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ABSTRACT

In 1988, the Education Commission of the States (ECS) undertook an 18-month effort to discover strategies that would increase the number of minority teachers in the nation's classrooms. Representatives from 22 education policy and research organizations formed the Alliance of Leaders for Minority Teachers to share views and information. In addition, ECS conducted case studies in five states (Arizona, Iowa, Minnesota, New York, and North Carolina) to understand how people in various positions look at the shortage of minority teachers and what factors contribute to the supply and demand of minority teachers. The research results and the alliance's recommendations for action appear in three separately published but closely related documents that are combined here: (1) "New Strategies for Producing Minority Teachers: Plans & Programs"; (2) "New Strategies for Producing Minority Teachers"; (3) "New Strategies for Producing Minority Teachers--Technical Report." The 12-page "Plans & Programs" document looks at current strategies underway in the states to increase the supply of minority teachers. It is not meant to be definitive, but to illustrate the gamut of efforts taking place to respond to the shortage of minority teachers. The programs described indicate there are many valuable efforts going on nationwide. However, the bulk of them address the short-term needs for minority teachers, and few are part of any comprehensive state plan to look at the problem for the long term. New strategies involving all levels of the education system are needed to provide long-term solutions. The 52-page second volume has three main sections. Section 1, a description of the study, examines the policy tools applied at various levels (pre-K through 12, postsecondary) of the education system to alleviate the shortage of minority teachers in the short- mid- and long-term. Section 2 identifies several themes that describe how the minority issue is dealt with in a state or institution; the values that guide the programs; the people; the power; the elementary and secondary environment; the institutional environment; and policies and programs. Section 3 offers policy recommendations to state college, university, school, and school district leaders. The 88-page Technical Report volume contains each state's contributed information with respect to: (1) minority students' plans to go on to postsecondary education; and (2) the numbers of students who enter teacher training programs, persist through to graduation, seek employment in the teaching profession, are hired upon certification, and stay with teaching as a career. The Technical Report includes: an overview of strategies a state could use to alleviate its shortage of minority teachers; 70 statistical tables; and a state-by-state analysis of demographics, performance, and participation by minority students, and career preferences. Interviews were conducted with a range of persons in the same role groups in each state's higher education institutions, department of education, local districts, and local schools. (LL)

NEW *Strategies* for PRODUCING MINORITY TEACHERS

PLANS & PROGRAMS

NEW *Strategies* for PRODUCING MINORITY TEACHERS

PLANS & PROGRAMS

EDUCATION COMMISSION OF THE STATES

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The Education Commission of the States is a nonprofit, nationwide interstate compact formed in 1965. The primary purpose of the commission is to help governors, state legislators, state education officials and others develop policies to improve the quality of education at all levels. Forty-nine states, the District of Columbia, American Samoa, Puerto Rico and the Virgin Islands are members. The ECS central offices are at 707 17th Street, Suite 2700, Denver, Colorado 80202-3427. The Washington office is in the Hall of the States, 444 North Capitol Street, Suite 248, Washington, D.C. 20001.

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Contents

Introduction

In 1988, the Education Commission of the States undertook an 18-month effort to discover strategies that would increase the number of minority teachers in the nation's classrooms. Representatives from 22 education, policy and research organizations formed the Alliance of Leaders for Minority Teachers to share views and information. In addition, ECS conducted case studies in five states to understand how people in various positions look at the shortage of minority teachers and what factors contribute to the supply and demand of minority teachers. The research results and the alliance's recommendations for action appear in *New Strategies for Producing Minority Teachers* (see Appendix for ordering information).

This publication looks at current strategies under way in the states to increase the supply of minority teachers. It is not meant to be definitive but to illustrate the gamut of efforts taking place to respond to the shortage of minority teachers. The programs described indicate there are many valuable efforts going on nationwide. However, the bulk of them address the short-term needs for minority teachers, and few are part of any comprehensive state plan to look at the problem for the long term. New strategies involving all levels of the education system are needed to provide long-term solutions.

Current Strategies

As awareness of the consequences of a minority teacher shortage has grown, educators and policy makers have begun to act. In the last several years, many states and institutions of higher education have initiated policies or programs to increase the supply of minority teachers. In its 1988 survey of *Teacher Education Policy in the States*, the American Association of Colleges for Teacher Education found that at least 35 states were addressing the issue of minority teacher recruitment in some fashion.

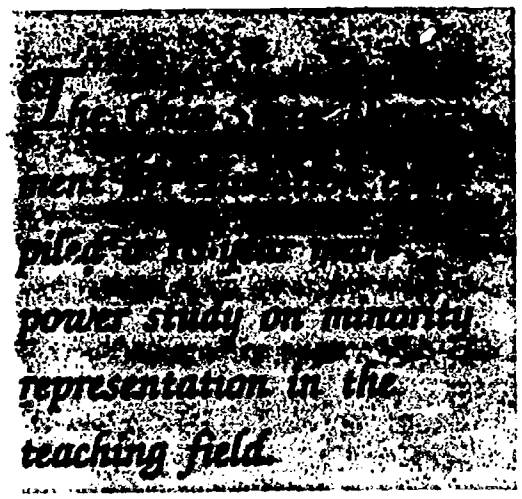
The most common state responses include the following.

Data collection

Though data collection is in a sense a generic state activity, it is particularly valuable in helping policy makers understand that there is, in fact, a shortage of minority teachers and where the problem begins. Policy makers must have adequate information if they are to make effective policy.

What data states collect varies considerably. **Alaska** combines efforts to recruit minority students into teaching with the collection of data on minority teachers already in the classroom — their location, certification level and administrative responsibilities. **New Jersey**'s sophisticated data-collection system lets the state department of education understand a complicated situation — although more minority students are taking teacher certification tests and becoming eligible to teach, a higher percentage are failing.

Kentucky's Council on Higher Education requires institutions of higher education and schools, colleges and departments of education to collect data on ethnicity of students.

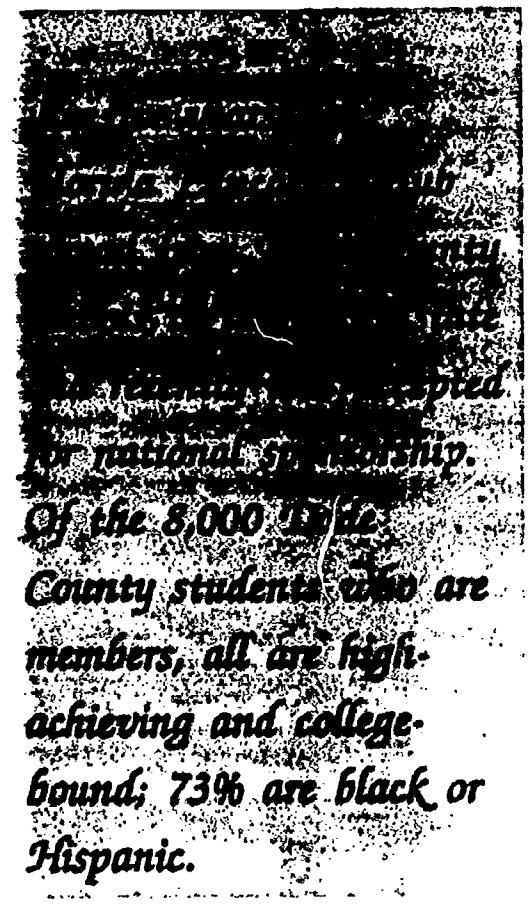


Many data-collection efforts fall short of the mark however. Some states fail to collect all the data necessary to make appropriate policy decisions. Some fail to analyze the data sufficiently enough to help policy makers understand the various aspects of the problem fully.

Early identification of prospective teachers

(also see "Recruitment" on page 8)

Florida, **New Jersey**, **California**, **South Carolina** and a number of other states have programs to encourage minority high school students to begin thinking about a career in teaching.



In **Alaska**, the state education department holds workshops in high schools to promote teacher education. **Maryland**'s Project CHOICE builds upon an existing project to seek out prospective minority teachers while they are still in high

school. An **Arkansas** State Department of Higher Education program recruits minority junior high students into college, though not into teaching specifically.

Missouri high school juniors and seniors with grades of B or better may enroll in Missouri's Teacher Cadet Course. The program offers coursework in educational theory and practice and allows students to observe and work with master teachers. **New Jersey**'s state education department sponsors the Minority Teacher Education Program, which identifies 25 high school juniors who want to enter the teaching profession. The students take part in college preparation courses for two summers, then receive loans and participate in work-study programs during college. The loans are forgiven for four years of teaching in an urban area or six in a nonurban setting.

The Public School Forum of **North Carolina** encourages black and Native American high school students to consider teaching as a career and to apply for a state Teaching Fellowship to finance their college education. The Teaching Fellowship program provides loans that are forgiven in exchange for teaching in the state.

In neighboring **South Carolina**, the Minority Access to Teacher Education Program encourages and attracts academically talented minority high school students to enter teaching as a career. It offers financial aid to those committed to teaching in rural districts.

In 1988, **New York**'s state university brought together eight deans of education, academic deans of community colleges and representatives of teacher and other organizations to address the issues of recruitment and support of minority students in teacher education programs. Several recommendations focused on identifying and aiding minority elementary and secondary school students who might be interested in teaching. Assistance, the committee said, should include opportunities for counseling, peer teaching and summer employment. Colleges and universities should work with schools to provide these students with experiences that expose them to teaching.

The **Ohio** Minority Recruitment Consortium sponsors workshops for teachers, counselors and building-level administrators on how to identify and motivate minority junior and senior high school students to consider teaching as a career. It also produced videotapes aimed at recruiting high school students into teaching.

Improvement of test-taking skills

Programs in **California** and **Louisiana** aim to improve the academic and test-taking skills of minority students. In **Tennessee**, any school, college or department of education loses its approved-program status if fewer than 70% of its graduates pass the National Teachers Examination (NTE).

Virginia's state department of education has provided funds to two historically black institutions to help them improve students' NTE scores and recruit students into teacher education.

Hawaii has worked with institutions of higher education to establish a special mentor program to prepare minority students to pass the NTE. **North Carolina**'s Consortium to Improve Teacher Education has provided funds to help historically black colleges purchase NTE software to help minority students pass the exam.

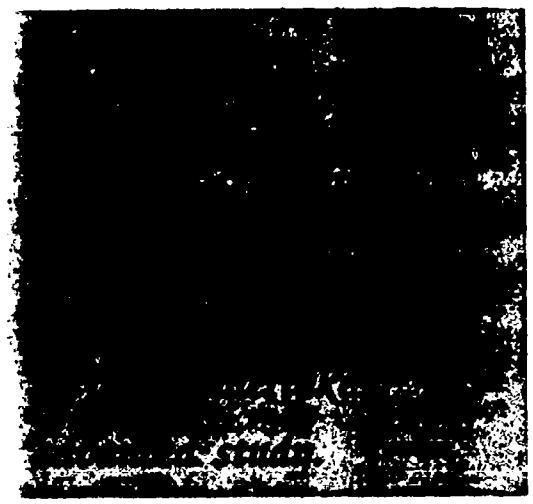
Some states are examining the tests used to assess teacher candidates.

Delaware is studying the ramifications for minority populations. **Georgia** is revising its tests after a 1986 class-action suit claimed that state teacher-testing policies were racially discriminatory. The state agreed to revise its tests by September 1, 1991, offer help to teachers who must pass current exams and provide study grants to teachers who lost their certification because they failed current tests. In **New Mexico**, the state education department is studying the effects of testing requirements on recruitment and retention of minorities in teaching.

Encouraging career switches into teaching

Numerous states seek prospective teachers from among professionals in other fields or college students not in teacher education. **South Carolina**'s Teacher Recruitment Center recruits minorities from both business and the military and from inside and outside the state.

Colorado's Minority Teacher Recruitment and Retention Institute made numerous recommendations aimed at increasing the numbers of minority teachers. One suggestion asked institute participants to submit the names of minority students, teacher aides, community college or vocational or college graduates without teaching certificates who had expressed an interest in teaching and had the potential to become a good teacher.



In **Mississippi**, the Teacher Corps seeks highly qualified liberal arts graduates willing to teach for at least one year in an area "facing great educational challenges." Fifteen to 25 recruits receive scholarships to an intensive summer institute to prepare them for certification. In return, candidates agree to teach for at least one year in the district to which they are assigned in the fall.

Admissions windows

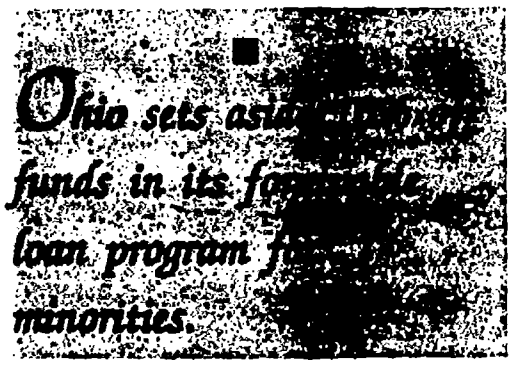
Some schools, colleges and departments of education are relaxing admissions requirements for minority students with weak academic skills. **Colorado**, for example, allows 5% of the students entering teacher education programs to meet nonstandard admissions criteria. They must, however, meet the same exit standards as other students.

Louisiana allows 10% of a school, college or department of education's students to be admitted through an "admissions window." Those students are not required to meet testing requirements until certification.

Forgivable loans

Thirty-seven states make loans that college students need not repay if they teach for a specified time (and sometimes in a specified place) after graduation. This type of program has been used primarily to recruit teachers in shortage areas, such as science, mathematics and bilingual education, although some states direct such loans at minority students.

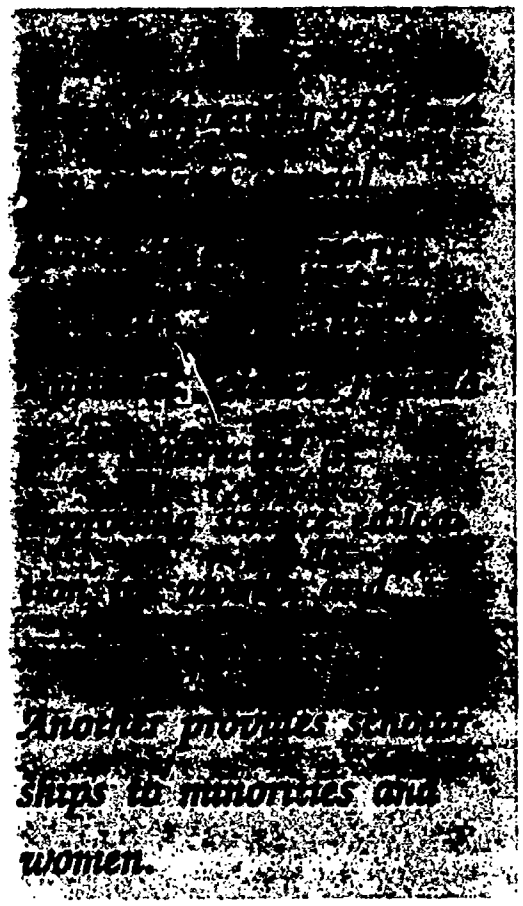
In **Indiana**, for example, the state's comprehensive education reform package included a loan forgiveness program which targeted minority students. That has since been replaced by the Minority Teacher Scholarship Fund which provides awards for black and Hispanic students. Recipients must teach for three to five years to have their loans forgiven.



Oregon gives priority to minorities in selecting recipients for state-sponsored forgivable loans. In **New Jersey**, the Minority Academic Career Program provides financial support to minority students in full-time doctoral programs. The loans can be redeemed by teaching full-time at a state college or university for four years.

Other financial aid

In **Maine**, the state university does not charge Native American students tuition. The **Nevada** Gaming Foundation for Educational Excellence offers scholarships to minority high school students who want to be teachers.



Selection criteria for the **Missouri** Teacher Education Scholarship is weighted to give minority applicants additional points. **New York**'s Teacher Opportunity Corps provides grants to higher education institutions with programs leading to permanent certification in teaching. The goals are to increase minority participation in teaching careers and to prepare teachers to work with at-risk students.

Washington's legislature recommended that efforts to develop teacher scholarships be targeted at minorities. It also approved money to help public institutions recruit minorities to their campuses. **Florida**'s Chappie James Most Promising Teacher Scholarship requires the percentage of minority recipients to reflect the percentage of minorities in the state population. The state chooses one student from each high school to receive up to $4,000 per year for four years.

In **Arizona**, the Board of Regents Task Force on Excellence, Efficiency and Competitiveness called for larger teacher preparation programs with universities actively recruiting minority students through improved financial aid and academic support programs.

Special offices

Michigan is among states with an Office of Minority Equity. Based on a recommendation from the Institute for Social and Educational Research, the **Massachusetts** state board of education approved an Office of Placement and Minority Recruitment to help attract more minority students to teaching in that state.

Collaboration

Also characteristic of current policy directions are two important types of collaboration. A number of measures to increase the supply of minority teachers involve partnerships between different levels of education agencies. For example, schools of education and high schools may work together to provide academic assistance to minority students interested in teaching.

A **Massachusetts** initiative is bringing two- and four-year

institutions together to develop a joint teacher preparation plan. That plan will allow a student to begin at a two-year college, transfer to a four-year institution and be eligible for provisional or state teacher certification upon graduation. Teams of two- and four-year institutions will develop coordinated programs to increase minority enrollment in teaching, assure the transfer of academic credits from one level to another and improve the quality of support services, assessment, basic-skills instruction and counseling. The effort will be evaluated for its effectiveness in increasing the transfer and graduation rates of minority students in teacher education programs.

In **New York**, where minority students in urban areas outnumber minority teachers three to one, the state education department is working with public and private two- and four-year institutions to jointly plan teacher education programs. Under the plan, minority students will begin the teacher preparation program at the community college and continue the program at the four-year institution. **California** has considered legislation to establish partnerships among schools, colleges and departments of education to provide academic support to minority students interested in teaching.

In other instances, regional collaboration has been important. The Southern Education Foundation, Inc., to which **Arkansas**, **Georgia**, **North Carolina**, **Tennessee** and **Virginia** belong, set up a task force to make recommendations about the recruitment of minority teachers to the governors of member states. The Southeastern Educational Improvement Laboratory has a program in which representatives of colleges and universities visit high schools to find black students who want to become teachers. The students are offered financial and academic assistance in college and a teaching job when they graduate.

Recruitment efforts

Indiana's Project SET (Student Exploratory Teaching), designed to encourage exceptional secondary and postsecondary students to enter the teaching field, emphasizes the recruitment of minorities. In **Delaware**, funds were provided for a job vacancy hotline for teachers and to develop recruitment materials. The state education department, legislature, school district representatives and others also formed a standing committee in 1987 to address recruitment issues with a focus on minority candidates.

Georgia established a full-time staff position devoted to recruitment issues. **Kentucky**'s state education department works with a historically black college to recruit minority students to the profession. The **Ohio** LEAD Center has as one of its major goals the recruitment of minorities into school administration. Because one cannot enter administration without teaching for at least three years, Ohio LEAD is making an effort to recruit and retain capable minorities into education.

The **South Carolina** educational reform act of 1984 required all school districts and the state education department to improve their minority recruitment efforts. Two grants also were awarded to two traditionally black institutions of higher education to improve their recruitment and retention efforts. The Beginning Teacher Assistance Program is designed to provide support for minority teachers in eight selected rural districts.

As part of an effort to restructure teacher education programs, **Virginia** asked institutions of higher education to specify

measures they use to increase the number of minority students in their teacher education programs.

> *Every higher education institution in Wisconsin must have a plan to recruit minorities into teacher education.*

In an effort designed to recruit future teachers, an **Arkansas** governor's task force made numerous recommendations to increase the pool of black students in the teacher education pipeline. The recommendations included summer programs on college campuses to guide and inspire 8th and 9th graders, scholarship programs and making teaching a more attractive career by raising salaries.

The **Florida** education department has a full-time minority recruiter and a full-time director for Future Educators Clubs (see box under "Early Identification of Prospective Teachers" for more information on the clubs). In **Kansas**, the state education department has helped school districts set up chapters of Future Educators of America, some of which focus on recruiting minority students.

Maryland's state board of education approved task force recommendations to recruit, promote and retain minorities in teaching. Recommendations included strengthening Future Teachers of America chapters and earmarking scholarship funds for minority teacher candidates. The state also has a full-time staff member to implement strategies to recruit, retain and promote minorities in professional positions in schools.

North Carolina is one of five states that worked with the Southern Education Foundation, Inc., to develop recruitment strategies. Several projects across the state focus on expanding the pool of minority teacher candidates by increasing minority enrollment in junior and senior high school college-preparation courses.

Rhode Island is among states taking a somewhat different direction by attempting to recruit more minority students into higher education. The state's Master Planning Committee decided in 1988 to make minority student enrollment a priority. One aspect of the plan calls for increasing the number of minority teachers in teacher education and graduate-level programs.

In **Colorado**, the Minority Teacher Recruitment and Retention Institute recommended that task forces be formed to address various issues. Those issues include alternative preparation and certification strategies, development of brochures touting Colorado as a good place to teach, development of a resource bank outlining teacher needs, networking of schools interested in recruiting and retaining minority teachers, incentives for prospective teachers and a communications plan to promote minority teachers.

Alaska's education department has made recruiting Native Americans into teaching a priority. An ad hoc advisory group composed of five education deans meets informally to discuss long-term plans to recruit minorities. In addition, education deans must prepare plans addressing the need to recruit, prepare and retain Alaskan Native students as teachers.

Appendix: The Minority Teacher Shortage Publication Series

For more information on the minority teacher shortage and its implications for policy, see the other ECS publications in this series. They include:

New Strategies for Producing Minority Teachers — Presents the results of ECS research and recommendations of the Alliance of Leaders for Minority Teachers. (TE-90-1); $10.

