990, particularly among Latinos and Asians. Between 1980 and 1990, the total population of the United States increased by 9.8%, while the African American and Latino populations increased at a higher rate — 13.2% and 53%, respectively. The Asian American population expanded by more than 107% and the American Indian population increased by almost 38%.[2]

By 1990, minorities comprised nearly one-fourth (24%) of the U.S. population. This included African Americans (12%), Latinos (9%), Asian Americans (3%) and American Indians (0.7%).[3] According to the most recent Census Bureau projections, the racial distribution of the U.S. population is expected to become even more diverse by the turn of the century when minorities will represent over one-third of the U.S. population.

By 2000, African Americans will continue to make up 12% of the population, 11% will be Latino, 4% will be Asian American and Pacific Islander, and the remaining 0.8% will be American Indian. Non-hispanic whites will make up less than 72% of the total population. If the assumptions of these census projections are realized and this trend continues, by 2050 the white population is expected to decline to approximately 53% of the total U.S. population, while Latinos will increase to over 21%, African Americans to 15%, Asian Americans to 10%[4] (see Figure 1).

School enrollment: While minorities represented about 25% of the United States population in 1990, minority youth made up more than 30% of pupils enrolled in public kindergarten through 12th grade, up from 27% in 1980.[5] This over-representation of minority youngsters in the schools reflects a large minority child-bearing

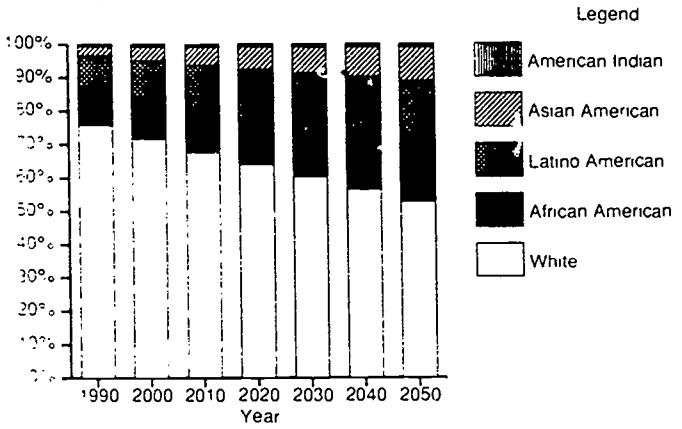
population which will have a greater impact upon the nation's educational institutions than on any other sector of American society. The impact of today's minority elementary school students will continue to be felt in the workforce and higher education institutions in the next decade. Thus, it is no exaggeration to state that the success of the nation's schools in the years ahead in educating minority youth will likely determine the quality of American life in the future.[6]

Skills and Academic Achievement

Student skill levels: Recent reports on the academic skills of American students overall cite poor performance in students' abilities to read, write, compute, solve problems and work as part of a team, with especially poor performance by minority students. For example, recent reading, science and mathematics proficiency scores of white, African American and Latino 9-, 13-, and 17-year-olds, on the National Assessment of Educational Progress (NAEP), show that none of the groups achieved skill levels that could support high performance in modern workplaces. At each age level and in all three curriculum areas, African American and Latino youth significantly trail their white counterparts.[7]

Figure 1

Projected Percent Distribution of the U.S. Population



Source: U.S. Department of Commerce, Bureau of the Census, *Population Projections of the United States by Age, Sex, Race and Hispanic Origin: 1992*, p. 50, November 1992

Another NAEP report describing adult (ages 21 to 25) literacy reveals equally disturbing results.[8] Very few young adults are performing at high levels of proficiency on any of the literacy assessments (prose, document, quantitative or reading). This is especially true for minorities and for young adults who terminate their education early. For example, on the reading proficiency assessment, only 54% of young adults performed at a level that would suggest an ability to find, understand, summarize and explain relatively complicated material. Approximately 61% of white young adults were at this level, compared to 25% of the African Americans and 41% of the Latinos studied.[9]

A recent study by the Educational Testing Service (ETS) showed the low literacy levels of many of America's workers. ETS assessed a sample of Job Training Partnership Act (JTPA) trainees and persons receiving Unemployment Insurance (UI) or services of the Employment Service (ES) in three areas key to meeting the objectives of Goal 5: (1) prose comprehension skills, such as those a voter might employ to understand editorials on complex civics issues; (2) document literacy skills, such as those a patient might need to decipher charts and tables showing health benefits; and (3) quantitative skills, like those a customer might apply to filling out an order form or managing a checking account.[10]

On each of the three literacy scales, between 40% and 50% of the assessment participants demonstrated literacy skills in the lowest two of the five defined levels. At these levels, tasks require relatively low-level information-processing skills which ETS reports may indicate severe difficulty in meeting the demands of a workplace where more complex literacy skills were needed. African American and Latino participants scored significantly below white participants in all three areas. Approximately 50% to 60% of the African Americans and Latinos studied are ranked at the two lowest levels, compared to 25% to 30% of the white participants.[11]

ETS warned, however, that these results should be considered in light of other social and demographic data. "[T]hese data do not imply that all minority group members score at the lower levels on the three literacy scales or that the cause for lower performance is to be explained by the race/ethnicity variable. Data from NCES' High School and Beyond survey indicate that Black and Hispanic students are overrepresented in the low socio-economic status group, which includes about 54% of Black and 57% of Hispanic high school seniors. The scores of high school seniors from disadvantaged backgrounds are consistently one standard deviation below the average scores of those students from advantaged backgrounds. Moreover, recent data indicate that while as many as 20% of all children in this country may be

growing up in homes that are at or near poverty levels, the percentage for minority populations could be as high as 50%."[3] Education policy makers need to improve their understanding of how economic and social conditions affect opportunities for students to learn so that such barriers to high performance can be eliminated.

Secondary school course-taking patterns: Rigorous academic programs in schools prepare students for success in college and the work place. If minorities are expected to be able to compete for the high-skill, high-wage jobs in changing American industries and businesses, they need to be better prepared than they are being prepared today.

African American, Latino and American Indian secondary school students take fewer mathematics and science courses (especially advanced courses) than their white counterparts and are less likely to be enrolled in an academic track in school.[4] The American College Testing (ACT) Program of the high school class of 1992 revealed that of the high school seniors taking the ACT assessment, 47% of African Americans, 49% of Mexican Americans and 43% of American Indians — compared to 54% of white and 67% of Asian college-bound seniors — completed a college preparatory curriculum in high school.[5]

Enrollment and completion of the college preparatory curricula increases educational opportunities for minority students to enter college. ACT recommends a curriculum that includes four or more years of English; three or more years of mathematics including algebra I and II, geometry, trigonometry and calculus; three or more years of sciences including biology, chemistry and physics; and three or more years of social sciences. The ACT has shown that when students, regardless of their race/ethnic group, take these courses, average composite scores on the ACT examination significantly increase, a predictor of success in college. The average composite score (based on a scale of 1-36) for African Americans who took the academic core curriculum was 18.1 compared to 16.1 for those who took less than the core. Similarly, the average ACT composite score for Mexican American students who enrolled in college preparatory courses was 19.8 compared to 17.1 for those who had not completed the academic core curriculum. White students who enrolled in college preparatory courses had an average composite score of 22.6 compared to 19.7 for those who were not enrolled in the advanced-level academic track.