New Strategies for Producing Minority Teachers: Technical Report — Quantitative and qualitative data from the five case-study states (Arizona, Iowa, North Carolina, Minnesota, New York). (TE-90-3); $15.

Order publications from the ECS Distribution Center, 707 17th Street, Suite 2700, Denver, CO 80202.

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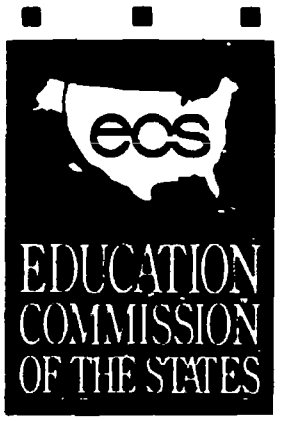

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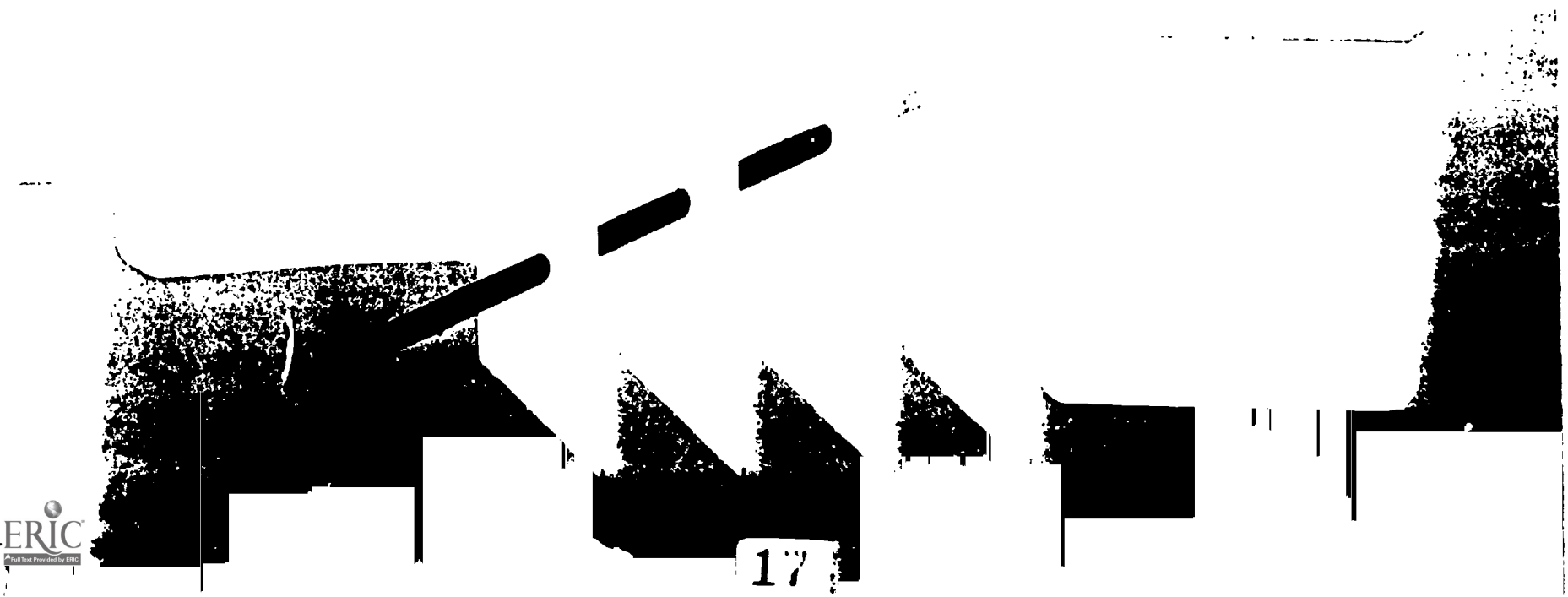

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Contents

The Alliance

The Alliance of Leaders for Minority Teachers was established in 1988 after a series of ECS forums about the future of the teaching profession. Those forums dramatized the need to address a growing shortage of black, Hispanic and American Indian teachers in the United States.

The Alliance brought together representatives of 22 education, research and policy-making organizations to share their views and expertise. All members are involved in projects in their own organizations which are designed to increase the supply of minority teachers. The Alliance met three times over 18 months to discuss and debate the implications of a minority teacher shortage and to explore the possibilities for turning the situation around. This report presents our recommendations for action. The recommendations reflect our views and thinking as alliance members; they do not necessarily reflect the official policy of the organizations we represent.

This report uses the term "minority" to refer to the under-representation of black Americans, Hispanics and American Indians in education and other aspects of American life in proportion to their population.

Alliance of Leaders for Minority Teachers

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A. Alfred Taubman Center for Public Policy
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Norman Francis, President
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Advisory Panel

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This report is the result of many people working individually and as teams. The five states included in this study were exceedingly cooperative in providing reports and state databases to the research team. Just as significant were the individuals who spoke with us candidly — on at least two occasions — about their perceptions and ideas. The authors and editors of this report and its companion documents have been careful not to reveal personal identities, to distort in any way or to abuse the confidentiality so essential to conducting this type of research.

This project would not have been possible without the cooperation and assistance of deans of education, principals, teachers, students and other state and institutional officials.

Also crucial to the success of this project were the members of the Alliance of Leaders for Minority Teachers and the Advisory Panel which assisted them.

Recommendations included in this report come from the Alliance. They were drawn both from ECS research described in this document and from Alliance members' own experiences and thinking about the issue. Each of the organizations represented by Alliance members has a strong interest in and commitment to resolving the shortage of minority teachers. To them we are most indebted.

Sincere thanks also go to the research and editorial teams who worked diligently to carry the project through. Beverly Anderson, Sam Betty, Judy Bray, Van Dougherty, Carol Edwards, Vinetta Jones, Leroy Kemp and Robert Palaich served as researchers and analysts. Lyn Hesketh, Joy Miller, Sherry Freeland Walker and Anna West of the ECS staff provided editorial expertise and other assistance.

The Education Commission of the States is grateful for the support of the Ford Foundation and the Metropolitan Life Foundation. ECS is solely responsible for the contents of this report. For information on other publications in this series, please see Appendix D.

Barbara J. Holmes
Project Director

The Issue

In 1987, only 10% of teachers were members of a minority group,[1] compared to 20% of school-age children.[2] By the end of the century, only 5% of teachers are expected to be minority,[3] while one-third of the students will be.[4] The nation's teaching force is becoming increasingly white, while its minority student population is burgeoning.

A teaching force unbalanced in its representation of the nation's population is inappropriate at best and has profound implications for the country. The United States cannot have a functioning democracy without respect for and involvement of all of its citizens. It cannot afford to be class-oriented, while other countries move toward a more democratic way of life. To do so would be to deny the contributions of many American citizens and an even greater number of the world's citizens.

In addition, the increasingly competitive international economy makes it necessary for American students to be better prepared than ever before to enter the work force and be responsible citizens. The U.S. Department of Labor reports that 75-80% of all new jobs in the next century will require post-secondary education skills. Minority citizens, as well as whites (who are predicted to be a minority of the U.S. population by late in the next century), must have the education necessary to be a productive part of the nation's work force. Minority teachers have a vital role to play in this education task.

Both minority and white teachers serve as role models for all students, helping them understand various cultures and guiding and supporting students in forming early habits. Because schooling provides the earliest near-daily exposure of children to life outside their homes, a diverse teaching force allows all students to understand people who come from backgrounds different from their own and to see persons of different cultures in leadership positions.

Diversity in school personnel also allows different views to be heard and considered when decisions are made about instruction and curriculum.

The rapid shifts changing the face of the nation will not be short term. By 2020, minority students are projected to make up 39% of the school-age population. Already, half or more of the public school students in 25 of the nation's largest cities come from minority groups. A society that reflects the full participation of all its citizens will be difficult to accomplish if only one in 20 teachers is a member of a minority group. At this rate, the average child will have only two minority teachers — out of about 40 — during his or her K-12 school years.

What led to the shortage?

The answer is complex and illustrates the dysfunction of the delivery of education to members of minority groups. According to the American Council on Education, "from 1976 to 1988, high school completion rates increased for African Americans and Hispanics ages 18 to 24.[5] However, as of 1987, Hispanics, African Americans and American Indians continued to be underrepresented among degree recipients compared to their enrollment levels in higher education."[6] Even where gains were realized, the rate of participation among minority students remains disproportionately low. After six years, only 24% of black students and 20% of Hispanic students have earned a degree, according to National Association of Independent Colleges and Universities figures.[7]

At the K-12 level, studies show that minority students often are assigned disproportionately to low-level courses, where teachers may have low expectations for their achievement.[8] They frequently are taught by inexperienced teachers in districts with few resources to help teachers progress professionally. Blacks, Hispanics and American Indians simply have not received equal or high-quality opportunities in schools,[9] a factor which contributes to lower college entrance and completion rates. Combined with economic, social and other factors, the possibility of becoming a teacher or any other professional is

reduced for many persons who are members of minority groups.

Of those minority students who do acquire a postsecondary education, fewer are choosing teaching as a career than in the past. The U.S. Department of Education reports that the field of education has declined in popularity among all students, but especially among black students.[10] The historically black colleges, which once produced half of the nation's black teachers, lost 40% of their teacher education enrollment from 1977 to 1986.[11]

The education reforms of the 1980s may have exacerbated the situation in part. Many states began requiring students to pass standardized tests to enter teacher education programs or to be certified to teachers in districts with few teachers. Such policies often weeded people out of the system, rather than helping them reach the desired standards. Minority teacher candidates were affected severely. A study of teacher test results in 19 states, for example, found that nearly 38,000 members of minority groups initially failed tests required to be certified as teachers.[12] These factors, combined with the declining image of teaching as a career, have resulted in a minority teaching force that is threatened with extinction.

The case for new strategies

Solving the problems that have created — and continue to exacerbate — the minority teacher shortage will not be easy. It will require cooperation between educators and policy makers at all levels of the education system. It will require galvanizing national interest in an issue that is only now gaining prominence.

This is not to say nothing is being done. In the last several years, many states and institutions of higher education have initiated policies or programs to increase the supply of minority teachers. In its 1988 survey of *Teacher Education Policy in the States*, the American Association of Colleges for Teacher Education found that at least 35 states were addressing the issue of minority teacher recruitment. Efforts ranged from improving the test-taking skills of minority students to establishing special offices to focus on minority student issues.

Many of these efforts have had some success, usually in helping students already in college or interested in teaching. What they generally have *not* done is significantly enlarge the pool of minority students from which future teachers will come.[13] The problem is simply too complex to be resolved through individual programs frequently designed and implemented in isolation from one another and from existing policies and practices.

The Alliance is concerned that policy decisions have been, and are being made with inadequate information. We believe the complexity of the problem requires a more comprehensive, informed approach. Success requires addressing the different issues at the same time and involving all concerned — state officials, institutional leaders, those in elementary and secondary schools and classrooms. We believe new strategies are necessary if the states and nation are to produce an adequate supply of minority teachers.

What should these new strategies do?

- New strategies must focus on *increasing the supply of minority teachers*, starting in elementary grades and continuing through staff development for current and future teachers.
- New strategies must be *coordinated and integrated through every level of the education system* — preschool to postsecondary education.
- New strategies must *address the short-term shortage while providing long-term solutions*.
- New strategies must *produce policies and programs based on empirical research* about supply-and-demand trends and about why single strategies have not worked.

- New strategies must *eliminate methods such as tracking or grouping by ability* that channel economically and educationally disadvantaged and minority students down paths leading to educational, and thus professional, deadends.

- New strategies must *recognize teachers as respected professionals* who have tremendous influence on the kinds of citizens and workers young people become.

This report is designed to help policy makers understand the issues and begin the steps necessary to end the shortage of minority teachers. Our recommendations for policy development by states, institutions of higher education and local districts and schools follow.

We urge policy makers at all levels to examine the ramifications of the minority teacher shortage and take immediate steps to begin producing a new generation of minority teachers.

We suggest a replacement of the "pipeline" metaphor with that of the "refinery." A refinery is a network of pipelines, connected through a web of junctions which are interdependent. This idea is discussed more in Appendix A.

The ECS Study

ECS chose five states (Arizona, Iowa, Minnesota, New York, North Carolina) as sites to gather data and conduct detailed case studies (see Appendix B for information on the methodology used and Appendix C for state profiles). These states represent a composite of types of states, in several respects. First, they are in different regions of the country. Second, they can be characterized by different population trends: those which historically have had a large minority population and those which have not. Third, they all are committed to resolving the collective underrepresentation of blacks, Hispanics and American Indians in administrative and teaching positions of their public schools.

The ECS research explored answers to the following questions:

- Can policy tools applied at various levels (pre-K through 12, postsecondary) of the education system alleviate the shortage of minority teachers in the long term?
- What strategies will enable a state to produce its own supply of minority teachers for the short- mid- and long-term?

Researchers looked at three places where teacher policy is made and implemented — state departments of education, institutions of higher education and school districts and schools. They gathered information on:

- Student recruitment and enrollment in higher education institutions and in education programs specifically
- Student retention and graduation rates in secondary schools and institutions of higher education
- Policies for recruitment and hiring of new teachers and other school personnel
- The institutional environment in colleges of education
- The institutional environment for minority students in general
- Conditions affecting the progression of minority students from preschool through secondary school and college

Readers will notice the "boxes" throughout the text. They contain a mix of challenges that describe the issue and give examples of state, institutional and/or local district responses. Obviously, we are limited by space; however, the visits to the selected states revealed a broad range and creative assortment of efforts to address the shortage of minority teachers.

The analysis

Researchers gathered this information through collecting statistical information from institutions and state departments of education and through interviews with a variety of persons in institutions of higher education, school district offices and schools. The statistical data were used to determine trends and project future conditions and needs.

Information from the interviews was used to develop a picture of the conditions under which minority and majority students matriculate. (The *Technical Report*, a companion to this document, presents some of the statistical information and the analysis of the quantitative data from each state.)

As ECS researchers reviewed the data, they identified three "lenses" through which the size of a state's minority teacher pool may be viewed. Often, states have used demographics alone, for example, to explain why they lack minority teachers. But researchers discovered that information collected in other areas also is useful in projecting future trends. The areas were:

- Demographics — Migration, birthrates and/or composition of personnel in school districts. Lack of a minority population explained some states' small numbers of minority teachers.
- Performance and participation — Graduation and dropout rates, achievement levels and college admission and retention rates. Poor academic preparation and counseling by elementary and

secondary schools prevent some minority students from meeting the challenges of postsecondary education.

- Career preference — College of education recruitment, enrollment and completion rates. Teaching is losing its attraction as a profession.

The relative importance of the first two factors varies from state to state. For example, a look at demographics shows the difficulty Minnesota faces in producing its own supply of minority teachers; historically the state simply has had a very small proportion of minorities in its population. North Carolina's problems can be explained more by the preparation and participation of minority students. But when all three areas are viewed together, they present a comprehensive approach for states to use in collecting information on the minority teacher shortage. States need this information to project supply-and-demand trends and formulate appropriate public policy. (See Appendix A, "Building the State Capacity for Action," for more information.)

Understanding the Complexities

In order to make appropriate policy decisions, state officials first must understand the complexity of the minority teacher issue. The ECS study found there are several themes* that describe how the minority issue is viewed and dealt with in a state or institution.

- The purposes -- What values or commitments guide the programs and policies or those who carry them out?
- The people — What are the roles and responsibilities of those in charge of implementing programs or policy?
- The power — How much priority does the program have or how much power do its leaders have?
- The elementary and secondary school environment — What measures are taken to insure that minority youngsters are not disproportionately placed in low tracks? What measures are taken to insure that students who are enrolled in academic tracks are adequately prepared for the level of work they will encounter in college?
- The institutional environment — What support do students and faculty have? What importance does the college of education have to the institution?
- The policies and programs — What policies and programs were designed to carry out these purposes and are they successful? Are efforts in place to determine or assess effectiveness?

* The major themes discussed in this section emerge from a cluster analysis of all the interviews in the study states.

Purposes

Information obtained from the states and the institutions studied suggests that a number of purposes, values or commitments guide each one's approach to producing and/or recruiting minority teachers. The primary purposes behind efforts to address the minority teacher shortage were:

- Excellence — Striving for higher educational standards
- Equity — Treating people fairly and providing equal facilities, courses and resources
- Access — Opening institutions and programs to all who qualify
- Eligibility — Providing the educational skills and knowledge needed to meet new standards

State and institutional leaders saw these purposes as overlapping and, in some cases, conflicting. For example, one of the hallmarks of the educational reform movement of the 1980s was the use of standardized testing as a way to improve the quality of teaching and learning. Conflict between excellence and other educational purposes, like equity, became evident as many states and institutions initiated tests to screen students eligible for teaching programs and for certification. While arguments over the utility of such testing continue, many institutions find themselves struggling to recruit minority students who can pass entrance tests or to produce minority students who can meet test-based certification standards. Few study respondents were familiar with literature that challenges the **validity** of these tests, and few challenged the use of such tests. Additionally, few respondents thought it was their responsibility to "qualify" more students rather than to seek already qualified students.

Tension between excellence and equity was found also in secondary schools' need and desire to reduce the dropout rate while at the same time raising student test scores and increasing the college-going rate. This tension was felt most keenly in schools with a high minority enrollment. Some New York City secondary schools, for example, had more than 80% minority enrollment. About 70% of students dropped out. However, those who stayed in school went on to college at much higher rates than the state average. Other high schools in New York State urban areas had lower dropout rates, but the

proportion of students enrolling in college was no better than half the state average. All of the urban school districts for which ECS staff had both testing and dropout data exhibited the same pattern.

Another tension existed between access and eligibility. Most higher education institutions were committed to ensuring minority student access to their programs. But few were committed to guaranteeing that, once admitted, minority students would be provided the help they need to succeed in those programs. Ensuring eligibility costs money, takes staff time and is difficult to do. Institutions have a long history of controlling admissions and enrollment, but less control over assigning financial support and ensuring student readiness and motivation. Institutions argue that these latter variables often are determined by forces outside the college or university.

Lack of clarity about a program's purposes also caused tension. Institutional leaders in areas with large minority populations often felt obligated to do something for that population or to, perhaps, risk political censure. But others sometimes questioned the effectiveness of and support for special programs for minorities. Faculty also often did not perceive to what degree the administrative staff was committed to these programs.

Some institutional officials felt that equity and excellence were incompatible. Those institutions that were not committed to both did not achieve excellence because they left so much potential untapped.

People

Committed people working in the right conditions are necessary to carry out whatever purpose or purposes a state or institution wants to serve. Persons interviewed for this study occupied different positions in their institutions and performed varying roles. They had different levels of knowledge about the shrinkage of the minority teacher pool and viewed the problem in individual ways. How aware individuals were of the shrinking pool of minority teachers and its causes was strongly linked to how involved they were with the issue.

Most of those in university administrative jobs knew the statistics and could talk about what their institutions were doing to address the problem of a minority teacher shortage. Principals knew how many minority faculty were on their staff. District officials talked easily about the percentage of staff who were minority.

Higher standards will have to be flexible for special populations. It often takes longer for those students to complete the requirements, and socioeconomic factors keep students from persisting.

Associate Dean of Education

Mid-level managers, however, understood the problem in human as well as numerical terms. Managers of minority student programs, assistant superintendents for personnel, assistant principals or the school of education faculty member in charge of minority affairs had a better grasp of why the problem existed. Those in the university, for example, were likely to point out that minority youth who grew up in urban areas had to overcome a considerable cultural gap when they moved from their homes to the rural, white-dominated teacher-preparation institution. They were likely to know of a promising minority education student who had to leave school for financial reasons. They knew about the loneliness of the single black faculty member.

Respondents *not* in management rarely had full information on the

problem. Only those with access to data and analysis of the issues knew enough to understand fully the nature and pervasiveness of the problem.

These differences in access to information led to various definitions of the problem and thus to different responses. Within an institution, researchers found three or four definitions of the problem. Those definitions were quite different from those of school districts and states.

Those in upper management tended to see the shortage of minority teachers as a given — there simply weren't adequate numbers of minority teachers. They were likely to define teacher production strictly in terms of recruitment, giving little time and effort to retaining minority students in the schools of education. The assumption for many was that if the institution recruited "enough" minority students, then "enough" would emerge with diplomas at some point later on. "Enough" was often carefully defined by a regents' pronouncement, a chancellor's commitment or the state's higher education coordinating body.

Some institutional administrators had difficulty understanding why they should be concerned about a shortage of minority students in teacher education. Many at the highest level of leadership were more committed to enrolling minority students in business, math or other majors than they were to attracting them to teacher education.

Power

To be successful, a program or policy must have power behind it, whether in the force of an individual, a statute or whatever it takes. Institutional staff designing programs to produce more minority teachers must address questions such as:

- What power or priority will such programs have?
- Will programs have a built-in, organized institutional or social constituency to support and protect them?
- Will minority students or faculty support the program within their schools?
- Will parent groups, community organizations or the business community fund and encourage the program?