Additional evidence that enrollment in quality academic courses increases minority student achievement was reported in a 1990 study by the College Board called *Changing the Odds: Factors Increasing Access to College*. Using data from NCES' High School and Beyond survey, the report shows that minority high school students enrolled in geometry at less than half the rate of white students. (Forty percent of white students took geometry, but only 19% of African American and 17% of Latino students did so.) The study also points out, however, that when minority students did complete geometry and other advanced mathematics courses and had expectations of completing a college degree, their achievement level increased and they were at least as likely as white students to continue into postsecondary education. For example, of students taking one or more courses of high school geometry, 80% of African American high school students and 82% of Latino students, compared to 83% of white students, attended college within four years of high school graduation.[15]

Non-Asian minorities are underrepresented in advanced placement examinations in the core academic subjects: over 70% of 1992 advanced placement test-takers are white and 13% are Asian American compared to less than 4% African American students, approximately 4% Latinos and less than half of one percent American Indian.[16] Although more minority students are enrolled in advanced placement courses and taking the exams today than in prior years (a percentage change of 153% between 1986 and 1992), their numbers are still substantially below their representation in the nation's secondary schools.

African American, Latino and American Indian students are also less likely to take challenging vocational courses in high school.[17] Students in the most disadvantaged schools (those with relatively high proportions of poor and academically disadvantaged students) take more vocational than academic education courses and the courses offered are of significantly lower quality than those offered at advantaged schools.[18] Minority students (particularly African Americans) are underrepresented in programs and courses with higher skill training that lead to postsecondary education and higher income occupations (agriculture, medical emergency technicians, steno/secretarial, electronics, welding, automobile specialization and machine shop). They are overrepresented in programs and courses leading to jobs with lower income and fewer advancement possibilities (medical lab assistant, clerk

typist, appliance repair, masonry, custodial services, quantity foods, textile production and upholstering).[19]

Recent amendments to the 1990 Carl D. Perkins Vocational and Applied Technology Education Act include support for strengthening vocational programs through greater concentration on academics and basic skills development. States will have access to resources for developing new curricula, such as applied academics, which integrate subject matter content with practical application, and new structures, such as "tech prep" programs, that bridge secondary and postsecondary systems. These changes may have an impact upon minority student achievement levels, especially for high school students who previously would not have pursued education and training after graduation. Research and evaluation are needed, however, in order to assess the distribution of these resources and the impact of this policy on minority students.

Between 1980 and 1990, almost 40 states changed their course requirements for high school graduation; most changes involved increases in mathematics and science courses.[20] Some of these changes were driven by increased requirements for admissions enacted by public colleges and universities. These recent state policies should continue to be monitored and the results analyzed to ascertain whether improvements in participation and achievement are realized in postsecondary programs, particularly among minorities. States should closely examine the quality of the course offerings in the high school that students of various ethnic groups attend. If improvements are not occurring, states should examine the types of changes that can be made systemically that will support achievement. This type of evaluation is also needed for monitoring restructuring strategies that aim to change teaching and learning dynamics in schools. For example, the National Science Foundation has provided demonstration grants to 21 states to develop strategies to improve the teaching and learning of mathematics and science. A common emphasis of the Statewide Systemic Initiatives (SSI) in many states is to improve math and science achievement of students in urban areas where a majority of minority students live and attend school.

State student feedback systems: Many state higher education boards are developing high school feedback reports that provide schools and districts with information about the higher education performance of their recent high school graduates. In a survey conducted by SHEEO in September 1992, 24 of 50 state boards indicated they were involved in developing these reports. For example, the Illinois Board of Higher Education provides each of the state's high schools with individual and comparative information on class percentile rank, ACT score or its equivalent, and first-term grades for all freshmen attending each public college and university. The Illinois report also contains nine statistical tables summarizing data for three instructional levels in English, mathematics and natural sciences: basic (courses offering no credit toward graduation), freshman courses (the first course appropriate for a student who has met minimum course requirements for college admission), and advanced placement courses (courses beyond the freshman level).[21]

Few states, however, know how or whether these reports are being used by school districts. The reports may provide important data that could help schools (especially those with high minority student concentrations) assess the quality of academic and other preparation programs or identify problems in school-to-college transition that could be used to launch strategies for improvement.

National assessments: New national performance-based assessments that measure specific outcomes — what students know and can do — are currently being advocated for monitoring progress toward achieving National Education Goals for student achievement. The National Council on Educational Standards and Testing (NCEST) was formed in 1991 by the National Education Goals Panel to coordinate the development of national education standards and a voluntary system of assessments aligned to them.[22]

What the new standards will be and how the American education system uses them to motivate students is at the center of national debate. Some proponents for change argue that current education standards concentrate on "inputs" in the process of education, rather than "outputs" that set benchmarks for what students should know and the level of skills they should be able to perform to succeed. Further, these inputs (such as th number of courses a student must take and pass in order to graduate from high school or the courses teachers must take to get a teaching license) neither motivate students to learn nor hold schools, teachers or students accountable for desired results, namely high levels of performance.[23]

These critics also assert that focusing on outcomes has implications for improving the educational environment

for those students most underserved (poor and minority) by the current system. High performance standards will give systems, schools and teachers incentives to be innovative in developing different strategies to improve student achievement. Such strategies might include using more multicultural curricular materials or providing applied learning experiences that demonstrate theoretical concepts through "hands-on" approaches. In their book, *Thinking for A Living: Education and the Wealth of Nations*, Ray Marshall and Marc Tucker claim that "with the objectives for students clear, school staff would be free to decide for themselves how to help students reach them, producing much more variation in curriculum and in teaching methods than we have now, and the staff would be held accountable for the results of their efforts. The framework that is used to define the objectives for the students would also guide the professional preparation of teachers, the development of curricula at the school level, and the techniques used to teach."[24]

The New Standards Project, co-directed by Marc Tucker and Lauren Resnick, proposes to use examinations to set student performance standards. The project will create a national examination system that allows states, districts and schools to select from a variety of examinations, but with the passing level set to the same high standard which all students would be expected to meet.

The project directors concede that the high performance objectives of a national examination system may create a formidable barrier to minority and low-income students who attend low-quality schools. The proposed system works as long as all students have a fair shot at reaching the standards. Students must be exposed to "a curriculum that will prepare them for the tasks set by the examination system, teachers who have been trained to teach that curriculum well, and the other resources required to assure that students have an opportunity to reach the standard. A social compact of this sort implies, among other things, a whole new approach to equity in school finance."[25]

The Ford Foundation, in collaboration with the University of Michigan, School of Education, recently sponsored a symposium to examine equity and educational testing and assessment policies and practices in the United States. The Symposium was designed to engage leading assessment experts, policy makers and educators in a process of discovering the equity considerations that should be incorporated into existing and emerging policies on educational testing and assessment. The participants examined the following: (1) the changing role that testing and assessment are playing in American education; (2) innovative approaches to testing and assessment that work toward achieving equity while also contributing to educational reform and accountability; (3) the effect that current innovations in testing and assessment policies and practices have upon minority and disadvantaged students, school systems and teachers; and (4) measures needed to achieve greater equity in testing and assessment in the nation's schools. Participants in the Symposium produced a Leadership Statement of Nine Principles on Equity and Educational Testing and Assessment (see Appendix).

A complementary effort designed to develop the standards for high-performance workplaces is also underway in response to the recommendations of the Commission on Achieving Necessary Skills (SCANS). The Commission suggests that each student who meets the level of proficiency defined by the standards and demonstrated by the assessments will earn a certificate of initial mastery, which will allow the student to move into a college preparatory program, enter a program of technical and professional studies or seek employment.[26]

The low achievement levels of non-Asian minority students have often been used to argue the need for change in the nation's educational system. As these standards and assessments are adopted by states and school systems, they will need to be closely monitored to show the extent to which they increase minority student learning and achievement and predict collegiate and employment success.

Postsecondary Education Access, Retention and Success

College enrollment: White students are more likely than minority students to participate in postsecondary education. In 1991, approximately 62% of white high school graduates, 14 to 24 years old, were enrolled in college or finished at least one year of postsecondary study. This compares to 45% of African Americans and approximately 48% of Latino high school graduates.[27] **Table 1** shows whites and Asians are overrepresented in higher education student enrollment compared to their percent of the general population. The percent of American Indians enrolled in postsecondary education is about the same as their representation in the general population, and African Americans and Latinos are underrepresented in postsecondary education. (African

Americans are 12% of the U.S. population and 10% of college enrollment, while Latinos are 9% of the U.S. population and 6.2% of enrollment.)

Table 1
Distribution of U.S. Population Compared to Distribution of Postsecondary Enrollment by Race and Ethnicity, 1991

Race/Ethnicity	% of U.S. Population	% of Total Postsecondary Enrollment
White	75.7	78.8
African American	11.8	9.6
Latino American	9.0	6.2
Asian American	2.8	4.6
American Indian	0.7	0.8

Source: U.S. Department of Commerce, Bureau of the Census, November 1992; U.S. Department of Education, National Center for Education Statistics, January 1993

Nevertheless, minority postsecondary participation is growing at a higher rate than for white students. Total minority enrollment increased from 16% in 1980 to 21% in 1991 and, as **Table 2** indicates, this holds true for each minority group.[28]

Table 2
Percentage of Total Postsecondary Student Enrollment by Race and Ethnicity, 1980 and 1991

	1980	1991
White	83.4	78.8
Total Minority	16.5	21.2
African American	9.4	9.6
Latino American	4.0	6.2
Asian American	4.0	4.6
American Indian	0.7	0.8

Source: U.S. Department of Education, National Center for Education Statistics, January 1993

The ethnic composition of colleges and universities could change considerably in the future in states with relatively high minority populations if the minority college-going rates began to grow at the rate of their population growth. For example, African Americans make up the largest minority group in both the school-age and general populations of the South. In 1989 African American school enrollment in Mississippi was over 50%. Latino enrollment in California and Texas was 33%. In 1989, almost 72% of K-12 enrollment in Hawaii was made up of Asian Americans (including Pacific Islanders) and they continue to be a growing share of the population and school enrollments in California.[29]

The California Postsecondary Education Commission predicts that Latino high school graduates will increase from 23% of the class of 1990 to 36% in the year 2000.[30] The data provide compelling evidence used by the Commission to alert colleges and universities in California that this change will require corresponding changes in how courses are taught and the types and levels of support services needed.

State higher education systems are using population census data to help set and measure progress toward goals of increasing minority participation.[31] For example, the Washington Higher Education Coordinating Board's *Policy on Minority Participation and Diversity* includes goals for 1995 undergraduate participation rates in higher education for all ethnic/racial minority groups that equal or exceed the average statewide participation rate for the 17- to 22-year-old population from 1990 to 1995. The Commission used Washington State census data to signal to the public colleges and universities that in order to achieve these goals, they may have to develop extraordinary strategies to increase minority admission and success in college.

State and institutional policies influenced by recent budget cuts in many states could stall progress toward increasing minority enrollment in postsecondary institutions and programs. Reduced funding has forced some public institutions into cost-saving measures such as setting enrollment caps. (Enrollment caps usually have the effect of denying admission to college applicants with the lowest relative credentials. Non-Asian minorities are overrepresented among these students.) In 1993 the California Postsecondary Education Commission expects four-year colleges and universities to make significant cuts in student enrollment. The result may mean greater numbers of minority students entering community colleges and postsecondary technical institutes, or being denied access altogether.

College admissions test scores: The average college admissions scores of non-Asian minority college-bound seniors are substantially below those of their white counterparts (see **Table 3**). African American students in 1992 scored an average of 90 points below whites on the verbal section of the SAT and 106 points below on the quantitative section. Among Latinos in 1992, Mexican American college-bound seniors scored an average of 70 points below whites on the verbal and 66 points below on the quantitative.[32] Similarly, the ACT composite scores of whites at 21.3 remained substantially above the scores of non-Asian minorities. African Americans, Mexican Americans and American Indians obtained composite scores of 17.0, 18.4 and 18.1, respectively (see **Table 4**).

During the past decade, however, minority students have made steady progress in increasing their average college admissions test scores. **Table 3** shows that between 1976 and 1992, African American seniors taking the SAT examination increased their verbal scores by 20 points and mathematical scores by 31 points. In contrast, SAT verbal scores for white college-bound seniors decreased by nine points between 1976 and 1992, their mathematical scores fell by two points. Analyses of the size and makeup of the test-taking populations need to be conducted in order to explain the changes in scores during the past 16 years that are reflected in **Tables 3** and **4**.