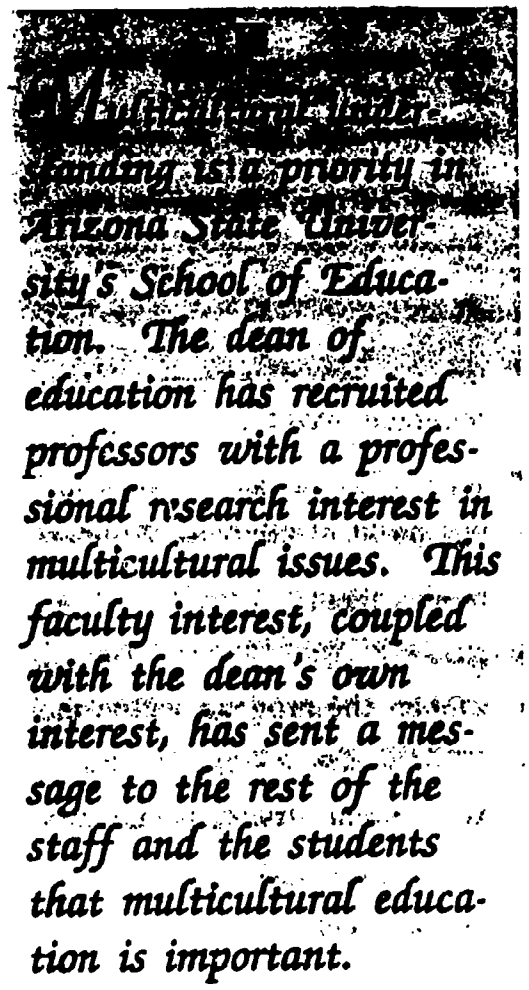
When programs succeed, they do so for a variety of reasons. Sometimes they have an influential staff who can command respect. They may be endowed with resources and able to spend their way to success, or staff may have been able to build a wide base of support. Of the 12 higher education institutions studied, the most effective programs for involving minorities in education curricula were those that reached out to minorities. Programs, such as the one at New York's Hunter College, which takes faculty into local high schools, appeared more effective than "desk-bound" programs. Another hallmark of success was the degree to which programs stimulated contact between faculties and students. A major problem for many of the programs was the lack of faculty concern.

New York's Teacher Opportunity Corps sponsors 16 programs throughout the state for undergraduates and graduates. Targeted at young students determined to be 'at risk,' the program requires higher education institutions to show collaborative efforts with schools to identify students as prospective teachers early.

One of the most difficult challenges is that of crafting program support when there is no organized supporting body. Programs with no

organized constituency wither and die. Most of the programs ECS studied lacked broad-based support. Elementary and secondary schools, for example, often had no broad-based coalition of teachers, parents, corporate sponsors, unions and administrators to support programs designed to help minority students. Early identification programs were the special concern of a few administrators or teachers. Programs designed to help minority students succeed in school had the support of administrators, but sometimes lacked teacher and union support.

In several instances, a program's "power" lay simply in the will and passion of a single individual or a small group of people. In particular, when there is a gap between what a program is designed to do and what it is able to accomplish, the key to success may be staff who are passionately committed to making the program work, willing to give extra time and experiment until results occur.



Institutional or state authorship of a policy does not guarantee success, even when there are penalties for noncompliance or rewards for compliance. A better approach than relying on an individual or a small group is for leaders to gain consensus on policy before it is put into place. Otherwise, minority student programs that have, for example, only minimal faculty or teacher involvement become the "turf" of those who run them. Too often, policy makers fail to examine the efficacy of policy and who will implement it.

Environment

"Environment" includes factors that affect how a policy is carried out in a state or institution. Judging from interview responses, the most important of these are the home and community atmosphere in which minority students grow and develop, the locale and climate of schools of education, the size and type of postsecondary institutions providing teacher training, the importance of education in the curriculum of colleges and universities, and the social status of teaching and teachers. Some of these factors directly affect choices minority youth make during their schooling. Others have a more indirect effect.

Some principals referred to the lack of rewards for teachers to explain why there is a lack of minority teachers. They believed that minority youth were attracted to other professions or careers because teachers were not respected as professionals and not adequately paid. For many, teaching used to be a respected way out of poverty. However, that is no longer seen as true, even though some states and school districts have taken steps to upgrade salaries and help teachers be seen as professionals. Policy planners must examine the sources of this loss of respect. But regardless of its source, the loss itself affects the interest of those who would be or who are teachers. For minority youth, who often lack respect from others in this society,

the decision to choose a profession which is not highly respected incurs considerable sacrifice. This pattern is reflected in the growth of minority mathematicians and computer scientists over the last five years, which has been substantially greater than the growth in minority teachers.[4]

The problems of low status for the teaching profession also affect the morale and performance of teacher-preparation faculty and their responses to minority candidates for teaching. At several institutions studied, education program administrators and faculty spoke of resource battles with other departments within the institution. If society praises engineering, business, law and medicine, institutions are likely to see the development of faculty and curricula in those areas as a way to prosper. Until schools of education are perceived as having equal importance with other schools in the university setting, top students will not gravitate toward them.

These problems interact with other environmental issues. How an institution viewed the problem of a minority teacher shortage also depended largely on its type and size. Because state funding is tied to the number of students enrolled, larger institutions were likely to have well-developed minority recruitment programs for students and faculty and better student financial-aid programs. Small institutions also are less likely to have the political clout necessary to obtain resources for programs specifically designed to aid minority students.

Respondents from some institutions worried, though, about whether they could create a supportive environment for the minority students and faculty on their campus. They weren't always sure what the problems were. When asked what problems minority students might have on one campus, a white respondent replied, "Only the problem that the rest of us here all are white." Small institutions are likely to offer minority students and staff better social support. But minority students and staff are less likely to find large numbers of friends from their racial group in such locales.

Some of the students interviewed for this study reported a heightened level of hostility against minority students on campuses that were largely white. Racial tension, they said, takes a heavy toll on the retention rate of minority students in predominantly white institutions. It can be even worse when the minority student population at an institution is small or located far from large urban areas with concentrations of minorities. Institutions that emphasize enabling faculty and students to work and socialize with persons of other cultures will find this less of a problem. In addition, institutions that collect data on why students leave may be able to pinpoint racial problems as contributing factors.

Interview responses indicated that institutions with a predominantly minority student body offered the most supportive social environment for students, but such institutions visited in this study were in desperate need of broader financial-aid options for their students and increased resources.

■

Four areas particularly make it difficult to sell this institution to minority students: racial incidents involving students and employees; the size of the university and its impersonal atmosphere; the incredible difficulty of first and second year students to get into classes required for appropriate sequencing like biology and psychology which are large; and, a difficulty with deadlines and the bureaucratic procedures.

An Associate Dean for Undergraduate Admissions

Policies and programs

Policies and programs are the "heart" of any effort to serve minority students more effectively, spelling out the state, institution or district commitment to proceed in a particular manner. Public policy deals with change and is laden with values. More often than not, it is reactive — put into place to respond to a condition that already has developed o to an event that has occurred.

Some facets of policy can have a negative impact on a particular area of the community or particular groups within the community. Among them are those who will be responsible for putting a policy into place and the conditions under which it will be implemented. State officials should examine policy for these and other potential problems. In addition, they should be careful not to formulate policy in haste. Public education has sufficient history for policy makers to understand the need for careful information-gathering prior to introducing new policy. However, these factors have not always been evident in education policy; some policy has precipitated the shortage of minority teachers by excluding minorities from entering, participating in and completing the education "pipeline" that leads to prosperity in this nation.

In spite of policy's negative effects, all institutions included in this study were trying to aid minority students. Some had programs explicitly designed to help minority students obtain teaching degrees and certification. Others had pro grams aimed at recruiting minority students or hiring minority faculty. One institution had more than 50 such programs.

Schools need more counselors and social workers to deal with students who are poor or abuse.. The kids are hurting.

Principal

Some program personnel, however, con plained that their programs or an institution's office of minority student affairs were woefully underfunded. Others felt their programs were window dressing. In only one case did ECS staff obtain a clear evaluation on a minority issue initiative undertaken by an institution. Bemidji State University had reached its established minority hiring goals and reported the data to show its success.

The continuing plight of minority students in spite of the prevalence of special programs at both the school and institutional levels raises fundamental questions.

One can begin to answer these questions by taking stock of the activities in these programs. Academic programs consisted largely of people presenting, meeting, calling one another on the phone, discussing, writing memos and so on, activities described by one respondent as "communicative behavior," which is more a matter of discussion rather than action. These behaviors raise more questions.

- Are the programs doing any good?
- Have they been adequately evaluated? Are they too new for evaluation?
- Are there basic flaws in program design and philosophy?
- Do shortcomings lie in implementation problems rather than design?
- How many of the activities associated with programs are administrative and how many are related directly to substantive program outcomes?
- How many of the activities involve direct communication with minority students, staff or faculty?

- How many break through accepted institutional boundaries and reach out to students or faculty rather than requiring them to take the first step?
- How many of the activities are characterized by cooperation and trust within the institutional systems?
- How many have only marginal support or meet with ambivalence from people on campus?

When program staff indulge largely in bureaucratic activity, it is unlikely that programs of any type will be effective. Spreading the word, protecting turf and arguing for resources takes away time that could be spent on meeting the needs of students. However, programs often lack support if managers do not spend some time lobbying for their programs. The real objectives of programs suffer when this dilemma is left unsolved and program staff experience frustration and failure. A few respondents felt that the bureaucratization of programs was a device employed to ensure that programs do not succeed. A better approach would be to reduce paperwork and other procedural tangles that take time away from program objectives.

■

Believing that the college of education would not change fast enough to meet demands for restructuring teacher preparation, Northern Arizona University's president in 1984 abolished the college and instituted the Center for Excellence in Education. The center's director reports directly to the president and in its six years of existence has won numerous awards.

Administrators and program staff face another dilemma in deciding how extensively to publish program activities. Some program staff said they feel as though they work against the existing norms of their institutions or districts and feared greater program publicity. Some managers thought they were being monitored and believed some programs were set up to fail.

Policy Recommendations

The recommendations below are designed to help policy makers move toward a teaching force that proportionately represents the population. They are based on the results of ECS research and on alliance members' own analysis and study of the issue. Although recommendations are directed at specific sectors, some apply to more than one level of the education system. Regardless, the goal of any policy or strategy must be to increase the supply of minority teachers.

Many aspects of the recommendations presented here are being implemented in the states selected for this study and in many others as well. Nevertheless, a program will often only respond to a single aspect of the problem surrounding the conditions of matriculation of minority students. Therefore, the following recommendations, and the rationale or discussion which follows the primary recommendation, results from our observations of where and how a policy could be reexamined or a program aspect included to strengthen efforts already under way.

State leaders

1. State leaders should develop and put into place a comprehensive plan that views post-secondary and elementary/ secondary education as one system.

This plan should be *coordinated by the state but should involve all levels of the education system.* Until all sectors acknowledge that each depends on the other, efforts to enlarge the minority teaching pool will be unsuccessful. Colleges and universities cannot graduate minority teachers if minority students come to them with a substandard elementary and secondary education.

The Minorities in Teaching program, at the University of Northern Iowa, reaches minority youngsters at the middle school level. Five local districts participate and the state legislature has made funds available for the program. It brings young people to the campus and exposes them to the possibilities of higher education and to teaching as a career. As one superintendent said, "You have to say you're going to do it publicly, when no one can back down."

Each state should work with its colleges and universities, schools and districts to *develop a plan that includes strategies appropriate to its own unique situation.* Some of those strategies will be new to the state, while others may be in use already. Many current strategies make valuable components of any overall plan, as long as they are designed and carried out in harmony with one another and not as individual programs. States will benefit from finding out what similar states are doing.

One part of a comprehensive plan may *include state help for teacher-training institutions that need to provide academic assistance to some students.* States may want to allow talented minority students with poor academic backgrounds to enroll in college conditionally. Those students would be required to take courses designed to overcome their deficiencies. But, careful monitoring and assessment of program effectiveness should be features of such efforts.

Another part of the plan could *include creative strategies to address the dropout problem.* In a time of rapidly increasing economic competitiveness, both at home and abroad, states cannot afford to let young people slip through the

cracks of the system. States may want to work with schools, businesses and community groups on joint programs aimed at dropouts or potential dropouts. Again, this effort should involve the entire system, addressing the dropout problem at all levels.

> *Teacher education does not receive federal dollars unless it is for special disciplines like science and mathematics. Generally, other disciplines carry attractive financial incentives which encourage and attract students.*
>
> *A Financial Aid Officer*

Strategies to interest young people in teaching could be another valuable component. The state could work with schools and higher education institutions to provide students with the information and assistance they need to become teachers. More than half of the states *offer free tuition or loans that are forgiven* for teaching a specified number of years in state schools. While effective in attracting students who already are interested in teaching, this approach should be focused on talented students who have not yet shown an interest in teaching. Teacher aides are another group a state could target with offers of tuition assistance for those who wish to work toward their teaching certification. A powerful and lasting message is conveyed to children when most administrators and teachers are majority group members and paraprofessionals and service staff in the schools are members of minority groups.

For current teachers and for students already in the teacher education curriculum, state officials could *create incentives for institutions (and school districts) to provide multicultural training*. While principals and superintendents speak of the need for teachers who can understand and work with students from a variety of cultures, many teachers have virtually no training in doing so. All teachers, minority and majority, must be able to cross cultural boundaries and accept and welcome any child in his or her class, regardless of cultural or socioeconomic background. After such training is made a part of teacher preparation and staff development, states should consider assessing applicants' ability to perform with culturally diverse groups as an aspect of initial certification.

To ensure that a broad plan is carried out and integrated across each level, states may want to *establish an advisory group charged with monitoring the need for and production of minority teachers in the state*. Such a group could be under the authority of the governor, state board of education or another person or agency with the political clout needed to see that the panel's views are heard widely. Among its responsibilities could be creating a "shared vision," overseeing the collection and evaluation of data, monitoring the progress of minority students through the higher education system, and lobbying for funding. This group could be an informal committee; it should not be another bureaucratic agency. Its primary purpose is to get representation and participation of all the sectors involved.

2. States should collect information about all factors affecting the minority teacher shortage — from demographic trends to student performance and participation to career preferences.

ECS has found that some states may not understand the nature or the complexity of the minority teacher shortage. Some, for example, have failed to collect racial and ethnic data consistently during the past two decades. Information gaps make it difficult to plot supply and demand trends and predict teaching-force needs. States should *assess gaps in their information*, determine where more information is needed and collect missing data (see Appendix A,

"Building the State Capacity for Action"). Since states, institutions of higher education, school districts and schools currently look at the problem in different ways, this information should be shared with and used by all levels of the education system to promote a statewide understanding of the problem.

3. States should examine policies and practices for their effect on the production of minority teachers.

In states where there are both predominantly white and black institutions preparing teachers, states could provide incentives to encourage collaboration between them. Moreover, states could more equitably allocate resources — financial and otherwise — between public predominantly black and white institutions. Most of the historically black institutions are in the southeastern region of the country. The historically black institutions were the largest producers of black teachers prior to 1976, awarding nearly three of every four bachelor's degrees in education received by black students in the Southern Regional Education Board states and 54% nationally. Even with the decline of education degrees to blacks, the historically black institutions continue to be the largest suppliers of black teachers.[15] States could tap the expertise of these institutions and use them as models of recruitment and retention strategies, including financial aid and other forms of support.[16]

State officials also should look closely at the *assessments used to determine whether a candidate is fit to teach*. If their states rely on standardized tests, leaders may want to study whether those tests have resulted in a more qualified work force. They also should familiarize themselves with the research on the value of standardized testing and its limitations as a sole indicator of teaching ability.[17] States would benefit from providing resources and encouragement to *develop and use multiple measures*, including performance assessments of teachers' cultural sensitivity.

Likewise, states that use alternative means to certify persons to teach should assess the effectiveness of that approach to determine if it results in quality teaching.

Some state policies may promote isolation for teachers, such as the lack of reciprocity between states. I have taught in four states. Each time my academic credits were not accepted totally; I had to take new courses, lost credit in my retirement system and had to sit for certification tests again. It's a mess.

College of Education Faculty Member

Alternate routes could be used to increase the pool of minority teachers, if they are designed carefully and teachers' performances is assessed periodically. Such routes also should include at least a year of clinical experience in a classroom prior to certification.

States that use tests for initial teacher certification could benefit as well from *expanding reciprocity agreements with other states*.[18] The use of different tests and different scores required to pass make it difficult to judge the competency of teacher candidates prepared in another state. Because every state cannot be expected to "grow its own" supply of minority teachers, states within a particular region may want to follow New England's recent example and approve a regional certificate.

4. State officials should work with colleges, districts, schools, teachers and the public to elevate the status of teaching.

Teaching's poor image is defeating the nation's efforts to create a more racially and ethnically balanced

teaching force. Dissatisfied teachers unintentionally send negative messages to their students about the value of teaching. The traditional structure of schools (with some teachers responsible for 150 students) prevents students from having much interaction with teachers. Combined with reports of low salaries and poor working conditions, the status of teaching is leading many qualified minority students to choose other careers. At the same time, some institutions are shifting money away from teacher education to more popular professions such as engineering. This step could result in future programs of lesser quality.

States can play a role in improving teaching's popularity and image. One strategy is to *encourage schools and districts to give teachers and principals more authority* over decisions about curriculum, instruction and the structure of the school day. A second is to raise salaries to national or regional averages. Studies have found that lack of power, perhaps more than any other factor, demoralizes teachers and principals and exacerbates teaching's image as unprofessional. *With power must come improved salaries*, particularly for new teachers. Beginning teacher salaries must rise as the shortage of teachers continues and standards are raised.[19] The school year may need to be lengthened so that teaching becomes more compatible with other professions.

College and university leaders

1. Colleges and universities should collect and report participation and graduation rates by race and by program. Institutions, like states, could benefit from preparation of comprehensive, institutional plans for developing minority teachers.

These data would serve several purposes. First, they would allow the public and policy makers to understand how the shortage of minority teachers affects their state. Second, they would enable the state to assess how effective the state and institutions are in meeting minority community needs. Institutions also should *gather data by program on why minority students leave* the institution. Without this information, state and institutional officials will be unable to plan appropriate programs or track the progression of minority students through the higher education system, particularly through teacher education programs.

College and university personnel also need the information to understand where minority students are in the system and how they are faring. Within one institution, there may be three or four definitions of what are minority issues, depending on one's position (e.g., provost, admissions officer, dean of education, faculty, students). In addition, because some institutions do not ask entering students to declare a major, education deans often are unable to identify prospective secondary school teachers until after the students have finished their liberal arts studies. This practice makes it difficult to recruit students to become secondary teachers, a sector likely to experience a profound shortage of minority teachers in the future.

2. Institutional leaders should make their commitment to minority student success obvious to faculty members.

Colleges and universities may want to *establish a special office* devoted to minority support and assistance and to monitor the retention and completion rates of minority students as compared with other students. A minority student office could serve as the center for a minority student network. Institutions with large minority populations may find that other arrangements work better, such as mainstreaming the administration of minority student programs into the normal functions of the university.

Faculty and staff who are especially interested or gifted in working with minority students could be requested to serve as mentors and be rewarded for doing so. Institutions

should *consider recognizing and rewarding faculty who take extra steps to assist minority students* and to involve minority faculty in collegial activities. Such recognition could take the form of monetary bonuses or other means.

Colleges or schools of education can *provide talented students with additional aid.* Seminars and workshops can help prepare students to take the tests required for entry into or certification in the teaching profession. Early internships could provide the extra clinical experience that district and school officials say new teachers need. They also could motivate minority students to enroll in teacher education.

■

The College of Education at North Carolina A & T University participates in an Alliance with six school districts to discuss student teaching programs – needs and problems. This device helps with coordinating assignments and allows the university to know what's occurring in the schools.

Colleges and universities also have the responsibility to *monitor progress of students and intervene if problems, such as financial difficulties, arise.*

3. Colleges and universities should collaborate with public schools and community colleges on ways to ease the transition from high school to college and community college to four-year institutions.

■

A postsecondary options program between the Bemidji Public Schools and the university allows students in the 11th grade to take postsecondary courses. Counselors help students decide whether to take classes and what they should be.

Colleges and high schools should *work together on a number of issues to ensure that minorities leave high school ready to enter and succeed in postsecondary education.* These issues include curriculum, expectations, testing requirements and others. Postsecondary institutions also could *take their courses to high school campuses* to expose minorities to college work and work with students who take Advanced-Placement courses.

■

Queens College and LaGuardia Community College are engaged in a collaborative effort to recruit teachers. Initially designed for increased articulation, it now includes joint registration.

■

In North Carolina, an admissions officer assists applicants who do not meet enrollment requirements. He advises them to take certain courses at a community college for one year; then they become eligible for transfer.

Statistics show that a greater proportion of minority students enroll in two-year community colleges than in four-year institutions. They also are more likely to enroll

in nonacademic programs, making it difficult, if not impossible, to transfer later to a four-year institution. States that lack articulation agreements between two- and four-year institutions need to *initiate steps to allow students to move easily to a four-year college or university.*

4. Colleges and universities should prepare prospective teachers to teach students with different learning styles, abilities and backgrounds.

> *If I could change my schooling experience, I would take the teacher education classes earlier and put the clinical experience in the sophomore year, with at least two days a week in the schools.*
>
> *Teacher Education Student*

Principals interviewed repeatedly asked for teachers with more experience in the classroom before they actually are assigned to one. Teacher candidates and teachers certified through alternative routes need clinical experience early and prior to entering the classrooms. That experience needs to be consistently supervised by college of education faculty.

Institutions should *ensure that counselors, as well as teachers and faculty members, understand a variety of cultures.* Again, principals expressed a desire and need for teachers and other staff who can work with students from a variety of backgrounds.

> *Courses on cultural diversity should attempt to go beyond attaining awareness to look at different cultures in light of learning styles and building upon what people already know.*
>
> *Graduate Teacher Education Student*

This ability applies to majority, as well as minority, staff. School personnel must be able to work with students from different cultural traditions and who come to school with a gamut of skills and problems.

District and school leaders

1. School boards and district and school leaders should acknowledge the importance of having a multicultural teaching force and foster the environment necessary to achieve one.

School boards and leaders should *set a goal of obtaining a multicultural teaching force* for the district and all schools. The call for a teaching force representative of the nation's population should come from the community's education leaders as well as from the state. School leaders should *inform the community about the issue and consider forming local coalitions.* Such coalitions could lobby the state for action and make suggestions about what should be done to get more minority teachers into the schools.

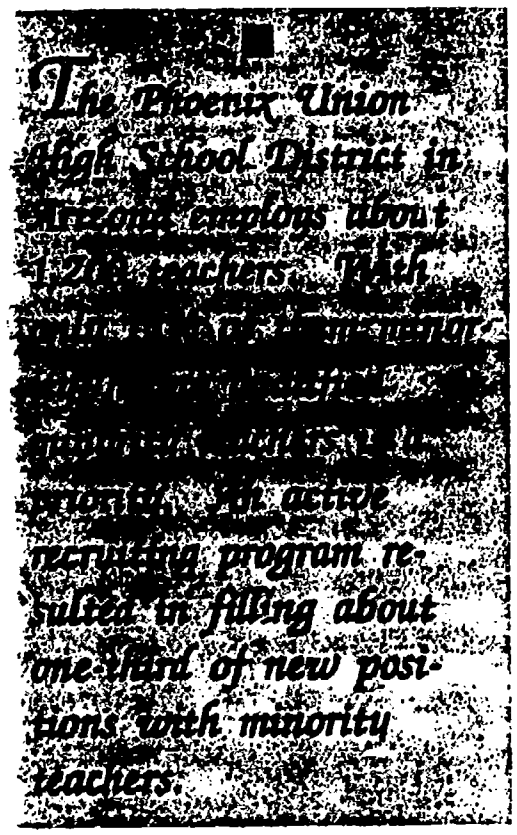
> *The St. Paul (Minnesota) School District has a Minority Recruitment Team comprised of teachers, principals and central administration staff. Members attend professional meetings and stay over a few days for recruitment activities.*

2. Districts and schools should examine their instructional practices and curriculum for discriminatory elements.

Fewer than 30% of minority children take courses that prepare them for a four-year college or university, according to the Quality Education for Minorities Project.[20] For example, many districts continue to "track" poor and/or minority students into low-level courses.[21] *Eliminating such grouping* will ensure that more minority children, as well as majority, have the education they need to enter, participate and finish higher education. It is not enough to recruit talented high school graduates; the minority teaching pool of the future will come from those now in elementary school. And students going to high school must be ready to take academic courses that will enable them to enroll and succeed in post-secondary studies. Students require more thorough counseling prior to and during high school on courses to take and they need better alignment of academic track courses with college level work. Many graduates of urban school districts can end up in remedial and developmental studies.

3. Districts and schools should ensure their managerial, administrative and compensation policies do not hamper minority recruitment and retention.

Among other things, districts should *examine the practice of placing newly hired teachers in schools with high concentrations of minority students.* These students often need experienced teachers. And new teachers are apt to become so disillusioned, they leave the system. Teacher attrition among new teachers can be traced in part to the lack of support, not to a dislike of the school they are in or its students.[22]



4. Schools and districts should strengthen ties with the community to see that all sectors are aware of the issues involving minority students and teachers.

Parents sometimes lack the skills to communicate with the school, and vice versa. Teachers need training in building networks with parents and in helping parents be allies of the school. Activities such as *home visits, parent lunches, phone calls and invitations to visit the school* can help change the image of teaching and enlist parents' help in recruiting their children into the profession.

Schools can also *form stronger bonds outside the school building* through such simple means as bringing minority community members into the classroom as guests. One rationale for increasing the numbers of minority teachers is to provide an adult minority role model for both white and minority children. Minority professionals other than teachers can help fill this need. Such ties are particularly helpful when minorities are only a small percentage of the population.

Businesses can be enlisted to help with the dropout problem. Schools and businesses can work together to place dropouts in jobs with a promise of better pay if they go back to school part time. Dropouts also could be promised specific training if they return to school. Dropouts who learn that respect and material success are strongly linked to education may sustain their involvement in education.

5. Schools and districts should identify talented minority students early and see that they get the preparation and guidance they need to enter and succeed in college.

If there were more scholarships and attractive internships available, and if testing procedures were appropriate, more minorities would enter teacher education. Other specialties such as engineering offer numerous opportunities.

University Placement Director

The minority teacher pool will only increase if more minority students are able to enter and succeed in college. To *ensure that minority students receive an education equal to that of other students*, district and school officials must make sure minority students are aware of the opportunities available to them. They could *sponsor prospective teacher clubs* to inform minority students about teaching and its benefits.[23] Another strategy to attract students to teaching is to *provide internships*, preferably paid ones, in extended day-care centers associated with the neighborhood school. In such environments, students have the chance to communicate with smaller children and to experience what it is like to serve as a role model.

The policy recommendations presented above can be used to help a state understand its own situation, assess its capacity to respond to the issue; identify the junctures in the process of schooling where minority youngsters are likely to fall behind; determine how policies and practices may conflict with stated goals; and take steps to alleviate the shortage.

Conclusion

State, institutional and local policy has the potential of alleviating the shortage of minority teachers in the long term. One key is a *comprehensive, well-integrated state plan based on factual information and involving the entire education system.* As this report demonstrates, the minority teacher shortage doesn't start in college; it starts with the underpreparation of many minority students in elementary and secondary schools.

Policy makers can analyze recommendations in this report as to whether they will yield results for the short-, mid- or long-term. They can sort them as to which level of the education system they pertain. However, only when states, institutions and districts look at the different levels of schooling as *all one system* will integrated, comprehensive plans emerge.

The first step to accomplishing this goal is systematic data collection effort. States currently know little about the minority student population in their schools, their academic participation and performance or their career choices. Consequently, there is no way to assess what the future minority teacher pool will be and how students make decisions about work and careers. Likewise, states lack information about minority teachers hired by school districts, their preparation, their assignments or the choices they make if they leave teaching.

When this information is available, states, institutions and school districts will be able to make the decisions that will result in a sufficient supply of minority teachers in the future.

We urge policy makers at all levels to begin today to take these steps. The future of the nation may depend on it.

Appendix A: Building the State Capacity for Action

Discussions about the size of the minority teacher pool often are cast in terms of a metaphor — the "pipeline," the various education levels one must pass through successfully on the way to becoming a teacher. Useful as the metaphor is, it does not describe the complex forces that affect efforts to recruit and prepare minorities to enter the nation's teaching force. ***A more suitable metaphor may be "refinery" — a network of pipelines, connected through a web of junctions and dependent on one another to work.***

Proper management of a refinery requires information. One must know the chemistry of the process, the flows of resources, the pressures created during refinement and the valves designed to release those pressures and to direct flows effectively. Information is a must.

So it is with the process of managing the minority teacher pool. Without adequate information it is virtually impossible to gauge the effectiveness of one's efforts. Will policy A drive more minority teachers into retirement? Will policy B make minority teacher production more difficult? Will policy C drive talented minority students into majors other than education? What policy will enable sufficient numbers of minority students to enter teacher training programs? Answers to these questions require information about the flow of people, resources and programs which constitute the pipeline network as a real, living system. That information simply is not now available in the form or quantity necessary to help policy makers answer such questions. For that reason, the first step for any state wishing to increase its supply of minority teachers must be to collect and analyze the information that will allow policy makers to make decisions based on fact and not emotion.

The following pages describe the kinds of information which, if collected, will allow policy analysts to evaluate the relative success or failure of present policy in increasing the size of the minority teacher pool. The kinds of information required can be divided into three broad categories — demographic information about the population of schools, districts and states; information about schooling itself — test scores, student participation in programs and dropout rates; and information about college and beyond — what students major in, their persistence and graduation rates in college, their graduation rates and information about certification and teacher employment.

Collecting information by these categories gives states three "lenses" through which they can analyze minority teacher supply and demand. As states move to using this model, data become more comparable across districts, states, regions and the country as a whole. Comparable data will make reciprocity agreements easier to facilitate and will make a national view of the issue possible. (For more information on how the three categories were used to collect data for this report, see *New Strategies for Producing Minority Teachers: The Research*).

Most of the states, districts and schools examined in this study collected this type of information. But often the information was collected or assembled in ways that were not useful to the policy maker. Gaps existed. One state had an excellent publication detailing its students' scores on standardized exams, but nothing on statewide dropout rates. A school district provided information on dropouts, but little on student performance. Another state had quality information on the majors chosen by minority college students, but none on minority student enrollment.

If states are to develop effective policies, they must have a comprehensive strategy to collect and use information.

The population

Policy makers must know the basic population demographics of their state or area. Most important, they need to know the ethnic composition of students in grades K-12. Preferably, data should be collected

annually; if not, then every two years. Districts and schools cannot obtain reliable information on the changing ethnic representation without such data. States cannot determine which districts have growing minority student populations and which have decreasing populations without such data. Policy analysts cannot project future growth of ethnic groups until there is a database upon which to do so. Data must be collected regularly and consistently over time before projections can be considered reliable. It is not an overnight process.

Policy makers also need information on the numbers of students entering and leaving a district. In some districts with growing proportions of minority students, much of the growth occurred from migration into the districts during the school year. Some inner-city school districts lost substantial numbers of white students. Keeping track of such figures and monitoring the development of trends over time may allow policy makers to plan for the effects of migration.

If minority students were entering the teacher pipeline network proportionately, projections about the future teaching pool would be fairly simple. One could predict, for example, that if 15% of the 12th-grade class were minority, potentially 15% of the teachers produced from that class would be minority. If they are not, there is a problem. However, the problem of underrepresentation cannot be defined unless data are kept.

In summary, necessary *population* data include:

Primary information:

- Percent of schoolchildren in each grade from specific ethnic groups.

Additional information:

- Immigration to schools, districts and states of children from each ethnic group by grade.
- Emigration from schools, districts and states of children from each ethnic group, by grade.

Schooling information

Much happens to children during their time in the nation's education systems. Some are well served, and others never complete the process. Those who are not prepared for a college curriculum, or who drop out for one reason or another, are lost as potential inductees into the pool of teachers. Students must attend school and must perform at a level consistent with expectations of success in college if they are to become teachers. Policy makers need to collect the data which describe students' participation in school and which characterize their performance and hence their readiness for college.

At a minimum, policy makers need access to testing scores for children in schools and districts in their states. Students should be tested at least every three years, with scores available by ethnic group for standard periods of time or grade levels. The performance of ethnic minority students should be reported for policy analysis. Poor scores for a particular ethnic group could prove to be compelling evidence requiring policy makers to respond.

To do so effectively, policy makers also need school and district breakdowns of dropout rates by ethnic group. Scores on standardized tests are relatively meaningless without information about dropout rates. Policy makers need to know how the minority student pool is being affected by dropping out.

Additional information about participation in school programs and curriculum is needed if policy makers are to develop a well-rounded picture of what happens to students in school. For example, none of the schools, districts and states studied for this project had adequate, easily accessible information on how students were assigned classes or sequences of classes. What criteria do they use? Who does the scheduling: counselors and advisers or teachers and students? It was not clear whether talented minority students interested in teaching were encouraged to take

the courses needed to become teachers or whether they were directed into less challenging courses of study. Some states kept track of the entrance of students into classes such as Advanced Placement (AP), but reported the data by school, rather than by ethnic group. Likewise, some states collected information about students in accelerated programs or in classes designed for special diplomas, but did not report them by ethnic group.

If the mission of the K-12 sector is to prepare students to succeed in higher education, policy makers must be able to compare test performances of 8th and 9th graders with their subsequent enrollment in college preparation classes. They need to be able to compare performance of minority students in the first two years of high school with subsequent enrollment in junior or senior AP classes. They need to know that a just proportion of minority students is taking the practice tests for college placement and merit exams. They need to know that minority youngsters are being encouraged to take college preparation courses in proportion to their performances on tests.

Policy makers also need to know about those elements in the educational process which discourage minority student achievement. Minority students may be disproportionately involved in disciplinary proceedings. Such involvement is often a prelude to more serious problems and eventually dropping out. A systematic plan for collecting data associated with disciplinary proceedings, and then analyzing the data for incidents involving minority students, can help policy makers define the incidence and degree of disaffection felt by minority students.

Lastly, policy makers need to begin to understand the perceptions minority students have about teachers and teaching so that education becomes a more rewarding experience for them. Systematic sampling of a group of high school students who are approaching decisions about college and choice of profession might help policy makers understand how state policy relates to student decisions about teaching as a career. If policy is driving students away, a slight intervention might produce a proportionate number of minority teachers. But absent the thoughts and impressions of those who could become teachers, decision makers will never know.

The following describes the major types of *population information* policy makers need to understand the processes that lead to increases or decreases in the minority pool.

Primary information:

- Standardized test scores by school, district and ethnic group for at least every third year, grades K-12.
- Dropout rate by school, district and ethnic group for all middle or junior high school and high school grades.

Additional information:

- Access to and attendance in certain classes by ethnic group, school and district.
- Access to and attendance in AP classes by ethnic group, school and district.
- Access and attendance in special diploma programs by ethnic group, school and district.
- Involvement in early identification programs by ethnic group.
- Access and involvement in college preparation and remediation programs by ethnic group.
- Incidence of disciplinary proceedings by ethnic group.
- Access to practice and special preparation programs for college placement and merit tests by ethnic group.
- Data on the attitudes and perceptions that minority youth have toward teachers and teaching as a career.

- Amount of state funds spent on minority students in grades K-12.

College and beyond

Increases or decreases in the minority teacher pool are affected by a number of variables in the profession itself — retirements, salaries, market need, etc. But the most powerful influence is the yearly production of new teachers from teacher preparation programs. If the number of teacher education graduates falls off, the size of the pool decreases. If increases in production occur, the pool can keep pace with the growth of minority students in the school systems. Clearly, policy makers must have and understand the data associated with the production of minority teachers.

Most important, policy makers need to know if education as a career competes effectively with other career paths taken by minority students. To answer this question, policy makers must collect information about the majors and minors minority students choose. States with such data available for the 1980s can define the size of the problem. In some states in this study, minority enrollments remained roughly constant or even gained slightly during the decade, but enrollment in education programs fell drastically.

Policy makers must be able to relate changes in state policy to changes in enrollment patterns in education curricula around the state. Reforms enacted in the early '80s often were followed in the mid-'80s by falling interest in education programs and a dip in the production of minority teachers. While some of the shortfalls have been overcome by rising minority teacher production, the rise does not equal that seen for whites.

To grasp the subtleties and the shifts in teacher production, policy makers need information on several fronts. They need information about minority student matriculation rates and information about persistence and its relationship to college majors. They need to know the proportion of minority students who qualify as education majors compared to pre-education majors. They need to know the proportion of minority students who pass exams for competencies, as opposed to those who do not. They need to know who finally becomes certified and then who actually gets a job. They need to know if minority students are particularly attracted to specific areas of teaching.

In addition to information associated with minority student college and university attendance and graduation, policy makers need to know how other groups of minority teachers contribute to the size of the teacher pool in their state. Do they come from out of state? Do they come from other professions? Are they retirees who have pursued an alternate path to certification? A series of questions such as these must be answered if policy analysts are to understand exactly what constitutes the definition of their state's minority teacher pool.

The following information on *college and beyond* is required for a thorough understanding of the immediate determinants of the size of the minority teacher pool.

Primary information:

- Matriculation rate by ethnic group.
- Number and percent of ethnic group members passing standardized tests for entry into teaching curriculum.
- Number and percent of ethnic group graduating with teacher degrees.
- Number and percent of ethnic group passing certification requirements.
- Number and percent of ethnic groups choosing college majors and minors.
- Persistence rates for ethnic groups, both in and out of education curriculum.

Additional information:

- Retirement rates of teacher by ethnic group.
- Importation rates of teachers from other states by ethnic group.
- Rates of alternate certification by ethnic groups.
- Exportation rates of teachers to other states by ethnic group.
- Hiring figures for recently certified teachers by ethnic group.
- Scholarly discipline of new hires by ethnic group.
- Number and percent of teachers by ethnicity who are teaching out of their field.
- Amount of state funds spent on minority students in postsecondary education.

There is no easy way to capture the reality of shifts and flows in the size of the minority teacher pool. Many variables influence the final outcomes. The variables may affect the pool directly, or they may affect it indirectly, though powerfully. Managing the information that will keep policy makers aware of the flow of people into and out of the teacher preparation system will take cooperation and a willingness to share data which systems may not wish to disclose. Very few systems are proud of their dropout rates. Some are proud of their students' test scores, but don't like to see them broken down by ethnic group.

However, without an honest appraisal of the system that produces teachers, policy makers will be unable to turn the minority teacher shortage around. Instead, what will result is what is found in most places now — a series of short-term programs which fail to solve the deeper problems that have led to the shortage. Policy makers will be able to assess the effects of their decisions, and make appropriate ones for the future, only when they have access to all the information they need. They also will be more capable of estimating the monetary costs of producing minority teachers — what funds should be redirected and/or how much new money will have to be generated?

Appendix B: Methodology

The picture of the shortage of minority teachers drawn in this report is based upon research designed to shift the paradigm that undergirds our thinking and assumptions about this issue. The design and the investigation have attempted to honor the complexity of the issue by examining state-collected data from the chosen sites. Interviewers used an open-ended approach in talking with respondents selected on the basis of the role (the position) they play in the delivery of public education, preschool-12 through higher education.

Appropriate statistical analyses were applied to the interview data, including factor analysis to identify major variables and then cluster analyses to determine manageable clusters of variables common to all of the sites chosen.

The role-groups selected were the same in each state (that is, state department of education personnel, a range of higher education administrators, deans and faculty, school district officials and school principals).

We do not presume to think the picture is revealed totally, but perhaps it is clearer than before we began. We have not explored or explained every possible facet of the issue. However, we do think that some of the areas remaining for discovery and exploration have emerged.

While the findings are not exhaustive, we believe they are broadly generalizable to states similar to those used as sites in this study and to people in similar positions.

We think that the formulation, reformulation and implementation of policy based on recommendations in this report could have the effect of alleviating the shortage of minority teachers and assuring a richer quality of education and preparation for more youngsters in the public schools.

Number of site visits by state/institution type*

A 10-person team conducted the following interviews:

	Arizona	Iowa	Minnesota	New York	North Carolina	Totals
Higher education institutions	2	2	2	3	3	12
Local districts	1	1	3	2	3	10
Local schools	3	3	9	5	3	23

*Minimum: two site visits per state

The following types of persons were interviewed — higher education institutions: provost/president, vice president, dean, assistant dean, admission officer, recruitment officer, faculty, registrar, placement officer, student affairs officer, minority student affairs officer, academic affairs officer, students, other; local districts: state department of education personnel, superintendent, assistant superintendent, research service director; local schools: principal, assistant principal, faculty.

Appendix C: State Profiles

Arizona, Iowa, Minnesota, New York and North Carolina were selected for case studies because their school-age population is nearly one-third or more minority in at least two school districts and because state and institutional officials already had begun to examine the problem. Each state was examined according to the effects of demography, participation and performance and career choice of minority students. Quantitative and qualitative data were collected from the state department of education, metropolitan school district, selected schools, institutions of higher education and selected institutions. A short profile of each state follows. For more detailed information about each state, see the Technical Report for this project.

Arizona

The model Sunbelt state, Arizona has a growing population, a large portion of it immigrants from other states. About 25% of its 2.7 million population is minority, with Hispanics making up the largest percentage of that at 16.2% and an even greater proportion of public-school enrollment. School enrollment has grown steadily in the past two decades, with minority enrollment increasing somewhat more rapidly than whites. The Phoenix area in particular has mushroomed in size and changed in character as it has attracted a substantial minority population. Statewide student enrollment is expected to grow about 42% from 1980 to 1990.

In general, Arizona students have done well; high schools have produced students scoring substantially above national norms, although blacks, Hispanics, American Indians and Alaskans scored substantially below national norms. However, from 1985 to 1988, every ethnic group increased its performance, indicating that Arizona is preparing a larger proportion of the state's minority students for college than in previous years. If the same rates of progress are sustained over the next three to six years, the performance of Arizona's minority students could approach national norms.

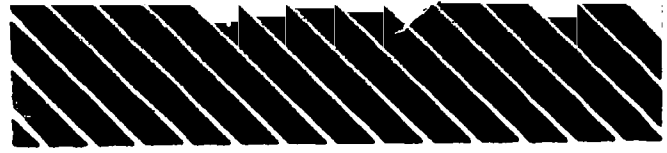
Such data, however, are misleading and difficult to interpret unless they are accompanied by examination of dropout rates. No statewide dropout data were received from Arizona, but the Phoenix Union High School District reported dropout rates of 20-22% for American Indians, Hispanics and blacks. Although it is impossible to generalize to the state, it is clear that the state's largest minority-enrollment district faces a dropout problem and that significant numbers of minority students lose the chance to enter college and thus teacher training programs. Absence of poor-scoring minority students — dropouts — also artificially raises the level of secondary-school test scores.

Also affecting the state's ability to produce minority teachers is the dramatic decrease in the number of education degrees issued by Arizona institutions from 1975 to 1987. About 52% fewer teachers were graduated in 1986-87 than in 1974-75, a drop of 4% a year. The state estimated more than 3,100 teacher openings in fall 1988 but fewer than 1,700 graduates. Minorities represented only 11.5% of teachers hired full-time in fall 1988.

The data indicate that Arizona needs to increase its pool of minority teachers or it will feel the impact of this shortage for quite some time. Arizona must create incentives and become more forceful in assuring that greater numbers of minorities reach the end of the education pipeline. The state must look to itself and not other states for a long-term solution to the problem.

Iowa

Iowa's data on student, teacher, staff and administrator characteristics reflect the situation of states with very small minority populations. These states have several challenges. Students and teachers from minority ethnic groups may be overwhelmed by sheer size of the white population in their workplaces and schools. Minority teachers and administrators are likely to be among the few minority professionals in the school, district or community. They need support to



ensure that they feel comfortable in their work or schooling and that they are accepted by the larger community in which they live.