Developmental/remedial programs: Policies enacted in several states, including Texas, New Jersey, Florida, Arkansas, Georgia and Tennessee, require students entering public colleges and universities with admissions or placement test scores below a specified level to take remedial/developmental non-credit courses. As a result, 30% of all freshmen and 55% of non-Asian minorities are placed into developmental curricula upon entering college. Three out of four U.S. colleges and universities are known to offer developmental/remedial instruction reading, writing or mathematics. Two-year colleges and postsecondary institutions with predominately minority student populations have the highest levels of freshmen enrolled in remedial courses. In the fall of 1989, 36% of freshmen at two-year colleges were enrolled in remedial courses versus 24% at four-year colleges; 55% of freshmen at colleges with a predominately minority student body were enrolled in remedial courses, versus 27% at those with a predominately non-minority student body.[33] Despite the prevalence of these programs, however, little is known about their effectiveness. Colleges and universities need to track rates of progress, retention rates and other outcomes of students who enter through remedial programs and compare the results with students entering mainstream college curricula. These findings would be particularly useful for learning about the rates of success among minority students and the effects of interventions upon their success.

Table 3
Changes in SAT Scores by Race/Ethnicity, 1976-1992

SAT Verbal

	1976	1992	Change since 1976
Amer Indian	388	395	+7
Asian American	414	413	-1
Black	332	352	+20
Mexican Amer	371	372	+1
Puerto Rican	364	366	+2
White	451	442	-9
All Students	**431**	**423**	**-8**

SAT Mathematical

	1976	1992	Change since 1976
Amer Indian	420	442	+22
Asian American	518	532	+14
Black	354	385	+31
Mexican Amer	410	425	+15
Puerto Rican	401	406	+5
White	493	491	-2
All Students	**472**	**476**	**+4**

Source: *College-Bound Seniors - 1992 Profile of SAT and Achievement Test Takers*, The College Board, 1992

Transfer rates: Minority students often begin their postsecondary education in community colleges and other two-year institutions. After reviewing several national transfer studies, the National Center for Academic Achievement and Transfer reported that, on average, only one out of five community college students transfers to a four-year baccalaureate program. And minority students and students from low socioeconomic backgrounds are even less likely to transfer than white students.[34] Although these rates seem low, little is known about how

Table 4
ACT Scores, High School Graduating Class 1992
by Race and Ethnicity

	Afro-Amer/ Black Mean	Amer Indian Alaska Native Mean	Caucasian Amer White Mean	Mex Amer/ Chicano Mean	Asian Amer/ Pac Islander Mean
Total Group	N = 75356	N = 9784	N = 604,469	N = 26,163	N = 22,771
English	16.6	17.3	20.9	17.7	20.5
Mathematics	16.9	17.8	20.4	18.4	23.0
Reading	16.9	18.4	21.9	18.4	21.2
Sci Reasoning	17.2	18.6	21.3	18.6	21.2
Composite	**17.0**	**18.1**	**21.3**	**18.4**	**21.6**

Source: *The ACT High School Profile Report: High School Graduating Class 1992*, American College Testing, 1992

many students enter two-year programs with the expectation that they will complete a baccalaureate degree at a four-year college or university.

The reasons that minority students tend to be less successful at making the transition into bachelor degree programs may reflect the academic characteristics they bring with them to college and the failure of college remedial programs to compensate for their entering deficiencies. Using comprehensive, national longitudinal studies, researchers have found that the most important predictors of successful transfer from two-year to four-year institutions include completion of the academic track while in high school; high grades in high school and college; completion of science and mathematics courses; amount of time spent doing homework; and number of credit hours earned while in college. Minorities are clearly at a disadvantage in these areas. Minority status *per se* was a less important predictor than any of the above.[35]

Several states have developed student tracking systems that document transfer and baccalaureate degree completion rates of students who initially enter two-year colleges, compared to students who start college at four-year institutions. An Illinois Board of Higher Education study shows that of the total number of students who transferred from two-year to four-year public institutions between 1987 and 1991, only 9% were African Americans and 2.5% were Latinos.[36] Overall, 52% of the students who transferred in 1987 earned baccalaureate degrees through 1990. In contrast, only 19% of African American students and 35% of Latino students who transferred in 1987 completed baccalaureate degrees by 1990.[37]

The Illinois Board concluded that the low transfer and baccalaureate completion rates of minorities underscored the importance of board policies addressing the variables that effect successful transfer to four-year colleges and universities. The board recommended that steps be taken to develop closer school-college collaborations, improve academic counseling, provide remediation for those who are underprepared for college-level work, enhance support services such as financial aid, conduct assessment of student achievement and monitor student progress. Several other states are collecting similar data on student transfer levels disaggregated by race and ethnicity. Such efforts should be expanded across the country so that policy makers and educators can better address the problems and obstacles to transfer for minorities.

Socio-economic status of minority students: The economic condition of minorities is also an important factor for schools, postsecondary institutions, employers and public policy makers who are considering setting goals to increase minority student participation and achievement. At the low extreme, in 1989 over 43% of African Americans and approximately 36% of Latinos below the age of 18 lived in poverty, compared to 14% of their white peers.[38] **Table 5** shows that in 1990, 51% of African American families and 42% of Latino families

had annual incomes below $15,000, compared to 22% of white families. In contrast, 24% of white families were at income levels of $50,000 and above compared to only 8% of African American and 9% of Latino American families.[7]

Family income is a key correlate of college attendance: as the level of a family's income increases so does the likelihood of its dependent children attending college. Current U.S. census data show that dependent children 18 to 24 years old from the highest income group ($50,000 and over) are nearly three times as likely to attend college as children from the lowest income group (under $15,000). This statistical relationship holds true for all race and ethnic groups (see **Table 6**).

For Latinos, however, the data are especially troubling. At all income levels, dependent children of Latino families attend college at significantly lower rates than similar-aged dependents from families of other race and ethnic groups. Socio-economic status could be a proxy for other student characteristics such as the relatively low education levels of parents, parental involvement and participation in the schools, commitment to educational values, relatively high drop-out rates, and proficiency with the English language. It is important to examine the contribution of each of these to the educational achievement of Latino students. Additionally, further studies should be conducted to probe whether: (1) the schools Latinos attend provide quality curriculum and instruction, (2) teachers support and encourage students to pursue rigorous academic courses, and (3) counselors guide students into college preparatory courses and provide information about college admissions and financial aid. These factors will shed light on the more intangible issue of whether Latino and other minority students are truly being offered opportunities to learn and progress.

Access to financial aid: Many aspects of financial aid have an impact on the extent to which minority students participate and succeed in higher education. The recently released final report by the National Commission on Responsibilities for Financing Postsecondary Education, *Making College Affordable Again*, reached the conclusion that a significant impediment to building educational aspirations in minority youth is the lack of information about the economic benefits of achieving a college degree, the opportunities for financial support to attend college, and assistance in understanding and completing complicated financial aid applications and other requirements. The Commission also found that elementary and secondary at-risk students and their parents are seriously underinformed about the costs of college, the availability of student aid, the job market or the economic gains of college attendance.[8]

Strategies are being developed in a few states to better inform students and their parents about financial aid availability. For example, the Connecticut Department of Higher Education provides prospective college students with evening telephone access to college financial aid officers, including Spanish-speaking counselors, who can answer questions about that types of financial aid available and how to apply for aid to college, vocational or graduate school. The Student Financial Aid Hotline also provides direct support to help students and their parents complete application forms, estimate eligibility, and recommend the loan, grant or work-study programs that may be best for their individual circumstance.

Financial incentives such as tuition guarantees offered to students at an early age help motivate and encourage minority students to improve their pre-college academic preparation. Such incentives also are being funded and advocated by some of the nation's business and political leaders as a means of enhancing opportunities for minorities to attend college when it appears that higher education is too expensive. New York State's Liberty Scholarships, Rhode Island's Children's Crusade for Higher Education, Louisiana's Tuition Assistance Plan and Arkansas' Academic Challenge Program are examples of statewide intervention programs designed to increase the high school graduation and college-going rates of economically disadvantaged students. However, state budget reductions have had a significant impact on the effectiveness of these programs. Without sufficient funds for a prolonged duration, there is no way to test how these programs work in achieving their objectives.

Student experiences on campus: Like student background characteristics, institutional climate contributes to both student and institutional outcomes. It can account for much of the persistence, rate of progress and academic achievement of college students, or it can be the cause of failure. Students of various race and ethnic groups differ from one another with respect to their experiences and performance in college. While pertinent information is often anecdotal rather than precise, the campus climate for minorities is often described as more alienating than supportive. On more and more campuses, reports of racism and racial hostility abound.[9]

Table 5
Percentage Distribution of Families by Family Income: October 1990

	Under $15,000	$15,000 - 24,999	$25,000 - 34,999	$35,000 - 49,999	$50,000 and over
All	25%	18%	17%	18%	22%
White	22%	18%	18%	19%	24%
Black	51%	17%	14%	10%	8%
Hispanic	42%	22%	16%	11%	9%

Table 6
Percentage of Families with Dependents 18-24 years old Having One or More Attending College Full Time October 1990

	Under $15,000	$15,000 - 24,999	$25,000 - 34,999	$35,000 - 49,999	$50,000 and over
All	21%	28%	35%	44%	58%
White	21%	27%	35%	45%	59%
Black	20%	29%	31%	38%	50%
Hispanic	12%	16%	16%	34%	38%

Source: *School Enrollment - Social and Economic Characteristics of Students*, U.S. Department of Commerce, Bureau of the Census, October 1990, April 1992

Some state higher education boards are attempting to affect campus climate through their efforts to increase diversity at postsecondary institutions. South Carolina's *Higher Education Program for Access and Equity* requires each public institution to develop a strategic plan that enhances the quality of minority students' experiences on campus. Pennsylvania's Task Force on Intergroup Relations in Higher Education investigates behaviors that incite intergroup tensions, such as ethnic jokes, name-calling, graffiti and distribution of hate literature. The Task Force also plans to propose remedies for these issues within constitutional limits of the state. Such remedies might include models of dialogue, negotiation, mediation and conciliation among students, faculty and administrations. If these efforts are successful, the state will need to assess whether they contribute to the number of minorities attending college, greater persistence, graduation rates and quality of student experiences.

Student and institutional outcomes: The performance of minority students in college courses tends to lag behind that of their majority counterparts. On average, non-Asian minorities tend to have lower college grade point averages, progress slower through the curriculum, are less likely to attend graduate and professional schools, score lower on graduate admissions tests, are offered fewer research assistantships for graduate school and have fewer employment opportunities in the labor market upon completing college.[42]

Colleges and universities typically report smaller proportions of minorities in graduating classes than in entering classes of freshmen and appear to be unsuccessful in eliminating performance gaps (grades and

progression rates) between minority and majority students (see **Table 7**). Nationally, African Americans represented 6.0% of American baccalaureate degree recipients in 1990, down from their 6.6% level in 1981. Over the past decade, Latinos have made some progress in baccalaureate degree attainment, now representing 3.2% of U.S. recipients. Between 1981 and 1990, Latino students recorded slightly less than a 50% increase in bachelor degrees attained.[43] These gains, however, will have to improve substantially if they are to match the projected Latino representation in the general U.S. population, among elementary and secondary school enrollments and the projected increases in undergraduate enrollment.

The subject areas chosen by minorities in college also will indicate the level of success they will experience in the work place. As **Figure 2** shows, non-Asian minorities earn fewer degrees than Asians and whites in disciplines requiring mathematics and sciences such as computer science, engineering and technologies.

- While Asian Americans earned approximately 3.7% of all the baccalaureate degrees conferred in 1990, they earned 8.4% of all bachelor's degrees in engineering and tech-nologies. African Americans were underrepresented in engineering degrees earned (4%). Latinos earned baccalaureate engineering degrees at approximately equal their 1990 representation among degrees earned (3%).[44]

- Asian Americans earned approximately 11% of the master's degrees in computer science, compared to 56% by whites, under 3% by African Americans, 1.4% by Latinos.[45]

- In 1990, African Americans earned fewer doctoral degrees than they earned a decade earlier, while Latinos posted a 42% increase in awards received. Asian Americans showed a gain of almost 32% in doctoral degrees awarded between 1981 and 1990, half of those awarded in engineering and the life and physical sciences.[46]