But Iowa and states like it are more likely to achieve proportionate representation of minority teachers than states with larger minority populations. Because the minority population is so small, Iowa and similar states are likely to achieve proportionate minority representation if they are at all successful in bringing minority teachers in from other states.

Iowa data for 1980-88 show that no minority group is larger than 3% of the total population. Combined, minority groups constitute only about 5% of the school-going population. Blacks are the largest minority group, making up about 2.5% of the population in 1987-88. Asian-Americans and Hispanics are the next largest groups, both about 1%, and American Indians follow at 1/4 of 1%. The black, Asian-American and Hispanic groups have roughly doubled in size (tripled for Hispanics) over this period, while American Indian population has remained fairly constant. Total number of white students decreased about 5%.

As might be expected, the state's minority students are more densely represented in urban areas. Schools in Des Moines, Davenport, Burlington and other smaller cities often have significant minority student enrollment — sometimes as high as 25-30%. Only one school was found with a minority student enrollment approaching 50% Many minority students attend schools where they are among only two or three minority students in the school.

The numbers of minority teachers, administrators and other staff in Iowa schools are extremely low. But there are some important points to be drawn from them. First, Iowa appears to have been more willing to appoint and maintain black administrators than one might expect. In 1980-81, black administrators made up about 1.5% of all administrators, while black children were only 1% of the students enrolled. In 1987-88, black administrators were about 2% of the total, compared to 2.5% for black children. The figures for administrators from other minority groups are too small to extrapolate.

Iowa is hiring and keeping a lower number of both minority and majority teachers. With decreases in teacher hires over the last eight years, Iowa's minority teachers have remained proportionately less represented. Blacks constitute less than 1% of the teaching force, Hispanics less than 1/3 of 1%, Asian-Americans less than 1/4 of 1% and American Indians less than 1/10 of 1%. Figures for representation for other school staff are roughly equivalent to those for teaching.

Since the early '80s, the teaching force in Iowa has declined slightly. During this decade, the student-teacher ratio has remained constant at roughly 16:1.

Iowa, alone among the states examined in this study, can quickly achieve the goal of proportionate representation of minority teachers in its school systems if it continues to hire teachers and if it aggressively seeks to import minority faculty. Thirty more American Indian teachers would achieve the goal. Another 200 black teachers and the same number of Hispanics and Asian-Americans would result in proportionate representation for those groups as well. Alternatively, if the state developed a policy requiring that new hires contain representatives of minority groups at roughly double the present percentages of minority-group students, it could achieve proportionate representation within four to seven years.

But is proportionate representation a desirable goal for all the systems in the state? Some systems simply have no minority students enrolled. Others have a significant proportion. State policy makers need to consider whether they wish to aggregate new minority hires in schools with significant minority student populations or whether they wish to disperse them throughout the state. In this instance, policy makers may feel tension between

two of the rationales for developing proportionate minority presence in teaching staffs. One compelling reason for stationing minority teachers in substantially white districts is the importance of ensuring that white students see minority individuals in professional and decision-making roles; another reason is to ensure that schools with substantial minority student enrollments provide minority role models. Policy makers may wish to examine various programs for visiting teachers and professionals across the districts in their states to address this dilemma.

Minnesota

Data from Minnesota show with great clarity the difficulties faced by states with small but growing populations of minority groups. The proportion of minority students grew about 28% between 1983 and 1988, while that of minority teachers increased only 10%.

In Minneapolis, minority school enrollment rose by approximately 70% in 15 years. At the same time, total school enrollment dropped substantially. The state traditionally has had such a small minority enrollment, that even if it or the district had established programs to "grow their own" minority teachers in the early 1970s, and even if minorities had disproportionately chosen teaching as a career, Minneapolis still would be far short of proportional minority representation in its teaching staff.

Minnesota and states like it face a difficult challenge in trying to achieve proportional representation of minorities in their teaching pool. For large cities such as Minneapolis and St. Paul, the challenge is even more difficult. The state and such districts need programs to produce their own minority pool. But they need to realize that even if they succeed in attracting a growing proportion of minority students into teaching, the birth rate and migration figures mean no solution can be achieved quickly.

Hiring minority teachers from other states will be difficult as well because virtually all states are trying to expand their own pool.

In looking at the performance and participation of minority students, ECS researchers examined the St. Paul district, which has a minority population of more than 36%. St. Paul is making progress in raising the performance of its minority students, but not enough to assure that substantial numbers will attend college. Statewide, only a small fraction of minority students ever enter postsecondary schooling. On top of this is a significant decline in the preparation of teachers in the past two decades and a tough employment market for teachers.

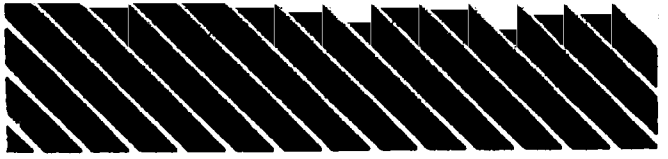
Given these factors, the pool of minority teachers is likely to remain disproportionately small unless the state institutes an aggressive campaign to identify minority high school students interested in teaching, assure their academic success, support them through college and hire them in state schools.

New York

The characteristics of the student, teaching and administrative population in New York State offer different challenges to policy makers than those of the other states in this study. New York has experienced both established minority populations and a recent influx of other minorities. Its demographics represent a mixture of stability and growth.

In the public schools, high enrollments from the mid-1970s dropped slightly in the early 1980s and then recovered in the last five years to slightly below their previous levels. The minority school-age population of the early 1970s was large enough to produce the minority teachers for the students of the 1980s.

However, it did not. While K-12 enrollment in 1986-87 hovered around 37% minority statewide, minorities accounted for less than 12% of the total staff. Growth in minority enrollment becomes a problem from a policy perspective when it is not accompanied by growth in minority teacher and



administrative staff. Clearly, New York lacks a proportional representation of minorities in its K-12 staff, a pattern that is likely to continue for a long time.

The picture for New York City, whose student population is more than three-fourths minority, shows a more vigorous growth in minority staffing with substantial increases from 1982 to 1986. Although there has been a substantial rise for staffing among all ethnic groups, the staff population remains disproportionately white (73% in 1987) in a system with significant minority enrollment. It is possible, however, that if minority representation continues to rise at previous rates (from 21% to 27% from 1982 to 1986), minorities will make up the majority of New York City school staff by early in the next century.

The development of a cadre of minority teachers for the state depends directly upon preparing students for postsecondary education. New York's data collection efforts provide information and analysis to help the state determine how well minorities test, what their dropout rate is and what the likelihood is that they will be able to go on to postsecondary education. That data show disproportionately low scores, an underrepresentation in upper-level courses, a lower graduation rate and higher dropout rates for heavily minority schools.

Data show considerable variation across the state, however. Graduating students in New York City are more likely to go to college, while graduates of schools with high minority populations elsewhere are less likely. Overall, all ethnic groups are earning fewer baccalaureates, with only 25% of blacks and Hispanics graduating. Both white and minority students are staying away from teacher education, although the decline for minorities is more severe.

For those minorities who do become teachers, the hiring picture is fairly good, especially in New York City where about 27% of the teachers are minority.

Huge numbers of minority children lose the chance for postsecondary schooling, a factor related highly to poverty, according to New York's own reports. There can be no long-term solution to the need to generate greater numbers of minority teachers until minority children in the state have a better chance to attend college and flourish in its environment.

North Carolina

North Carolina has a large and stable minority student population of blacks and a much smaller but still significant population of American Indians. Blacks compose roughly 30% of the elementary school population and American Indians a little less than 1%. The population of elementary school children has fallen in the last decade and is projected to continue doing so until early in the 1990s.

In postsecondary schools, minorities are clearly underrepresented, with blacks making up less than 18% of the college and university population in 1986 and American Indians less than .5%. Even so, if the minority teacher pool were to grow only slowly, the state should be able to obtain a proportionate representation of minority teachers. However, that proportion has declined in the past decade, partially because of changes in state certification and teacher-preparation policies.

One response to the problem has been to rely on recruiting teachers from outside the state. In fact, if trends continue, North Carolina's greatest source of minority teachers soon will be those graduating from out-of-state universities, a source that cannot be counted on indefinitely.

Looking at minority performance and participation figures shows that although the Greensboro schools succeeded in reducing their dropout rate by 25% from 1987-88 to 1988-89, dropping out is a minority problem; most of the state's dropouts are blacks who have scored below competencies expected on standardized tests. As test difficulty increases, the difference between black and white students increases.

North Carolina's schools must struggle to overcome the shortcomings of schooling decades ago and provide for full schooling for today's children. In addition, the state must entice those blacks who do finish high school into teaching as a career examine its support for black students in teacher preparation programs. Unlike states such as Iowa or Minnesota, North Carolina does have the capacity to "grow its own" supply of minority teachers if it chooses to do so.

The state has 45 teacher education programs, leaving little room to explain why it must hire so many teachers from out of state. However, the number of teaching certificates issued between 1981-82 and 1984-85 dropped substantially with another substantial drop in 1986-87. Since 1985, North Carolina has required passage of the National Teachers Examination for entry into teacher education, with blacks showing a low passing rate.

Other factors that are key to producing minority teachers are difficult to analyze because the state collects very little cohesive data.

Although the state has the potential demographic pool of minority teachers and a significant number of teacher education programs, it is not likely the state will be able to meet its demand for minority teachers over the next decade. The state must begin to look at the effectiveness of various procedures to increase the supply, including testing procedures and early identification and teacher education programs. It also needs a statewide campaign to increase the number of minority college graduates to fill the vacancies in the teacher education programs.

Appendix D: The Minority Teacher Shortage Publication Series

For more information on the minority teacher shortage and its implications for policy, see the other ECS publications in this series. They include:

New Strategies for Producing Minority Teachers: State Plans and Programs — A compilation of the various programs and plans under way in the states to produce more minority teachers. (TE-90-2); $5.

New Strategies for Producing Minority Teachers: Technical Report — Quantitative and qualitative data from the five case-study states (Arizona, Iowa, North Carolina, Minnesota, New York). (TE-90-3); $15.

Order publications from the ECS Distribution Center, 707 17th Street, Suite 2700, Denver, CO 80202-3427.

Appendix E: Relevant Tables

Rankings of States With Greatest Concentration of Minority Groups

African-Americans	Hispanics	American Indians
New York	California	California
California	Texas	Oklahoma
Texas	New York	Arizona
Illinois	Florida	New Mexico
Georgia	Illinois	North Carolina
Florida	Arizona	Washington
North Carolina	New Jersey	South Dakota
Louisiana	New Mexico	Michigan
Michigan	Colorado	Texas
Ohio	New York	
Pennsylvania		
Virginia		

* U.S. Census Bureau, Population Division. Rankings for all groups except Hispanics are based on 1980 census data. Hispanic rankings are based on 1988 estimates of census data.

Projected Annual Demand for New Hiring of Classroom Teachers in Public Elementary and Secondary Schools: Fall 1989-97

Fall of Year	Projected Demand for New Hiring of Teachers: Total	Elementary	Secondary
1989	140,000	87,000	53,000
1990	143,000	87,000	57,000
1991	149,000	85,000	64,000
1992	161,000	87,000	74,000
1993	166,000	88,000	78,000
1994	169,000	88,000	81,000
1995	174,000	88,000	86,000
1996	174,000	89,000	84,000
1997	171,000	89,000	83,000

Source: U.S. Department of Education, National Center for Education Statistics, *Projections of Education Statistics to 1997-98*, 1988.

Education Majors by Subfields and by Race/Ethnicity, Fall 1987

	Total All Institutions	% White	% Black	% Hispanic	% Asian	% Amer. Ind.
Elementary education	113,208	88.8	5.3	3.7	1.3	0
Secondary education	79,114	89.8	6.3	1.9	0	0
Special education	16,214	78.8	11.2	7.7	0	0
Bilingual education	812	38.6	6.2	39.8	2.3	1.6
Vocational education	5,064	83.2	12.3	1.9	4.5	1.5
Other **	25,122	89.1	7.6	1.9	0	0

* Data collected by the American Association of Colleges of Teacher Education, 1987; 1,200 institutions offering teacher preparation.

** Various other sub-groups such as environmental education, health education, music education.

Education Degrees Conferred by Institutions of Higher Education by Racial/Ethnic Group: 1986-87

Degree and Sex of Student	Total	White Non-Hispanic	Black Non-Hispanic	Hispanic	Asian or Pacific Islander	American Indian/ Alaska Native	Nonresident Alien
Bachelor's, total	87,083	78,216	4,253	2,223	1,092	452	847
Men	20,759	18,050	1,348	518	312	124	407
Women	66,324	60,166	2,905	1,705	780	328	440
Master's, total	75,473	64,492	5,250	2,232	724	376	2,399
Men	19,635	16,431	1,127	601	232	120	1,124
Women	55,838	48,061	4,123	1,631	492	256	1,275
Doctorate, total	6,909	5,495	468	207	104	49	586
Men	3,117	2,412	177	87	59	25	357
Women	3,792	3,083	291	120	45	24	229

Source: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1989*.

Notes

1. National Education Association. *Status of the American Public School Teacher.* Washington, D.C.: NEA, 1987.

2. *One-Third of a Nation.* A report of the Commission on Minority Participation in Education and American Life. Washington, D.C.: American Council on Education and the Education Commission of the States, May 1988.

3. *Teacher Education Pipeline: Schools, Colleges, and Departments of Education Enrollments by Race and Ethnicity.* American Association of Colleges for Teacher Education. Washington, D.C.: AACTE, 1988.

4. *One-Third of a Nation.*

5. *Minorities In Higher Education: Eighth Annual Status Report 1989.* American Council on Education. Washington, D.C.

6. *Minorities in Higher Education.*

7. *Undergraduate Completion and Persistence at Four-Year Colleges and Universities.* National Association of Independent Colleges and Universities. Washington, D.C.: NAICU, 1990.

8. *Course Enrollment Practices of High School Students in California.* Sacramento, Calif.: California State Department of Education, 1989.

9. Pamela Keating and Jeannie Oakes, *Access to Knowledge: Removing School Barriers to Learning.* The College Board and the Education Commission of the States. Denver, Colo.: ECS, August 1988.

10. *The Condition of Education, 1989.* Office of Educational Research and Improvement, U.S. Department of Education. Washington, D.C.: U.S. Government Printing Office, 1989.

11. *The Condition of Education, 1989.*

12. G. Pritchy Smith, 1987 survey of the effects of testing on the supply of minority teachers.

13. *Minorities in Higher Education,* p. 12.

14. According to U.S. Bureau of Labor statistics, the number of African-Americans employed in mathematical and computer fields has changed by 116% from 1983 to 1988; 83% for Hispanics. However, African-Americans compose only 7.3% and Hispanics only 3% of the total number of persons in these fields.

15. "Why the Decline in Minority Teachers?" *Regional Spotlight.* Atlanta, Ga.: Southern Regional Education Board, April 1989.

16. Hood, Stafford and Lawrence Parker. "A Preliminary Analysis of Education Degrees Conferred to Minority Undergraduates by Selected States and Research Oriented Institutions," paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, Calif., March 1989.

    According to Hood and Parker, of education degrees awarded in Texas, 21% were awarded to minority students; in New York, 12.1%; in Illinois, 8.2%; in Pennsylvania, 4.3%; and in Ohio, 3%, respectively.

17. Rebell, Michael A. "Teaching Certification Testing: A Legal Overview," in *Program Issues in Teacher Certification Testing.* Amherst, Mass.: National Evaluation Systems, 1989; and Smith, G.P., M.C. Miller and J. Joy. "A Case Study of the Impact of Performance-Based Testing on the Supply of Minority Teachers, *Journal of Teacher Education,* 1988, pp. 45-53; and many others.

18. In December 1989, chief state school officers in seven Northeastern states (Vermont, Rhode Island, New York, New Hampshire, Massachusetts, Maine, Connecticut) agreed to implement a Northeast Regional Credential for educators in spring 1990. An individual with a state certificate in any of the participating states may receive, upon request, a regional credential valid for up to two years. This credential will allow him or her to teach in another state immediately. By the end of that time, the individual will have to qualify for certification in the state in which he or she is employed.

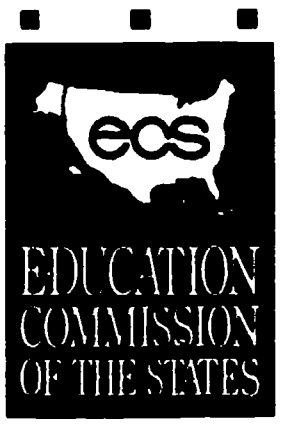
19. "What an Education Degree is Worth," *Education Week*, Jan. 17, 1990.

20. *Education That Works: An Action Plan for the Education of Minorities*. Quality Education for Minorities Project. Cambridge, Mass.: QEM, Massachusetts Institute of Technology, January 1990.

21. Gursky, Daniel. "On the Wrong Track?" *Teacher Magazine*, May 1990, pp. 42-47.

22. Louis Harris and Associates, Inc. *The Metropolitan Life Survey of The American Teacher 1989: Preparing Schools for the 1990s*, New York: Metropolitan Life Insurance Company, 1989.

23. In five years, the Florida Educators Club spread from Dade County schools to the entire state and recently was accepted for national sponsorship. Of the 8,000 Dade County students who are members, all are high-achieving and college-bound; 73% are black or Hispanic.



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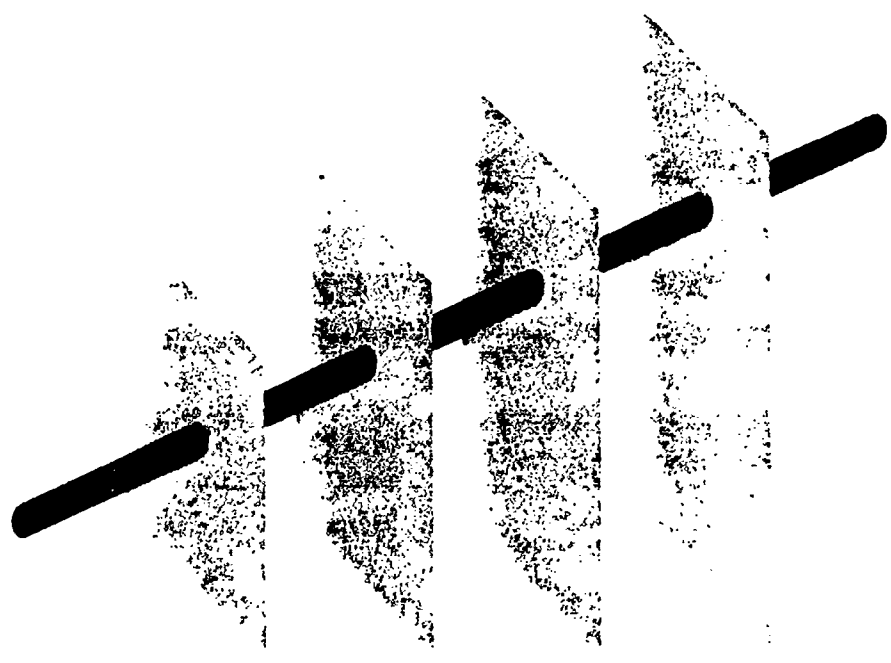
NEW Strategies for PROTECTING MONEY TEACHERS



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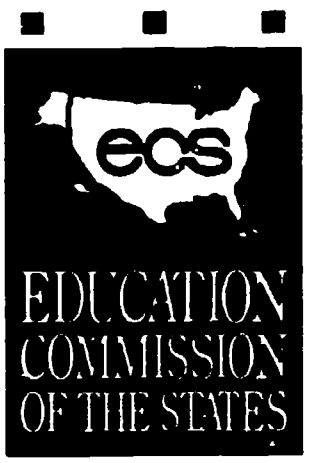
TECHNICAL REPORT

NEW
Strategies
for
PRODUCING MINORITY TEACHERS

TECHNICAL REPORT

by

Samuel Betty



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1990

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Barbara J. Holmes
Project Director

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INTRODUCTION

The data are clear. National statistics show that at all levels of education there is cause for alarm at the shrinking numbers of ethnic minorities entering teaching or staying in the teaching profession. In some instances, the absolute numbers of teachers in the pool are declining. For example, the number of black college faculty decreased 44% from 1983 to 1988. At other levels, minorities continue to join the ranks of teachers but in numbers far below the total increase in teachers working. Where minority representation in the teacher pool is growing at a rate faster than the pool itself, the base from which the increase is occurring is so small that even greater growth must be accomplished to offset underrepresentation of minority groups in the teacher pool.

Three reasons are generally offered as explanations for the trends described above. First, demography of a region, state or school district can explain a disproportionately small minority teacher presence in the teaching pool. Second, the absence of minorities in the pool can be explained by poor performance of minority students in schools and programs that prepare minority students for teaching careers. Many minority students are so poorly prepared by their elementary and secondary education they cannot adequately meet the challenges of postsecondary teacher training curricula. Furthermore, many minority students who might become teachers later on are lost as dropouts or as high school graduates who do not matriculate to colleges and universities. Third, teaching as a profession is not attracting representative numbers of minority students and graduates. Those who are attracted to the profession and find work are often driven away by intolerable working conditions, poor pay, lack of support from their fellow professionals and the promise of good careers from competing sectors of the economy. To find out what affects the supply and demand of minority teachers in individual states during 1989-90, the Education Commission of the States conducted research on the shortage of minority teachers in five states -- Arizona, Iowa, Minnesota, New York and North Carolina. These states were selected because they represent a composite of types of states. First, they are in different regions of the country. Second, they can be characterized by different population trends: those which historically have had a significant minority population and those which have not; or, states which presently have a significant population of two or more minority groups in their population of school-age children. Finally, each of these states is committed to resolving the collective underrepresentation of blacks, Hispanics and American Indians in administrative and teaching positions in their public schools.