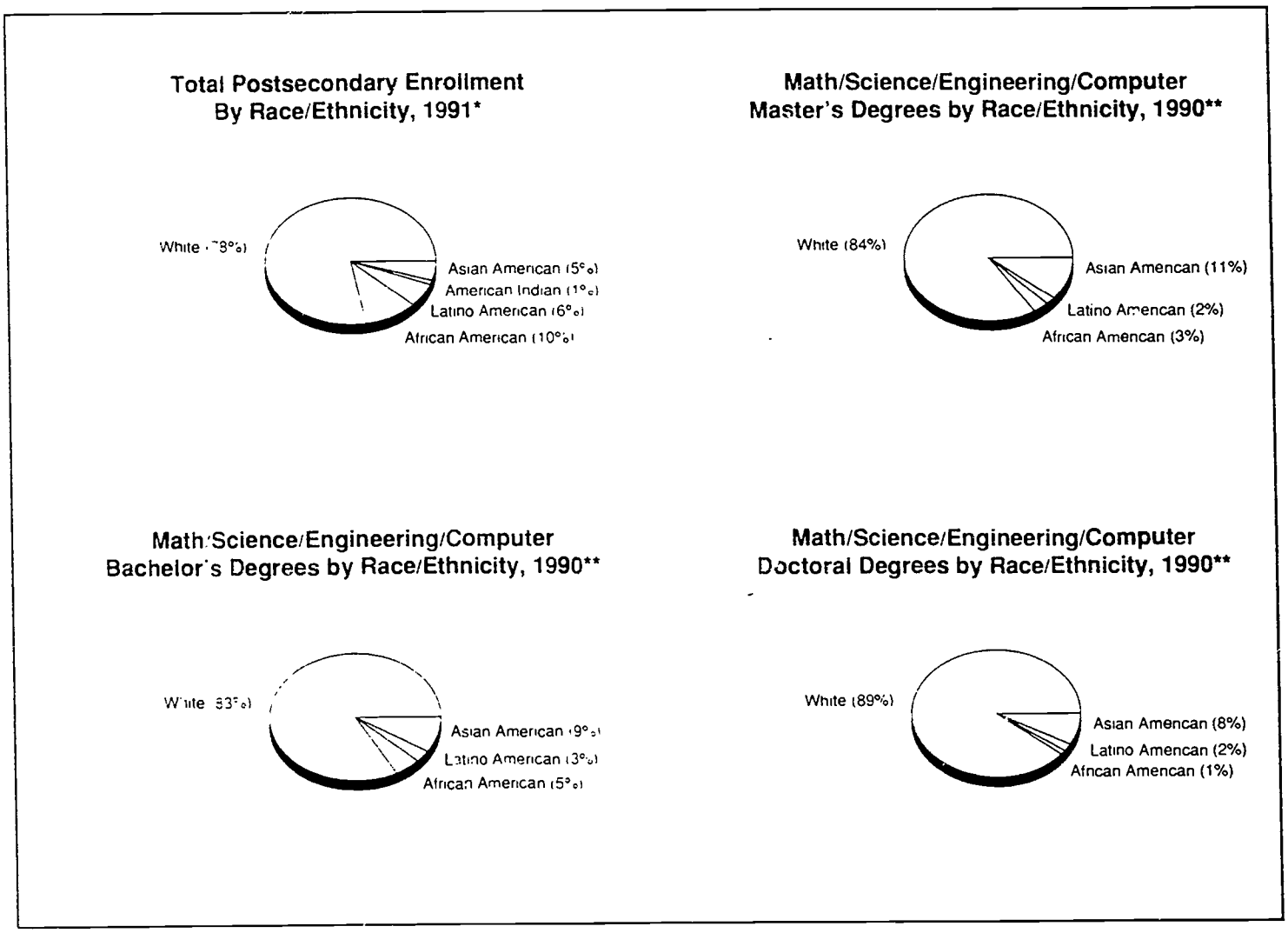
Table 7
Percentage Distribution of U.S. Undergraduate Enrollment to Percentage of Bachelor Degrees Conferred to American Students, by Race and Ethnicity, 1980-81 and 1989-90

Level of Degree	1980-81 % Undergraduates	1980-81 % Graduates	1989-90 % Undergraduates	1989-90 % Graduates
White	82.6	88.5	79.3	86.6
Total Minority	17.4	11.5	20.7	13.4
African American	9.9	6.6	9.7	6.0
Latino American	4.2	2.4	6.0	3.2
Asian American	2.4	2.1	4.2	3.8
American Indian	0.8	0.4	0.8	0.4

Source: U.S. Department of Education, National Center for Education Statistics, *Trends in Racial-Ethnic Enrollment, Fall 1980 through Fall 1990*, December 1991; U.S. Department of Education, National Center for Education Statistics, *Race-Ethnicity Trends in Degrees Conferred by Institutions of Higher Education: 1980-81 through 1989-90*, May 1992.

Figure 2

Race/Ethnicity Trends in Degrees Conferred by Institutions of Higher Education



Source: *"Trends in Enrollment in Higher Education by Race Ethnicity Category: Fall 1980 through Fall 1991*. U.S. Department of Education. National Center for Education Statistics. January 1991; **"*Race Ethnicity Trends in Degrees Conferred by Institutions of Higher Education: 1980-81 through 1989-90*. U.S. Department of Education. National Center for Education Statistics. May 1992.

Transition to the Workplace

School-to-work transitions: About half of the students who leave or complete high school do not go immediately into college. Yet there has been little study of the employment, career and educational patterns of this group. Most research on educational attainment has focused on college-bound populations and typically has emphasized "on-time" entrance to college and "on-time" completion. Relatively little is known about delayed entrance to postsecondary schooling, or about switching or combining work and school roles. Policy makers are struggling to identify strategies for successful transition to stable employment for those who do not go to college.[47]

Young workers (especially minority workers) have the greatest difficulties in finding and keeping jobs. Their jobs tend to require low skills and pay little, a fact documented in a report by the William T. Grant Foundation's Commission on Work, Family and Citizenship.[48]

The report notes:

• The most promising entry-level jobs or "jobs with a future" require high levels of literacy skills. These are jobs that provide personal growth, the chance to master new skills and the opportunities to earn promotions. Unfortunately, a great number of the jobs young workers now have access to are of the low-skill, low-pay variety which would not provide for a decent standard of living.[50]

• Young workers ages 16-24 suffer extraordinarily high unemployment rates. Average unemployment figures for 1992 showed that 14% of civilian workers ages 16 to 24 were unemployed compared to an overall unemployment rate of 7.3%. Average unemployment rates for white workers in this age group were 12%, compared to African Americans and Latinos who were unemployed at 29% and 18%, respectively.[51]

• Real income for young workers is in steep decline. In 1989, the median income of a worker who was 15 to 24 years old and a head of household was $17,064. This represented a 3.1% decline from the real income of this age group the previous year. For African Americans, the decline was especially pronounced. Between 1987 to 1989, they experienced a 10.1% drop in real median income. In 1989, the income level of African Americans was $9,341 compared to $19,903 for white workers and $15,440 for Latino workers, ages 15 to 24.[51]

To address these circumstances, increasing attention is being paid by policy makers to new forms of education-to-work structures that provide options to students who choose not to pursue a post-secondary degree program directly after high school. The new apprenticeship strategies proposed at the national level will focus on students ages 16 to 20, and, in addition to the traditional trades, will incorporate a broader range of occupations such as banking and health care.[52]

The proposed apprenticeship and cooperative education programs combine rigorous academic instruction with employment-based training for students, provide early exposure to work experiences, ensure opportunities for further postsecondary education and encourage lifelong skill-building. In addition to the proposals being developed by the U.S. Departments of Labor and Education, the Council of Chief State School Officers and the Pew Charitable Trusts last year created a state-level competitive grant program called "New Career Paths Through Youth Apprenticeship." The grants support exemplary efforts to develop state-wide systems of youth apprenticeships. Five states are participating in the project: California, Maine, Pennsylvania, West Virginia and Wisconsin.[53]

All of these programs are at the proposal or pilot stages. If any are fully funded and built into systemic workforce education and training efforts, there should be assurances that they include diverse student populations.