Qualitative data were collected by conducting interviews with a range of persons in the same role groups in each of the five states (see Figure 1). Each state was visited on two or more occasions and where possible, the same individuals and institutions were visited on two occasions (see Figure 2). Readers are referred to the section called, "Understanding the Complexities" for a discussion of the findings from the analyses of the qualitative data.

This report presents the analyses and interpretation of quantitative data submitted to ECS by the five participating states. Readers should know that two of the states used as sites for this research asked to participate in this study. ECS had permission to seek the types of information used in this document and to make the visits essential to conducting

the interviews mentioned above in all five states. However, ECS is responsible for the analyses and interpretive comments presented in this document.

The major report, *New Strategies for Producing Minority Teachers*, to which this technical report is a companion, contains the policy recommendations derived from the analyses of both the qualitative and quantitative data. Each participating state was requested to provide longitudinal data which are indicators of student participation, dropout rates, performance patterns, staffing patterns and other related categories of variables related to the state's capacity to determine current status and trends.

As a result of gathering these types of data and information, ECS has developed a model of the categories of data any state could benefit from collecting and using as a basis of its planning -- both for attracting and retaining minority teachers and related school personnel, as well as for other planning needs of the state. In addition, three "lenses" -- demographic, performance and participation, and career preference -- have been identified and proposed to states as ways in which to look at or to view their supply and demand of minority teachers.

The development of a stable cadre of minority teachers depends directly upon preparing minority youngsters for postsecondary education. If minority high school seniors cannot score adequately on college entrance exams, they cannot enroll in teacher preparation programs. If they enroll in college but cannot score well on tests designed to weed out the academically unprepared from teacher preparation programs, they will be forced to leave school or major in something other than education. If they are unprepared, the college experience will be highly frustrating, and they will leave for other opportunities which seem to offer more reward.

Many questions are raised by this requirement for adequate school performance and participation from minority students. Do students test well throughout the range of grades? Where do test results drop off or indicate loss of proficiency? Do minority students take advantage of special opportunities for achieving excellence in school? Do they receive a proportionate number of awards? What is the dropout rate for minorities? What is the likelihood that minority students will graduate with adequate competencies in subjects important for postsecondary school success?

Each state struggles with the implications of nationwide trends in its own unique way, depending on its minority population, its educational infrastructure and the options it provides to those who seek to be teachers. But there are key points in the pipeline supplying minority teachers that need to be examined regardless of the uniqueness of the state. These points are defined by the following questions:

- Do minority students plan to go to postsecondary education?
- Do they enroll?
- Do they enroll in teacher training programs?
- Do they persist through to graduation?
- Do they seek employment in the teaching profession?
- Are they hired upon certification?
- Do they stay with teaching as a career or do they opt out of the profession?

Each of the points is a place where the aspiring teacher must make a decision about teaching as a career. If at any point the aspiring teacher becomes too discouraged by cost, economic pressure or policy, then that individual is lost to the profession.

Figure 1

ROLE GROUPS INTERVIEWED BY INSTITUTIONAL TYPE

Higher Education Institutions:	President/Provost/Vice President Dean of Education Faculty Assistant Deans Admission Officer Recruitment Officer Registrar Placement Officer Student Affairs Officer Minority Student Affairs Officer Academic Affairs Officer Students Other
State Departments and Local Districts:	State Department of Education Personnel Superintendent Assistant Superintendent Research Service Director
Local Schools:	Principal Assistant Principal Faculty

Figure 2

NUMBER OF SITE VISITS BY STATE/INSTITUTIONAL TYPE*

	Arizona	Iowa	Minnesota	New York	North Carolina	Total
Higher Education Institutions	2	2	2	3	3	12
Local Districts	1	1	3	2	1	8
Local Schools	3	3	9	5	3	23

*Minimum: 2 site visits per state.

An Overview of National Occupational Trends

One theme that appears often in discussion of the shrinking pool of minority teachers is the possibility that qualified minorities have deserted teaching for more rewarding professions. Commentators lament that teaching cannot compete with more respected professions for qualified people. Teachers' working conditions are said to be bad and, even with recent increases, salaries poor. Education policy analysts have further suggested that the recent elevation of standards for entry into the profession may be driving qualified as well as unqualified students away from teaching programs.

But is this true? Is the reality depicted by national and statewide data consistent with this theme? To see whether these arguments explain the minority teacher shortage, data related to education and career preference were examined for the five states in the study group.

First, data from the 1983 and 1988 employment censuses are examined to compare ebbs and flows in the national employment market (see p. 5).

These figures suggest several trends relevant to any explanation of minority teacher presence. Clearly, the minority presence in teaching has not grown as fast as in other professions, evidenced by the 116% rise in the number of black mathematicians and computer professionals. Concurrent with this rise was a 44% decrease in the number of black faculty in the nation's colleges and universities. Black representation fell in other professions as well, while Hispanic representation grew, although from a very low level. However, the five-year increase of blacks in mathematical occupations suggests that intervention programs have yielded results; more black students have acquired the skills and competencies needed to participate in these professions and occupations.

Even when there is growth in the absolute number of minority individuals in a profession, the growth does not always match in proportion to the overall growth of the profession. The number of blacks in elementary and secondary teaching grew by 9% in the five-year period presented. But the total number of teachers grew by 12%. The total number of jobs nationwide grew by 24%. In general, Hispanics have tended to enter the professions in the table at rates higher than the growth of the profession itself, whereas blacks have not.

A review of non-professional occupations shows higher participation rates for blacks. Blacks are not entering medicine or law rather than teaching. Instead, they are finding employment in nursing, sales and other non-professional careers. Hispanics are entering professions, including teaching. However, the 1983 figures for Hispanic participation are so low that it will be a long time before even sizable rates of increase in the professions will mean adequate representation in the classroom.

Figure 3

DECLINE/RISE IN EMPLOYMENT RATES IN MANAGERIAL OCCUPATIONS BY RACE/ETHNICITY IN SELECTED OCCUPATIONAL SUB-CATEGORIES, 1983 and 1988

	Total Workers 1983 : 1988 (in thousands)	Total % Change	% Change in Black Workers (% of total workers in 1988)	% Change in Hispanic Workers (% of total workers in 1988)
Total employed persons: 16 years and over	100,832 : 114,968	+14%	+24% (10.1%)	+56% (7.2%)
Occupational sub-category:				
Mathematical & computer scientists	463 : 732	+11%	+116% (7.3%)	+83% (3.0%)
Health diagnosticians (physicians, dentists, etc.)	735 : 818	+11%	-20% (1.9%)	+38% (4.0%)
Teachers, college & university	606 : 700	+16%	-44% (2.1%)	+127% (3.5%)
Teachers, except college & university	3,365 : 3,773	+12%	+9% (8.7%)	+63% (3.7%)
Social scientists & urban planners	261 : 343	+31%	+33% (6.9%)	+116% (3.7%)
Social, recreation & religious workers	831 : 1,052	+27%	+46% (13.8%)	+61% (4.7%)
Lawyers & judges	651 : 757	+16%	-6% (2.2%)	+133% (1.8%)

SOURCE: Extrapolated from: U.S. Department of Labor, Bureau of Labor Statistics, unpublished tabulations from the current population survey, 1983 and 1988.

ARIZONA

Demographics

Under what conditions does examination of state demographics aid in a state's ability to solve problems and explain the shortage of minority teachers? The 1980 census data for Arizona show the minority population at approximately 25% with Hispanics making up the largest percentage, 16.2%, within that figure. Table 1 displays this distribution.

Table 1

ARIZONA ETHNIC/RACIAL DISTRIBUTION OF POPULATION*

Race/Ethnicity	Total	Percent
Total	**2,718,215**	**100**
Black	73,245	2.7
Hispanic	440,701	16.2
Native American	145,308	5.4
Minority Total	**659,254**	**24.3**

SOURCE: Arizona Department of Economic Security, Population Statistics Division

* Note: Data are from 1980 census.

Arizona's population has grown at a faster rate than populations of the other states included in this study. It is the paradigm Sunbelt state, with a typical Sunbelt economy, a growing state infrastructure and a population that reflects immigration more strongly than those of other states. Migration to the state is an important component in characterizing the ethnicity of the state's school populations. Figures for school enrollment from 1970-71 to 1986-87, displayed in Table 2, illustrate Arizona's student population growth.

Table 2

ENROLLMENT IN ARIZONA PUBLIC SCHOOLS BY ETHNIC GROUP, 1970-71 THROUGH 1986-87

Year	Total	Black	White	Hispanic	Native American	Asian
1970-71	446,285	17,347 (3.88%)	317,981 (71.0%)	88,290 (19.7%)	21,105 (4.71%)	2,068 (0.46%)
1979-80	563,510	21,313 (3.78%)	385,589 (68.4%)	115,255 (20.4%)	35,762 (6.34%)	5,591 (0.90%)
1984-85	574,819	22,001 (3.82%)	383,669 (66.7%)	124,675 (21.6%)	37,315 (6.49%)	7,159 (1.24%)
1986-87	615,236	24,354 (3.95%)	405,857 (65.8%)	137,397 (22.2%)	40,110 (6.50%)	8,518 (1.38%)

SOURCE: Arizona Department of Education, Year-end Enrollment Racial-Ethnic Reports 1970-71, 1979-80, 1984-85, 1986-87

Table 2 shows that school enrollment grew steadily from 1970 to 1987 with increases in every ethnic group. Though the trend slowed somewhat in the late 1970s and early 1980s as the baby boomers passed through and out of the system, the state's population continued to provide growing numbers of students for the state's schools. As a percent of total, minorities grew slightly, while whites fell from 71.07% of the total to 65.86%. While Arizona showed a strong increase in minority students, it also had a strong increase in numbers of white students.

The statewide enrollment data can be examined further by the totals in secondary and elementary schools. The data reveal that elementary school minority enrollment already is exceeding the minority enrollment rate in secondary schools. This approximately 12% difference is an indication of a significant minority population growth (Tables 3 and 4).

Table 3

ARIZONA STATEWIDE SECONDARY* ENROLLMENT
BY RACE/ETHNICITY, 1987-88

Race/Ethnicity	Enrollment(%)
White	120,278 (68.0%)
Black	6,717 (3.7%)
Hispanic	35,353 (19.9%)
American Indian/ Alaskan Native	12,231 (6.8%)
Pacific Islander	2,993 (1.6%)
Total Secondary	**177,572**
Dropouts	**11,525** (6.4%)

* Grades 9-12.

Table 4

ARIZONA STATEWIDE ELEMENTARY* ENROLLMENT
BY RACE/ETHNICITY, 1987-88

Race/Ethnicity	Enrollment(%)
White	287,204 (64.2%)
Black	18,601 (4.1%)
Hispanic	106,808 (24.0%)
American Indian/ Alaskan Native	28,560 (6.4%)
Pacific Islander	5,874 (1.3%)
Total Elementary	**447,047**
Dropouts	**560** (.1%)

* Grades K-8.

SOURCE: Annual Report of the Superintendent of Public Instruction: Statistical Section, 1987-1988. Arizona Department of Education, December 1988.

As the state's population grew, so did urban areas. In particular, the Phoenix area mushroomed in size and its character began to change as it attracted a substantial minority population. The nature of the change in the Phoenix Union schools is displayed in Table 5.

Table 5

PHOENIX UNION (ARIZONA) HIGH SCHOOL DISTRICT
ETHNIC DISTRIBUTION FOR 20 YEARS -- 1968-69 to 1987-88

Year	American Indian	Anglo	Hispanic	Black	Oriental	Other
1968-69	.9%	78.2%	13.2%	6.9%	.7%	.04%
1969-70	1.6	76.9	14.1	6.8	.6	.03
1970-71	1.6	75.1	14.3	7.7	.6	.7
1971-72	1.4	73.5	15.3	8.4	.6	.7
1972-73	1.5	73.0	15.6	8.6	.6	.7
1973-74	1.5	71.2	16.3	9.4	.6	1.0
1974-75	1.5	70.3	17.0	9.7	.6	1.0
1975-76	1.7	68.5	18.3	9.8	.7	1.0
1976-77	1.8	67.0	19.4	9.9	.8	1.2
1977-78	1.9	65.9	20.2	10.3	.9	.7
1978-79	2.2	65.4	20.6	10.9	1.0	-
1979-80	2.3	64.3	21.1	11.3	1.0	-
1980-81	2.4	62.2	22.0	12.1	1.3	-
1981-82	2.4	60.0	24.0	12.2	1.4	-
1982-83	2.7	58.3	25.4	12.0	1.6	-
1983-84	2.9	56.2	26.8	12.3	1.8	-
1984-85	3.1	54.2	28.2	12.8	1.7	-
1985-86	3.1	52.5	29.6	12.9	1.8	-
1986-87	3.0	50.0	31.6	13.6	1.8	-
1987-88	2.9	47.7	33.6	13.7	2.1	-

Source: Phoenix Union High School District, Research Office, 1988

The Phoenix Union High School District's student enrollment figures are no longer majority dominated; the Anglo population dropped from 78.2% of the total to 47.7%. In the 20 years displayed in the table, every minority group, large and small, at least doubled in size. This occurred as white students fled the city, forcing the closure of one of the city's high schools. Anglo suburban school populations boomed.

Within the state's secondary school districts, Phoenix Union in fall 1988 showed the highest level of minority enrollment (Table 6).

Table 6

ETHNIC COMPOSITION
OF ARIZONA SECONDARY SCHOOL DISTRICTS

School District	Native American	Anglo	Black	Hispanic	Oriental
Phoenix Union	3.2%	44.7%	13.7%	36.3%	2.1%
Deer Valley	.3%	92.4%	1.5%	4.6%	1.3%
Glendale	.9%	83.2%	2.4%	10.7%	2.7%
Mesa	2.1%	85.2%	1.7%	9.5%	1.4%
Paradise Valley	.6%	93.9%	1.1%	3.2%	1.2%
Scottsdale	.9%	91.8%	1.2%	4.1%	2.0%
Tempe	2.0%	75.5%	6.0%	13.5%	3.0%

SOURCE: Phoenix Union High School District, November 1988.

The demographic information clearly shows that the pool of potential minority teachers exists at the secondary school level, particularly in urban areas. A significant portion of these secondary school students must be enlisted into teacher training. By examining the ethnic composition of the elementary schools, the state can see the need for early identification programs that sponsor children interested in teaching, particularly at the middle-school level. Arizona as a whole needs to examine its dropout rates by ethnicity; it is not enough just to know what the numbers are. Though the statewide dropout rate is relatively low, it is significant if there is a disproportionate representation of minorities not completing high school. This will exacerbate the difficulty Arizona has in "growing its own" teachers.

Performance and Participation

Since 1981, Arizona has tested its students statewide on a number of national standardized tests. The results of the tests are published by the Arizona Department of Education in an Arizona Pupil Achievement Testing Statewide Report. The report indicates the general performance of the state's pupils and reports the performance on a grade-by-grade basis. Within each grade, a number of variables are employed to break out the performance of subgroups. The annual reports provide data on the performance of the state's ethnic groups and are the basis for this discussion.

Rather than report the data for the performance of each of the 12 grades over the last nine years, this report focuses upon data for the 12th grade. Scores for high school seniors are a clear indicator of the ability of the statewide system of schools to produce college-ready students. If students aren't ready for college, then they are not

likely to grow up to be teachers. In general, data from the statewide reports indicate that Arizona's elementary schools produce students scoring slightly above the national norms. The high schools of the state have produced students scoring substantially above the national norms.

The 1982 data for 12th-grade students, broken down by ethnic group, are given in Table 7.

Table 7

ANALYSIS BY VARIABLES - GRADE 12, ARIZONA, 1982

	TOTAL READING				TOTAL GRAMMAR				TOTAL MATHEMATICS			
	Number	%	Grade Equiv.	Percen-tile	Number	%	Grade Equiv.	Percen-tile	Number	%	Grade Equiv.	Percen-tile
SEX												
Male	13,208	50	12.9	52	13,203	50	11.8	45	13,095	50	12.9	54
Female	12,937	50	12.9	58	12,892	50	12.9	59	12,842	50	12.9	53
Unknown	97	0	12.9	57	99	0	12.4	48	96	0	12.9	53
PRIMARY LANGUAGE												
English	20,784	80	12.9	59	20,744	80	12.9	55	20,632	80	12.9	56
Spanish	1,439	6	10.3	32	1,437	6	10.3	33	1,431	6	10.0	36
Navajo	616	2	8.7	21	613	2	8.7	24	615	2	9.0	29
Other	365	1	10.2	32	367	1	10.5	35	372	1	11.5	47
Unknown	2,813	11	12.9	53	2,805	11	12.6	49	2,756	11	12.9	53
RACIAL/ETHNIC												
White	18,235	69	12.9	63	18,206	70	12.9	59	18,085	69	12.9	59
Black	854	3	10.2	32	841	3	9.8	30	831	3	9.7	34
Hispanic	4,284	16	11.2	40	4,282	16	11.0	39	4,267	16	10.4	41
American Indian or Alaskan	1,664	6	9.7	27	1,662	6	9.6	29	1,670	6	9.4	32
Asian or Pacific Islander	318	1	12.9	56	320	1	12.9	59	316	1	12.9	73
Unknown	887	3	11.8	45	883	3	11.2	41	864	3	11.1	46
TITLE I (MIGRANT SERVICES)												
Not participating	20,578	78	12.9	56	20,543	78	12.9	52	20,459	78	12.9	54
Participating	173	1	9.0	24	172	1	8.3	22	168	1	9.0	28
Unknown	5,491	21	12.9	54	5,479	21	12.8	50	5,406	21	12.9	54

SOURCE: Arizona Pupil Achievement Testing Statewide Report, June 1982, Arizona Department of Education

These data indicate that there are profound differences on test scores among the ethnic groups. Whites, Asians and Pacific Islanders scored well above national norms on reading, grammar and mathematics. Blacks, Hispanics, American Indians and Alaskans scored substantially below national norms.

These findings are reflected again in the data for the school year 1985.

Table 8

ANALYSIS BY VARIABLES - GRADE 12, ARIZONA, 1985

	TOTAL READING				TOTAL ENGLISH				TOTAL MATHEMATICS			
	Number	%	Grade Equiv.	Percentile*	Number	%	Grade Equiv.	Percentile*	Number	%	Grade Equiv.	Percentile*
SEX												
Male	13,398	49.2	12.4	49	13,364	49.2	11.0	42	13,452	49.2	12.9	56
Female	13,483	49.5	12.7	51	13,435	49.5	12.9	55	13,510	49.5	12.1	52
Unknown	351	1.6	12.1	48	352	1.3	11.0	42	353	1.2	11.7	50
PRIMARY LANGUAGE												
English	23,302	85.5	PHS	54	23,215	85.5	12.3	51	23,364	85.5	12.9	56
Spanish	1,404	5.2	8.5	23	1,397	5.1	8.9	27	1,404	5.1	9.2	30
Spanish exclusively	90	.3	7.8	19	91	.3	8.1	21	90	.3	9.4	31
Navajo	444	1.6	6.6	12	443	1.6	7.9	20	443	1.6	8.4	22
Navajo exclusively	63	.2	7.8	19	63	.2	8.2	22	64	.2	9.3	30
Other	402	1.5	8.6	23	402	1.5	9.4	30	400	1.5	12.7	55
Other exclusively	62	.2	10.1	34	64	.2	10.0	35	64	.2	PHS	59
Unknown	1,465	5.4	11.9	46	1,476	5.4	11.1	43	1,486	5.4	11.6	49
RACIAL/ETHNIC												
White	18,201	66.8	PHS	59	18,121	66.7	12.9	55	18,254	66.8	PHS	61
Black	861	3.2	9.4	29	866	3.2	9.7	33	859	3.1	9.5	33
Hispanic	4,736	17.4	9.8	32	4,726	17.4	10.1	36	4,752	17.4	9.9	37
American Indian or Alaskan	1,757	6.5	8.0	20	1,759	6.5	8.9	27	1,752	6.4	9.0	28
Asian or Pacific Islander	460	1.7	12.3	48	458	1.7	12.3	51	463	1.7	PHS	71
Unknown	1,217	4.5	12.1	48	1,221	4.5	11.2	44	1,235	4.5	11.6	49

* Based on individual Norms

SOURCE: Arizona Pupil Achievement Testing Statewide Report, June 1985, Arizona Department of Education

Again, white, Asian and Pacific Islander students scored close to or above national norms. Black students scored in the low 30th percentile. Hispanic student performance fell slightly to the low- to mid-30th percentile, and Native American scores fell slightly into the 20th percentile.

Test scores increased for 1988.