Quality employment opportunities: In 1992 the U.S. had over 118 million employed workers. Over 10% of this working population was African American and approximately 8% was Latino. Few of these minority workers were employed in fields requiring postsecondary degrees. African Americans and Latinos occupied only 7% and 4%, respectively, of managerial and professional jobs in this country.[54] For example, the U.S. Department of Labor reports that in 1989, African Americans comprised 2% of architects, 3% of physicians, under 4% of engineers, and 3% of lawyers. (Latino representation in these fields was 6%, 5%, 2% and 3%.)[55]

Minorities are equally absent from technical specialties (those requiring high-level skills and paying high wages). Of the more that four million American workers holding these jobs, 9.5% were African American and just over 4% were Latino. Conversely, minorities are overrepresented in low-skill, low-wage jobs. Twenty-four percent of African Americans and almost 15% of Latinos hold jobs as housekeepers, child-care providers and gardeners for private households. Seventeen percent of African Americans and 19% of Latinos provide maintenance and other services for business dwellings.[56] Recent Census Bureau data show that in 1991 almost one-third of Mexican American males (16 years and older) held jobs as operators, fabricators and laborers compared to 9% holding jobs in managerial or professional specialties.[57]

Because of the kinds of jobs minorities hold, they earn much less money than white workers (see **Figure 3**). In March 1991, the U.S. Census Bureau reported that annual median earnings for white full-time, year-round workers, 18 years and older, was over $5,000 more than comparable earnings for African Americans and over $7,000 more than average earnings for Latinos. The gaps narrow only slightly as educational achievement increases. For those with four or more years of college, whites on

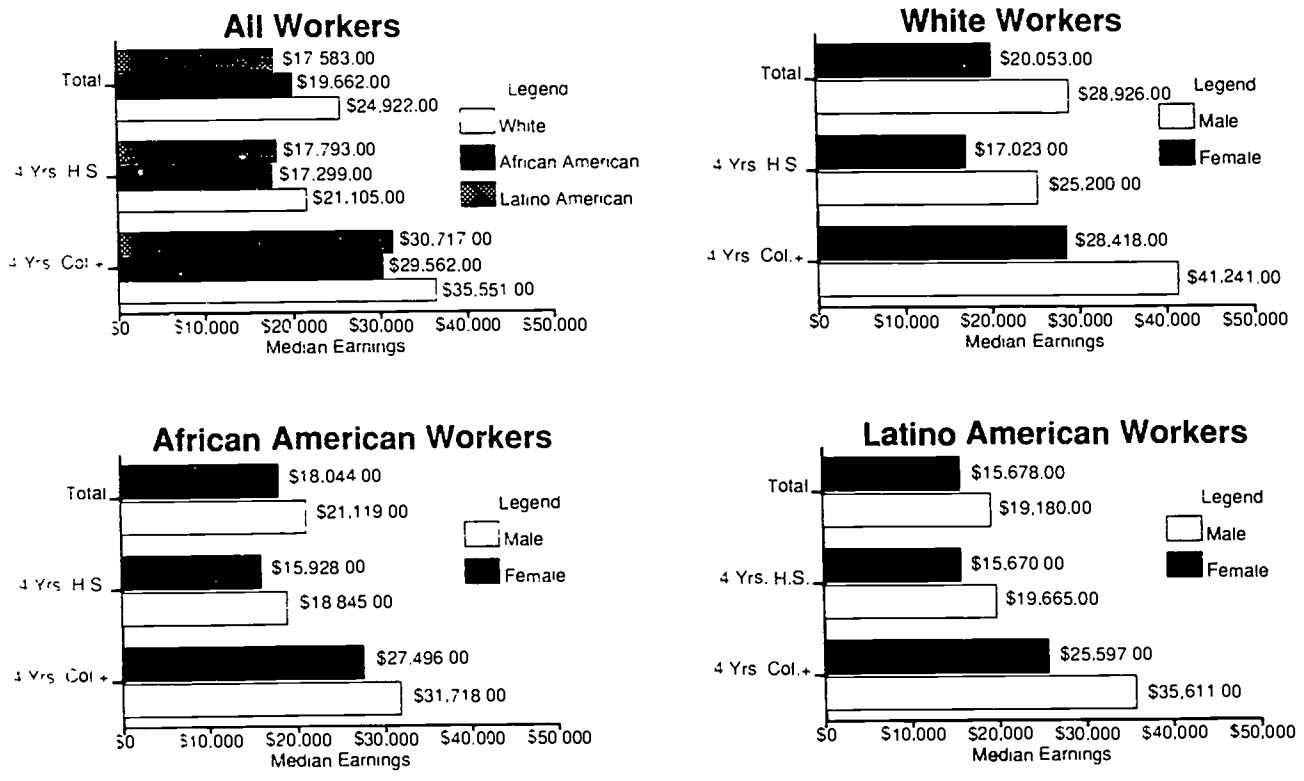
average earn almost $6,000 more annually than African Americans and almost $5,000 more than Latinos. The gap between white, African American and Latino male wages is especially dramatic. Median annual earnings for white males (year-round, full-time, 18 years-old and older) was almost $29,000, for African American males it was $21,000 and for Latino men it was $19,000.[58]

Earning gaps between women of different race and ethnic groups are not as great as for men. In 1991, the median earnings of white women (year-round, full-time workers, 18 years and older) who had completed four or more years of college was less than $2,000 greater than the earnings for similar African American women. The difference was about $2,500 between white and Latino women. In specific occupations the gap virtually disappears. For example, for women executives and managers, African Americans who had completed four or more years of college earned an average of $32,452 compared to $32,332 earned by white women (both earn 65% of the median earnings of their white male counterpart.)[59]

Participation in Continuing Education and Training: Only 55% of workers in this country have formal preparation for their jobs, and only 35% receive continuing education and training once they are on the job.[60] For minority workers, the gaps in continuing education and job training are especially acute. Minorities are critically underrepresented in jobs and professions where job-related education and training are most prevalent (e.g., professionals, technicians and management support specialists). A large percent of minority workers are currently clustered at the low end of the service economy (holding jobs such as janitors, sales clerks and food preparation and service workers) where formal job training is low.[61]

Figure 3

Median Earnings of Full-Time, Year-Round Workers, 18 Years and Over by Selected School Completed, Sex and Race/Ethnicity, 1991



Source: *Educational Attainment in the United States: March 1991 and 1990*, U.S. Department of Commerce, Bureau of the Census, May 1992

Minorities also are least likely to receive formal, employer-sponsored workforce training. African Americans, who make up approximately 10% of the American workforce, receive about 5% of formal workforce training; Latinos receive less than 3%. However, whites, who make up about 85% of the workforce, comprise over 90% of employer-sponsored training.[52]

Conclusion

Between 1980 and 2000, it is projected that the United States will add 20 million new workers to its workforce and only 18% will be native-born, white males. Eighty-two percent of the new workers will be a combination of female, nonwhite and immigrant. Minorities will comprise 29% of the net additions to the workforce between 1985 and 2000 and will represent more than 20% of the workforce at the turn of the century.[53]

Demographic changes and conditions of the population will require federal, state and local policy makers, as well as education and business leaders, to undertake strategies to help minority students graduate from school. There is a need to close existing gaps between minority representation in elementary/secondary schools and higher education, a gap which already exceeds that between minorities and majorities in the population. Because a higher proportion of minority youth are born into poverty and because the greatest contribution to the U.S. minority population is the growing rate of relatively undereducated immigrants, gaps are more likely to expand rather than contract unless extraordinary and effective interventions are undertaken to improve the quality and outcomes of the elementary and secondary schools that minority students attend.