Table 9

ANALYSIS BY VARIABLES - GRADE 12, ARIZONA, 1988

	TOTAL READING				TOTAL ENGLISH				TOTAL MATHEMATICS			
	Number	%	Grade Equiv.	Percentile*	Number	%	Grade Equiv.	Percentile*	Number	%	Grade Equiv.	Percentile*
SEX												
Male	15,572	49.6	PHS	55	15,502	49.5	11.6	47	15,709	49.6	PHS	63
Female	15,539	49.5	PHS	57	15,565	49.7	PHS	58	15,687	49.5	PHS	59
No Response	273	0.9	PHS	61	273	0.9	PHS	56	276	0.9	PHS	65
PRIMARY LANGUAGE												
English	27,191	86.6	PHS	59	27,160	86.7	12.9	55	27,399	86.5	PHS	63
Spanish	1,463	4.7	9.4	29	1,442	4.6	9.5	31	1,464	4.6	10.6	42
Spanish exclusively	61	0.2	8.9	25	61	0.2	8.5	24	62	0.2	9.8	35
Navajo	549	1.7	7.5	17	540	1.7	8.4	23	545	1.7	9.4	31
Navajo exclusively	55	0.2	9.9	33	53	0.2	10.1	36	54	0.2	10.3	40
Other	451	1.4	9.4	29	444	1.4	10.0	35	454	1.4	PHS	65
Other exclusively	56	0.2	9.3	28	57	0.2	9.6	32	58	0.2	PHS	58
No Response	1,558	5.0	11.6	44	1,583	5.1	10.7	40	1,636	5.2	11.6	49
RACIAL/ETHNIC												
White	21,141	67.4	PHS	64	21,130	67.4	PHS	59	21,298	67.2	PHS	67
Black	1,008	3.2	10.6	37	1,010	3.2	10.5	58	1,017	3.2	10.3	40
Hispanic	5,238	16.7	10.9	39	5,204	16.6	10.9	41	5,281	16.7	11.4	47
American Indian or Alaskan	1,758	5.6	8.9	25	1,734	5.5	9.6	32	1,755	5.5	9.9	37
Asian or Pacific Islander	594	1.9	PHS	54	589	1.9	PHS	57	596	1.9	PHS	77
No Response	1,645	5.2	11.9	46	1,673	5.3	11.0	42	1,725	5.4	11.9	50

* Based on individual norms

SOURCE: Arizona Pupil Achievement Testing Statewide Report, June 1988, Arizona Department of Education

Data for 1988 show that each ethnic group increased in every category of performance from the 1985 scores. Between 1985 and 1988, Arizona made substantial progress in the quality of education given to its high school seniors. Though the scores for minority students remained below those of whites and Asians, the increase suggests that the state's high schools were preparing a larger proportion of the state's minority students for college than in the past. If the same rates of progress are sustained over the next three to six years, the performance of Arizona's minority students may approach national norms for standardized achievement.

These data are difficult to interpret, however, unless they are accompanied by dropout rates. Sometimes aggregate test scores at the advanced level improve because poor performers have dropped out and are no longer in the testing pool. In commenting upon the data for performance in 1988, the Arizona report noted that "performance in

grades 9-12 has remained relatively stable from 1985 to 1988. The only group that has demonstrated improved performance in all three content areas is grade 12."

Statewide data on dropouts are available for only one year from Arizona, but the Phoenix Union High School District gives a good picture of the relative rates of dropouts.

Table 10

PHOENIX UNION HIGH SCHOOL DISTRICT (ARIZONA)
DROPOUT RATES BY ETHNIC GROUP, 1985-86 to 1987-88

	1985-86	1986-87	1987-88
Dropout rate	16.9%	18.2%	17.6%
Dropout by ethnicity:			
Native American	25.7%	23.7%	20.5%
Anglo	14.5%	14.2%	14.3%
Hispanic	21.2%	24.1%	21.9%
Black	16.7%	20.2%	19.8%
Oriental	6.8%	7.1%	6.3%

SOURCE: Phoenix Union High School District, Dropout Prevention Program Report, 1988.

These data indicate that Native Americans, Hispanics and blacks have higher dropout rates than whites. Asians have substantially lower dropout rates. The rate for Native Americans has fallen somewhat; for blacks, it has increased. For Hispanics, it has remained high and stable.

It is not clear whether these rates occur statewide or whether they help to explain statewide testing scores. It is clear, however, that the state's largest minority enrollment district faces a dropout problem and that significant numbers of its minority students lose the chance to matriculate to college and teacher training programs. The argument that dropouts have resulted in higher minority scores on tests cannot be refuted without more data.

Career Preference Model

How states address the shortage of minority teachers varies according to state demographics, the size of the prospective teacher pool and the size of minority school-age populations. States either have the potential to "grow their own" pool of minority teachers or are forced to look at recruitment efforts and strategies outside the state to alleviate the shortage. The data for Arizona are clear. According to the 1988 annual teacher supply and demand report published by Arizona State University, the state experienced a rapid decline in teaching degrees granted each year between 1975 and 1987 (Table 11). Over the period, the number of degrees granted dropped by more than 50%.

Table 11

EDUCATION DEGREES ISSUED BY ARIZONA FOUR-YEAR TEACHER EDUCATION PROGRAMS, 1975-87

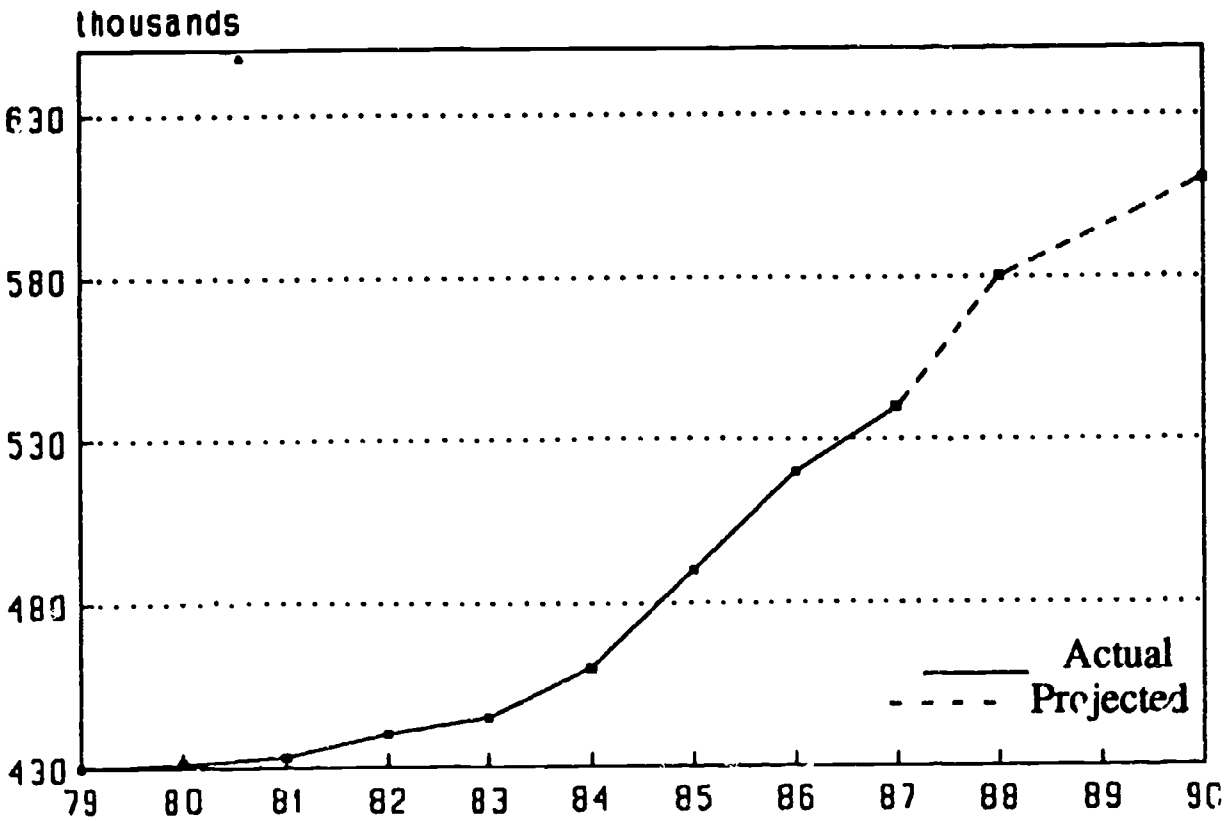
SOURCE: Arizona State University, Teacher Supply and Demand in Arizona, 1988. Arizona State Universtiy, College of Education.

Data show that the impact of the shortage will be felt for quite some time if the state does not create a statewide campaign to recruit more potential teachers.

The demographic data indicate that Arizona's K-8 school-age population has increased significantly over the past 10 years. Moreover, the state was projected to experience more growth in 1989-90. Table 12 shows the population distribution for grades K-8.

Table 12

STATEWIDE DISTRIBUTION AND PROJECTION FOR ARIZONA'S SCHOOL-AGE POPULATIONS, GRADES K-8, 1980-90



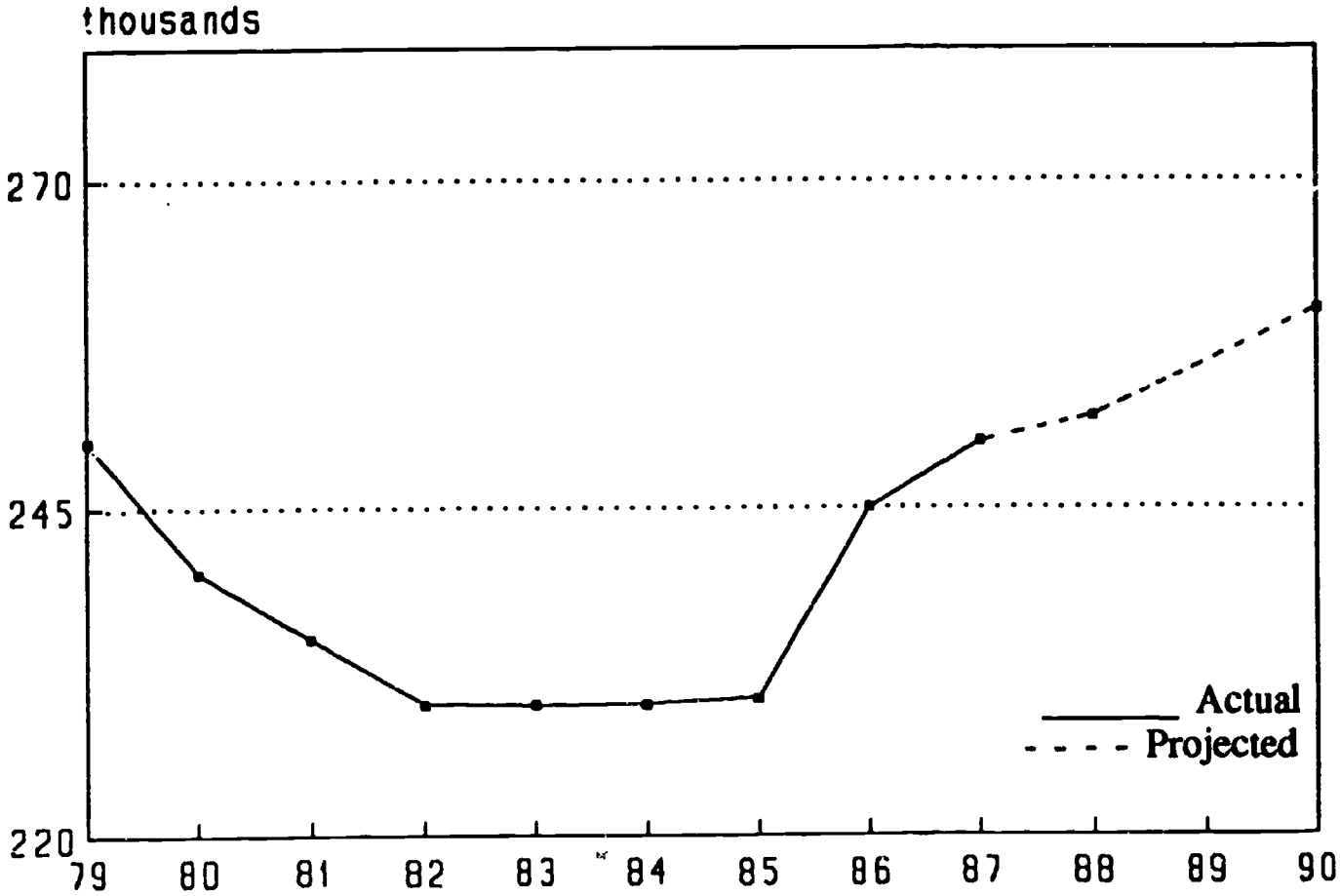
Increase of 41.2% between 1980 and 1990

SOURCE: Arizona Department of Economic Security, Population Statistics Division

When data for teacher demand and supply are compared to the K-8 school-age population data, one can see that as the school-age population has increased over the past 10 years, the production of teachers has declined. The information for statewide school-age population in grades 9-12 conveys a different story.

Table 13

STATEWIDE DISTRIBUTION AND PROJECTION FOR ARIZONA'S SCHOOL-AGE POPULATIONS, GRADES 9-12, 1980-90



Increase of 3.2% between 1980 and 1990

SOURCE: Arizona Department of Economic Security, Population Statistics Division

Though the growth rate for grades 9-12 is not as great as the growth for grades K-8, the increase between 1982 to 1990 is significant. Enrollment has turned around at the secondary level and is on the increase. The increase of enrollment in both K-8 and secondary levels explains much of the data in Table 14. Table 14 displays the number of teachers in the state's public school system as compared to the number of student teachers and the projected opening of teaching positions in selected fields.

Table 14

NUMBER OF TEACHERS IN ARIZONA PUBLIC SCHOOLS (FALL 1987) COMPARED WITH NUMBER OF STUDENT TEACHERS[1] (FALL 1987 and SPRING 1988) AND PROJECTED TEACHER OPENINGS (FALL 1988)

Teaching Areas	Fall 1987 Employed Teachers[2]	1987-88 Student Teachers in Arizona	Projected Fall 1988 Openings[3]
Art	675	31	61
Business	636	32	57
English	2,232	101	201
Foreign Languages	488	33	44
History/Social Studies	1,369	142	123
Home Economics	514	21	46
Industrial Arts	765	5	69
Mathematics	1,628	65	147
Music	1,133	57	102
Physical Education/Dance	1,729	104	156
Science	1,375	126	124
Special Education	3,101	123	248 (8%)[4]
Elementary	13,353	841	1,7643 (13.2%)[5]
Total	**28,998**	**1,681**	**3,141**

SOURCE: Arizona State University. Teacher Supply and Demand in Arizona. 1988. Arizona State University, College of Education.

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[1] The number of student teachers generally indicates the number of individuals who will be entering the teaching work force within one or two semesters, forecasting the new, in-state teachers who constitute the "supply."

[2] In selected academic areas.

[3] Secondary teacher openings for fall 1988 were projected by combining a 1% anticipated growth rate in student population and an 8% rate of attrition for teachers now in the system.

[4] Special education openings for fall 1988 were projected on the basis of an estimated 8% attrition rate for current teachers.

[5] Elementary teacher openings for fall 1988 were projected by combining a 5.2% growth rate in student population and an 8% rate of attrition for current teachers.

The state's composition exemplifies an even greater need to increase the shortage of minority teachers. Fall 1988 data for elementary and secondary full-time hires show that minorities represented only 11.5% of teachers hired (Table 15).

Table 15

ARIZONA ELEMENTARY/SECONDARY FULL-TIME HIRES, 1988

	Elementary/Secondary & Other Total Teaching Staff
American Indian/Alaskan	**511** (1.6%)
Asian	**167** (0.5%)
Hispanic	**2300** (7.5%)
Black	**580** (1.9%)
Minority Total	**3558** (11.5%)
White	**27,255** (88.5%)
Total	**30,813**

SOURCE: Extrapolated from 1988 Elementary/Secondary Staff Information Report, November 1988, Arizona Department of Education.

The data indicate a need for the pool of minority teachers to increase. Arizona must create incentives and become proactive in assuring that more minorities reach the end of the education pipeline. The state must address its needs internally as a long-term resolution to attract more minorities into the teaching profession. But these needs must be addressed against the backdrop of Arizona's teacher shortage. The state is simply not producing enough teachers in some areas. The needs are critical (see Table 14). Arizona must remain a heavy importer of teaching talent. It needs, therefore, to insure that at least some percentage of the teachers imported is minority.

IOWA

Demographics

The data on student, teacher, staff and administrator characteristics in Iowa portray the situation of states with very small minority populations. These states have several challenges. Students and teachers from minority ethnic groups may be overwhelmed by sheer size of the white population in their sites of work and learning. Minority teachers and administrators are likely to be one of the few minority professionals in the school, the district or in the community where they work. Effort will be required to ensure that they receive the support they need to feel comfortable in their work or schooling and to ensure that they are accepted by the larger community.

But Iowa and states like it are in a position to ensure a proportionate presence of minority teachers more easily than are states with larger minority populations. Because the minority populations of Iowa and such states are so small, vigorous efforts to import minority teachers are likely to achieve proportionate representation if they are at all successful.

Table 16 illustrates the relative sizes of the minority student groups for 1980-88. These data show that no minority group is larger than 3% of the population, and the combined minority groups constitute no more than 5% of the school-going population.

Table 16

IOWA PUBLIC SCHOOL ENROLLMENTS, 1980-88

Year	American Indian	Black	Asian American	Hispanic	White	TOTAL
1980-81	1,296	11,511	4,490	4,034	512,425	533,756
1981-82	1,285	11,538	5,128	4,013	494,210	516,174
1982-83	1,200	11,703	5,259	4,099	482,722	504,983
1983-84	1,224	11,955	5,115	4,038	474,955	497,287
1984-85	1,161	12,054	5,370	4,252	467,565	490,402
1985-86	1,090	12,308	5,310	4,069	462,555	485,332
1986-87	1,231	12,200	5,750	4,191	457,912	481,286
1987-88	1,336	12,626	5,570	4,561	456,733	480,826

SOURCE: Iowa Department of Education, Basic Education Data Survey Files

Blacks are the largest minority group, making up about 2.5% of the student population in 1987-88. Asian Americans and Hispanics are the next largest groups, both about 1%, and American Indians follow with a presence of about .25%. The black, Asian American and Hispanic groups roughly doubled in size (tripled for Hispanics) from 1980-88, while the American Indian presence remained roughly constant. The total number of white students dropped by about 5%. In short,

although there has been some growth in the relative proportion of minority students enrolled in Iowa schools, the student population has remained generally the same.

As might be expected, the state's minority students are more densely represented in Iowa's urban areas. Schools in Des Moines, Davenport, Burlington and some smaller cities have significant minority student enrollment -- as high as 25-30%. Only one school was found with a minority student enrollment approaching 50%. Many minority students attend schools with only two or three minority students.

The corresponding data for teachers, administrators and other staff in Iowa schools are given in Tables 17, 18 and 19.

Table 17

IOWA PUBLIC SCHOOL FULL-TIME TEACHERS, 1980-88

Year	American Indian	Black	Asian American	Hispanic	White	TOTAL
1980-81	62	259	50	63	31,713	32,147
1981-82	71	240	47	61	30,224	30,643
1982-83	71	243	45	61	30,044	30,470
1983-84	85	250	45	61	29,845	30,286
1984-85	14	247	51	63	29,979	30,354
1985-86	13	231	49	67	30,139	30,499
1986-87	23	226	53	65	29,671	30,038
1987-88	21	212	54	72	29,313	29,672

SOURCE: Iowa Department of Education, Basic Education Data Survey Files

Table 18

IOWA 1980 THROUGH 1988 PUBLIC SCHOOL FULL-TIME ADMINISTRATORS

Year	American Indian	Black	Asian American	Hispanic	White	TOTAL
1980-81	4	40	1	4	2,516	2,565
1981-82	7	35	1	2	2,395	2,440
1982-83	10	33	0	3	2,323	2,369
1983-84	8	34	2	4	2,293	2,341
1984-85	1	36	2	6	2,291	2,336
1985-86	0	36	4	5	2,251	2,296
1986-87	1	35	3	5	2,257	2,301
1987-88	2	41	4	5	2,241	2,293

SOURCE: Iowa Department of Education, Basic Education Data Survey Files

TABLE 19

IOWA 1988 PUBLIC SCHOOL FULL-TIME OTHER STAFF, 1980-88

Year	American Indian	Black	Asian American	Hispanic	White	TOTAL
1980-81	10	29	6	7	3,430	3,482
1981-82	9	19	8	7	3,253	3,296
1982-83	9	25	10	5	3,379	3,428
1983-84	12	23	8	3	3,423	3,469
1984-85	2	23	8	6	3,395	3,434
1985-86	2	24	8	5	3,352	3,391
1986-87	1	21	9	4	3,314	3,349
1987-88	1	27	7	4	3,337	3,376

SOURCE: Iowa Department of Education, Basic Education Data Survey Files

These tables are characterized by the low, even minuscule, numbers of minorities in the state's schools. But there are some important points to be drawn from them. First, Iowa appears to have been more willing to appoint and maintain black administrators than one might first expect by looking at the tables. In 1980-81, black administrators were about 1.5% of all administrators, while black children were only 1% of the students enrolled. In 1987-88, black administrators were about 2% of the total administrators, while black children were 2.5% of the school population. The figures for administrators from other minority groups are too small to extrapolate from.

The number of minority teachers in all groups increased by a factor of two or greater for the years described in the table. But the total number of teachers fell in the same period. Iowa is hiring and keeping fewer numbers of minority teachers. With the decreases of the last eight years, minority teachers for each ethnic group are underrepresented in Iowa classrooms. Blacks constitute less than 1% of the teaching force, Hispanics less than 1/3%, Asian Americans less than 1/4%, and American Indians less than 1/10%.

The figures for representation for other school staff are roughly equivalent to those for teaching.

Iowa, alone among the states examined in this study, can quickly achieve the goal of proportionate representation of minority teachers in its school system if it continues to hire teachers and if it aggressively seeks to import minority faculty. Thirty more American Indian teachers would achieve the goal. Another 200 black teachers and the same number of Hispanics and Asian Americans would result in proportionate representation. Alternatively, if the state developed a policy requiring that new hires contain representatives of minority groups at roughly double the present percentages of students from ethnic groups, it could achieve proportionate representation within four to seven years.

But is proportionate representation a desirable goal for all the districts in the state? Some systems simply have no minority student presence. Others have a significant presence. State policy makers need to consider whether they wish to aggregate minority new hires in schools where there are significant minority student populations, or whether they wish to disperse them throughout the state. In this instance, policy makers may feel tension between two of the rationales for developing proportionate minority presence in teaching staffs. One compelling reason for stationing minority teachers in substantially white districts is the importance of ensuring that white students see minority individuals in professional and decision-making roles. Yet another reason is to ensure that schools which have a substantial minority student presence offer their students minority role models. Policy makers may wish to examine various programs for visiting teachers and professionals across the districts in their states to address this dilemma.