Education leaders must address what opportunities for high quality education are provided to minority students and how they are provided. Minority students need to be exposed to quality academic and career counseling early so that opportunities to choose postsecondary programs and professional careers are open to them. Students need to have access to rigorous curriculum and competent instructors who understand substantive material and how to teach it. Also, educators should examine the most effective ways minority students learn. The trend toward engaging students in team- and active-learning processes may strengthen and improve minority achievement levels.

State higher education boards, colleges and universities will have to improve their efforts to increase the representation of minorities in postsecondary education in all fields, including engineering, computer science and the physical and life sciences. The higher education community will need to develop new strategies in order to ensure that minority students at all levels of postsecondary programs persist to degree attainment. Assessment of student qualifications, aspirations, attitudes and behaviors; institutional and departmental admissions policies, racial composition of the faculty and administrations; and institutional affirmative action initiatives should all be examined as part of the strategic planning aimed at increasing minority representation and achievement in the nation's colleges and universities.

The proposed apprenticeship strategies for students who do not go directly to college after completing high school should also be monitored to determine how students' career and educational achievements are affected. These studies should examine how students are placed into programs, who is selected for which programs, and upon completion, which students and how many are offered various types of employment opportunities.

Data related to occupations and income levels are valuable in helping policy makers direct their resources to workforce preparation, training and re-training strategies that will benefit particular segments of the U.S. population. But more is needed. More detailed information is required on minority worker success in technical occupations and jobs not requiring advanced degrees. In addition to examining differences in education, training, employment opportunities and wages earned by race/ethnicity and gender, studies also should evaluate and compare the relationship of the quality of training to occupational attainment and progress. More research also is necessary to understand the reasons for the gaps in wages between white and minority workers, especially where levels of education and experience are comparable.

Based on current national data, too few African American, Latino and American Indian citizens now fully participate and succeed in the nation's education and employment systems. If the Goal 5 is to be realized, federal and state policy makers will have to direct strategies and resources to improving opportunities for minority populations. The benefits for such actions will not be centered only on minorities, but will accrue to all American citizens. American industry and business will become more productive. And the United States will reach its goal to become a stronger and more competitive nation.

APPENDIX

Leadership Statement of Nine Principles on Equity and Educational Testing and Assessment

March 12, 1993

Equity has been the dominant theme in national education policy for the past three decades. The focus has been upon providing early preparation for disadvantaged pre-schoolers, compensatory education for disadvantaged elementary and high school youngsters, and financial assistance to help the neediest students gain access to college. At the historic 1989 Education Summit in Charlottesville, the President of the United States and the fifty state governors began shifting the spotlight away from providing minimum skills and opportunity for the disadvantaged toward higher standards for all American students. They produced six national goals aimed at making every American student internationally competitive by the year 2000 regardless of current achievement levels or economic status.

The National Education Goals Panel, established in 1990 to monitor progress toward achieving the goals, has been severely hampered by the absence of national standards that specify what students must know and be able to do, and national tests and assessments that measure the progress of students toward achieving the standards. To address the feasibility of setting national standards and developing and using appropriate tests, Congress appointed the National Council on Standards and Testing (NCEST) which recommended that Congress enact legislation to establish a system of national standards and examinations. Following the lead of the national Council of Teachers of Mathematics, which in 1989 published "world class" mathematics standards, the U.S. Department of Education awarded grants in 1992 to six professional organizations to develop new "world class" standards in the following six subject areas: science, history, civics, geography, English, and the arts. The standards from these six organizations are scheduled to be published next year.

As policy makers move forward to develop new standards and assessments, they should consider including the following principles, which will help to insure that both equity and quality are dominant themes.

1. New assessments should be field tested with the nation's diverse population in order to demonstrate that they are fair and valid and that they are suitable for policy makers to use as levers to improve outcomes before they are promoted for widespread use by American society.

2. New standards and tests should accurately reflect and represent the skills and knowledge that are needed for the purposes for which they will be used.

3. New content standards and assessments in different fields should involve a development process in which America's cultural and racial minorities are participants.

4. New policies for standards and assessments should reflect the understanding that standards and assessments represent only two of many interventions required to achieve excellence and equity in American education. Equity and excellence can only be achieved if all educators dedicate themselves to their tasks and are given the resources they need.

5. New standards and assessments should offer a variety of options in the way students are asked to demonstrate their knowledge and skills, providing a best possible opportunity for each student to perform.

6. New standards and assessments should include guidelines for intended and appropriate use of the results and a review mechanism to ensure that the guidelines are respected.

7. New policies should list the existing standards and assessments that the new standards and assessments should replace (e.g., Chapter 1 standards and tests, state mandated student standards and tests) in order to avoid unnecessary and costly duplication and to avoid overburdening schools, teachers and students who already feel saturated by externally mandated tests.

8. New policies need to reflect the understanding by policy makers of the tradeoff between the types of standards and assessments needed for monitoring the progress of school systems and the nation versus the types of standards and assessments needed by teachers to improve teaching and learning. The attention and resources devoted to the former may compete for the limited resources available for research and development for the latter.

9. New policies to establish standards and assessments should feature teachers prominently in the development process.

NOTES

1. *National Education Goals Report: Building a Nation of Learners* (Washington, D.C.: National Education Goals Panel, 1992), p. 119.

2. *1990 Census of Population* (Washington, D.C.: U.S. Department of Commerce, Bureau of the Census, June 1991).

3. U.S. Department of Commerce, Bureau of the Census.

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5. National Center for Education Statistics, *Selected Data on Minority Participation in the Public Schools* (Washington, D.C.: U.S. Department of Education, Office of Education Research and Improvement, July 1990), pp. 3-5.

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Also like the national demographic changes, trends in enrollment growth are expected to continue. A recent study conducted by the Western Interstate Commission for Higher Education (WICHE) using Bureau of the Census and U.S. Department of Education data projects white public K-12 enrollments to increase slowly at a rate of 5% (from 25.8 million to 27 million students) between 1986 and 1995. In contrast, the minority population is expected to increase 32% (from 10.4 million students to 13.7 million students) during this period.

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9. Kirsch, Irwin S. and Ann Jungeblut, p. 39.

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17. *Black Americans and Vocational Education: Participation in the 1980s* (Berkeley, CA: National Center for Research in Vocational Education, forthcoming).

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