Performance and Participation

Iowa was the only state visited that made data on the persistence of college students available to the ECS staff. These data form the core of the following analysis.

Since the middle 1970s, the board of the Iowa Regents' Universities has periodically asked for and received a report on the rates of persistence of entering freshmen and transfer students on its campuses. The reports have generated tables such as the one following.

Table 20

PERSISTENCE OF FRESHMEN WHO ENTERED IOWA REGENTS' UNIVERSITIES, FALL 1980

	Number of Students	Earned Degree at Entering Univ.		Remained at the University, Not Currently Enrolled: 1 Year or Less*		1.01 to 2.00 Years*		2.01 to 3.00 Years*		More Than 3.00 Years*		Currently Enrolled at the University ('86)	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
UNI	2,054	991	48	521	25	275	13	102	5	132	6	33	2
ISU	4,195	2,583	62	688	16	371	9	206	5	204	5	143	3
U of I	3,346	1,857	55	504	15	299	9	188	6	335	10	163	5
Total Iowa Regents' Universities	9,595	5,431	57	1,713	18	945	10	496	5	671	7	339	4

* Session equivalent years (two semesters or three quarters).

For the fall 1980 entering freshman class, the table shows the number who earned degrees, the number who left the university without graduating, and the number who are currently enrolled and assumed to be satisfactorily progressing toward a degree.

Of the freshman students who entered fall 1980, the percent who earned degrees at the entering university was 48% for UNI, 62% for ISU and 55% for U of I.

The table shows the relative success rates of freshmen entering the three campuses portrayed in 1980. Of those entering, 57% graduated. The University of Northern Iowa had the lowest graduation rate and Iowa State University had the highest, 48% and 62%, respectively. The University of Iowa graduated 55% of its incoming freshmen. The table also indicates that a small percentage of the freshmen of 1980 were still in school six years after their initial enrollment.

Table 21 shows the persistence rates for minority freshmen enrolled in 1980.

Table 21

PERSISTENCE OF MINORITY FRESHMEN WHO ENTERED IOWA REGENTS' UNIVERSITIES DIRECT FROM HIGH SCHOOL, FALL 1980

	Number Of Students	Earned Degree Entering Univ.		Currently Enrolled		Degree Other Regent Univ.		Total Persistence	
		No.	%	No.	%	No.	%	No.	%
UNI									
American Indian	3	0	0.0	0	0.0	0	0.0	0	0.0
Black	31	7	22.6	0	0.0	0	0.0	7	22.6
Asian/Pacific Islander	17	11	64.7	0	0.0	1	5.9	12	70.6
Hispanic	3	2	66.7	0	0.0	0	0.0	2	66.7
Total	54	20	37.0	0	0.0	1	1.9	21	38.9
ISU									
American Indian	7	1	14.3	1	14.3	0	0.0	2	28.6
Black	67	14	20.9	2	3.0	0	0.0	16	23.9
Asian/Pacific Islander	20	11	55.0	1	5.0	2	10.0	14	70.0
Hispanic	18	12	66.7	1	5.6	1	5.6	14	77.8
Total	112	38	33.9	5	4.5	3	2.7	46	41.1
U. of I.									
American Indian	12	4	33.3	2	16.7	0	0.0	6	50.0
Black	75	27	36.0	3	4.0	1	1.3	31	41.3
Asian/Pacific Islander	28	15	53.6	3	10.7	0	0.0	18	64.3
Hispanic	27	15	55.6	0	0.0	0	0.0	15	55.6
Total	142	61	43.0	8	5.6	1	1.3	70	49.3

These data show that the persistence for some minority groups is substantially less than for the average student. For minority students in general, the rates of persistence are lower than for the total student body. American Indians and Blacks

generally have the lowest persistence records for the four ethnic groups analyzed. Asian and Pacific Islander and Hispanic groups have higher persistence records. At all three of the universities in the regents' system, Asian and Pacific Islanders and Hispanics had higher persistence rates than the general student body.

But it should be noted that because the raw figures for all of these groups are quite small in absolute terms, it may not be safe to assume a trend from the data. The data are further confounded by the mixing of U.S. citizens and immigrants in the report. The very small number of minority graduates from the institutions reflects the absence of any sizable minority community in the state.

Nevertheless, even if every graduate majored in education and got a job in Iowa schools, the state's pool of minority teachers would not be significantly enhanced. Indeed, even if the persistence rate for minority students were 100%, and a significantly disproportionately high number of them majored in education, it is unlikely that they could substantially contribute to the state's pool of minority teachers.

The data in Table 20 are echoed in Table 22, which shows the persistence rates for students who transfer into the three regents' universities.

Table 22

PERSISTENCE OF UNDERGRADUATE TRANSFER STUDENTS, IOWA REGENTS' UNIVERSITIES, FALL 1980

		Remained at the University, Not Currently Enrolled											
	Number of Students	Earned Degree at Entering Univ.		1 Year Or Less*		1.01 to 2.00 Years*		2.01 to 3.00 Years*		More Than 3.00 Years*		Currently Enrolled at the University	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
UNI	790	462	58	168	21	63	8	43	5	38	5	14	2
ISU	1,284	802	62	264	21	99	8	46	4	40	3	33	3
U of I	1,505	861	57	287	19	139	9	74	5	90	6	54	4
Total Iowa Regents' Universities	3,579	2,125	59	719	20	303	8	163	5	168	5	101	3

* Session equivalent years (two semesters or three quarters).

For the transfer students who entered fall 1980, the table shows the number who earned degrees, the number who left the university without graduating, and the number who are currently enrolled and assumed to be satisfactorily progressing toward a degree.

Of the transfer students who entered Fall 1980, the percent who earned degrees at the entering university was 58% for UNI, 62% for ISU and 57% for U of I.

The persistence of transfer students in the three universities is approximately the same as for freshmen. Again, a few of the transfer students remained in school at the time the data was collected.

The performance of minority transfer entries for 1980 is shown in Table 23. The table again shows rates for four ethnic groups and for the three universities in the regents' system.

Table 23

PERSISTENCE OF TRANSFER ENTRIES
INTO IOWA REGENTS' UNIVERSITIES BY
ETHNIC GROUP FOR U.S. CITIZENS AND IMMIGRANTS, FALL 1980

	Number of Students	Earned Degree Entering Univ.		Currently Enrolled		Graduated Regent Univ.		Total Persistence	
		No.	%	No.	%	No.	%	No.	%
UNI									
American Indian	1	0	0.0	0	0.0	0	0.0	0	0.0
Black	20	3	15.0	2	10.0	0	0.0	5	25.0
Asian/Pacific Islander	2	2	100.0	0	0.0	0	0.0	2	100.0
Hispanic	3	2	100.7	0	0.0	0	0.0	3	100.0
Total	26	8	30.8	2	7.7	0	0.0	10	38.5
ISU									
American Indian	2	1	50.0	0	0.0	0	0.0	1	50.0
Black	17	6	35.3	0	0.0	0	0.0	6	35.3
Asian/Pacific Islander	9	5	55.6	0	0.0	1	11.1	6	66.7
Hispanic	10	5	50.0	1	10.0	0	0.0	6	60.0
Total	38	17	44.7	1	2.6	1	2.6	19	50.0
U of I									
American Indian	11	4	36.4	1	9.1	0	0.0	5	45.5
Black	28	7	25.0	2	7.1	0	0.0	9	32.1
Asian/Pacific Islander	23	12	52.2	1	4.3	0	0.0	13	56.5
Hispanic	17	10	58.8	1	5.9	0	0.0	11	64.7
Total	79	33	41.8	5	6.3	0	0.0	38	48.1

The figures for persistence for transfer students are in the same range as those for freshmen. Again, the raw numbers are so small as to defy easy extrapolation to a trend. But again, blacks and American Indians have lower persistence rates than Asians, Pacific Islanders and Hispanics. Should all of the transfer students graduate, and should many of them graduate with teaching degrees, there still would not be enough of them to meet the state's growing need for minority teachers.

Two follow-up surveys on reasons for persistence and graduation were reported with the last study presented to the regents. There was little data that reflected directly on minority student concerns. For instance, very few of those in the follow-up sample commented on their satisfaction with minority student affairs offices on the campuses.

Data on persistence and transfers in college is hampered by methodological problems. Graduates may not return questionnaires. Those who drop out of college may either move or be reluctant to respond to a questionnaire about their decision to leave. The report notes that the rate of return for questionnaires is considerably below that required for the confident development of generalizations.

Career Preference

The preference for teaching careers among Iowa's minority students can be portrayed in a single table -- not of majors taken or degrees given, but of new hires in the state. Table 24 shows the number of teachers in the state's schools with fewer than five years of experience.

Table 24

IOWA PUBLIC SCHOOL FULL-TIME TEACHERS
WITH FIVE YEARS OR LESS EXPERIENCE, 1987-88

Race	Number	Percent
American Indian	8	0.16
Asian American	16	0.32
Black	31	0.62
Hispanic	13	0.26
White	4,893	98.63

SOURCE: Iowa Department of Education, Basic Education Data Survey Files

If the figures from this table are combined with those in the previous section on persistence and graduation, the conclusions are inescapable. Only very small numbers of minority students matriculate to Iowa's major universities, and, of those, few could have become teachers now working in the state. Perhaps Iowa exports minority teachers, but nothing the ECS staff heard or read suggested so. More than likely, most of the minority teachers working in the state got their degrees from Iowa universities and represent the size of the cohort obtaining education degrees in the state.

Within the next decade, some Iowa districts will face the same situation that larger towns and cities outside the state now face -- growing minority enrollments and a dwindling minority teacher presence. The total minority teacher presence for the last five years is only 1.37%, a decline from the minority representation in the total teacher pool. That is, there are fewer minority teachers in the newer cohorts than in the old.

Meanwhile, the total student minority presence has begun to approach 5%, and within a decade may approach 10%. Because the districts in Iowa's small cities are likely to notice the trends in demographics first, policy makers may wish to provide extra incentives to these districts to aggressively grow their own teachers and to recruit from the outside. Iowa faces the problem of disproportionately low representation of minority teachers in its schools. But because of the relatively small size of the state's minority population, there is time to forestall the development of a white-teacher/minority-student syndrome. Preventing the development of low representation will be much easier than trying to solve it when the problem matures.

MINNESOTA

Demographics

Data from Minnesota show the difficulties faced by states with small but growing populations of minority groups. Teachers simply take time to produce. The teachers who will teach today's schoolchildren must come from the cohort of schoolchildren from at least 15 years ago. But in states with small but swelling minority populations, those cohorts of a decade-and-a-half ago contained few minority students and thus can produce few minority teachers to teach today's minority children. Even if the minority students of the older cohorts disproportionately had chosen teaching as a career, there would not be enough of them to represent minorities in proportion to their presence as students today. The seriousness of the problem can be outlined by a brief examination of the minority staffing for Minnesota in general and for the Minneapolis and St. Paul school districts in particular.

Table 25

MINNESOTA ENROLLMENT-STAFFING,*
PreK-12 Population, 1987-88

	Total Enrollment	Total Staffing
MAJORITY	662,183	43,852
(% of enrollment, staffing)	(91.78%)	(98.50%)
MINORITY	59,272	667
(% of enrollment, staffing)	(8.22%)	(1.50%)
TOTAL	721,455	44,519

* Staffing includes full- and part-time administrators and instructional staff.

Table 26

MINNEAPOLIS/ST. PAUL ENROLLMENT-STAFFING,*
PreK-12 Population, 1987-88

	Total Enrollment	Total Staffing
MAJORITY	42,533 (58.3%)	3,526 (90%)
MINORITY	30,440 (41.7%)	392 (10%)
TOTAL	72,973	3,918

* Staff includes full- and part-time administrators and instructional staff.

Minorities clearly are underrepresented in the state staffing figures and in the staffing figures for the two school districts.

Demography offers an answer to the discrepancy if one looks, for instance, at the Minneapolis district enrollment figures.

Table 27

SUMMARY STATISTICS OF STUDENTS BY RACIAL/ETHNIC CATEGORIES, MINNEAPOLIS PUBLIC SCHOOLS, 1973-88

	1973		1978		1983		1988	
Racial/Ethnic Category	No.	%	No.	%	No.	%	No.	%
Indian Americans	2,545	4.3	2,573	5.6	2,324	5.9	2,839	7.2
Black Americans	6,882	11.7	8,023	17.6	8,814	22.2	11,717	29.5
Asian Americans	386	0.7	679	1.5	2,337	5.9	3,688	9.1
Hispanic Americans	615	1.0	614	1.4	498	1.3	671	1.7
White Americans	48,405	82.3	33,721	73.9	25,668	64.8	20,853	52.5
TOTAL	58,833	100.0	45,610	100.0	39,641	100.1	39,788	100.1
TOTAL MINORITY	10,428	17.7	11,889	26.1	13,973	35.3	18,915	47.6

SOURCE: Minneapolis Public Schools Human Resources Department, Student Information and Office Services.

These data show that the enrollment of minorities in the district has risen by roughly 70% in 15 years. This has occurred while the total enrollment has dropped substantially. If Minneapolis had established a program to grow its own teachers in the early 1970s and if the program had ensured the proportionate entry of Minneapolis graduates into the teaching profession, the district still would be trying to teach almost 19,000 students by drawing upon a teacher pool based upon a cohort of only 10,000+ students. The only course that can ensure a representatively sized minority teacher pool is the importation of minority teachers into the state and district.

Data for state K-12 enrollment reconfirm the substantial growth of minority students throughout the state and suggest that the rest of the state either is facing or will face the problems of underrepresentation of minorities in the teaching pool.

Table 28

MINNESOTA MINORITY ENROLLMENT IN GRADES PreK-12, 1983-84 to 1987-88

	1983-84	1984-85	1985-86	1986-87	1987-88
Total Minority Enrollment	46,692	48,816	51,806	55,074	59,272
Percent of Total Enrollment	6.6%	7.0%	7.3%	7.7%	8.2%
American Indian	10,935	11,184	11,240	11,566	12,116
Asian	13,618	14,556	15,726	17,005	18,545
Hispanic	5,580	5,681	6,034	6,515	7,270
Black	16,559	17,395	18,806	19,988	21,341

SOURCE: Minnesota Department of Education (MDE), District Data/Management Information System.

The same problem is discovered in the data for enrollments for the public universities in the state.

Table 29

HEADCOUNT ENROLLMENT BY RACIAL/ETHNIC GROUP,
STATE UNIVERSITY SYSTEM/UNIVERSITY OF MINNESOTA, 1984-88

	1984	1985	1986	1987	1988
Total Enrollment	138,790	140,431	144,392	151,113	156,618
Non-Resident Alien	3,937	4,078	4,219	4,427	4,052
(Percent)	(2.8)	(2.9)	(2.9)	(2.9)	(2.6)
Black	1,616	1,728	1,743	1,908	2,106
(Percent)	(1.2)	(1.2)	(1.2)	(1.3)	(1.3)
American Indian/ Alaskan Native	718	815	835	896	959
(Percent)	(.5)	(.6)	(.6)	(.6)	(.6)
Asian and Pacific Islander	1,936	2,315	2,567	2,768	3,021
(Percent)	(1.4)	(1.6)	(1.8)	(1.8)	(1.9)
Hispanic	811	857	870	950	1,090
(Percent)	(.6)	(.6)	(.6)	(.6)	(.7)
Unknown Racial/ Ethnic Group	14,817	9,375	8,128	8,960	9,609
(Percent)	(10.7)	(6.7)	(5.6)	(5.9)	(6.1)
White	114,925	121,263	126,030	131,204	135,781
(Percent)	(82.8)	(86.3)	(87.3)	(86.8)	(86.7)
Minority	5,111	5,715	6,015	6,522	7,176
(Percent)	(3.7)	(4.1)	(4.2)	(4.3)	(4.6)

SOURCE: Extrapolated from Headcount Enrollment and Percent of Total Headcount Enrollment by Racial/Ethnic Group and System, Fall 1984-88, Minnesota Higher Education Coordinating Board Student Record Data Base.

Table 29 presents enrollment data for the combined state university and University of Minnesota systems. In the state university system, however, the white enrollment fell by 1.5% from 1984 to 1988. Total minority enrollment climbed by .6%. Minority enrollment did not offset the small decline in white enrollment because of the growth in students of unknown ethnicity. In the university system, on the other hand, there was a substantial rise (proportionate to the base) for both white and minority students as a proportion of the total. This apparent paradox is explained by the steep decline in

students of unknown ethnicity. It may be that yearly increases in the number of minorities entering the university are a function of better data gathering than actual increases in ethnic enrollees. In short, minority students are increasing as a proportion of the total student body in the major public institutions of higher education in Minnesota. But the increases are founded on very small enrollment bases. A disproportionately small segment of the state's minority population is enrolled in universities.

The seriousness of this problem can be glimpsed if one examines the patterns of full-time employment of teachers for the state of Minnesota. One could argue the under-representation of minority teachers would disappear as the minority population stabilizes and the lag of the decades between new students and new teachers begins to close. But such reasoning assumes that the entry of minority teachers into the profession is increasing at a rate equal to or better than the entry of minority children into the schools of the state. Unfortunately, this is not the case.

Table 30

MINNESOTA FULL-TIME HIRES BY RACE/ETHNICITY OF ELEMENTARY/SECONDARY TEACHERS, 1983-84 to 1987-88

	1983-84	1984-85	1985-86	1986-87	1987-'88
Total	34,795	35,272	35,105	35,645	38,234
Minority Total	506	561	514	589	555
American Indian	88	103	100	92	90
Asian	77	75	79	85	67
Hispanic	61	57	63	74	76
Black	280	326	304	338	322
White	34,297	34,150	34,347	35,056	37,679

SOURCE: Extrapolated from Minnesota's statewide totals of staff data

Table 30 shows that the number of minorities in Minnesota's full-time teacher corps increased approximately 10% between 1983 and 1988. However, Tables 28 and 29 show that the number of minority students grew approximately 28% in the same period. While the minority teacher pool is growing, the minority student pool is growing almost three times as fast.

Given these trends, it is likely that Minnesota's percent of staff who are minority will slowly decrease, while the percent of students who are minority will continue to grow.

Minnesota and states like it face a difficult challenge in trying to achieve proportionate representation of minorities in their teaching pool. For large cities such as Minneapolis and St. Paul, the challenge is even more difficult. The state and districts need to develop programs to "grow their own" minority teachers. However, even if they succeed in attracting a growing proportion of minority students into the teaching profession, the birth rate and migration demographics mean a solution cannot be achieved quickly. The alternative is to recruit and import teachers from other states, but this too will be difficult. Virtually every state is attempting to expand its pool of minority teachers. Some of the traditional sources of minority teachers (historically black colleges and universities in the Southeast) are no longer producing as many minority teachers as they did in the past.

Performance and Participation

For Minnesota, the realities of minority student performance and participation can best be examined by looking at one of the large urban school districts with a substantial minority population. The Minnesota Department of Education's School District Profiles 1986-87 indicate that 95% of school districts had minority populations of less than 10.2%. The average minority population for a district was 7.7%. With a few exceptions for small districts dominated by an American Indian presence, the only sizable minority student groupings were in the state's larger cities. Hence, the St. Paul school district was chosen to illustrate the performance and participation component of this report on Minnesota.

The St. Paul district is the state's third largest, with a 1986-87 enrollment of 31,624 students, 36.7% of them minorities. The district contains relatively large groups of blacks, Hispanics, Asians and American Indians.

The district's Report of the Disaggregated Results of the Testing Program for its schools displays for three years, 1985-87, student performance on the SRA Survey of Basic Skills. Table 31 shows the percentage of scores above the national median for the reading, mathematics and language tests and for a composite of the tests given to elementary students.

Table 31

ST. PAUL (MINNESOTA) DISTRICT TOTALS, SRA SURVEY OF BASIC SKILLS ELEMENTARY GRADES, 1985-87

COMPOSITE SCORE

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 2-6 combined)

	1985	1986	1987
American Indian	30	36	35
Asian	27	31	30
Black	25	28	31
White	55	58	59
Hispanic	30	31	34

LANGUAGE TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 2-6 combined)

	1985	1986	1987
American Indian	31	34	39
Asian	29	36	36
Black	26	32	33
White	52	57	58
Hispanic	30	33	36

MATH TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 2-6 combined)

	1985	1986	1987
American Indian	31	30	30
Asian	38	41	37
Black	23	24	27
White	50	53	55
Hispanic	26	28	28

READING TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 2-6 combined)

	1985	1986	1987
American Indian	36	40	40
Asian	22	25	24
Black	31	31	32
White	58	61	62
Hispanic	34	37	36

SOURCE: St. Paul Public Schools District Testing Program Report of Disaggregated Results for the Period 1985-87. Department of Research, Evaluation and Testing, District 625, St. Paul, MN (August 1988).

The corresponding percentages for those in the secondary grades are found in Table 32.

Table 32

ST. PAUL (MINNESOTA) DISTRICT TOTALS
SRA SURVEY OF BASIC SKILLS
SECONDARY GRADES, 1985-87

COMPOSITE SCORE

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 7-11 combined)	1985	1986	1987
American Indian	30	33	35
Asian	21	31	36
Black	22	25	26
White	55	56	56
Hispanic	28	30	32

LANGUAGE TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 7-11 combined)	1985	1986	1987
American Indian	29	30	33
Asian	21	30	34
Black	25	27	26
White	51	54	54
Hispanic	30	31	32

MATH TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 7-11 combined)	1985	1986	1987
American Indian	29	26	36
Asian	39	46	45
Black	23	22	23
White	54	55	55
Hispanic	30	30	31

READING TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 7-11 combined)	1985	1986	1987
American Indian	31	33	32
Asian	14	20	22
Black	23	27	25
White	53	55	55
Hispanic	29	31	29

SOURCE: St. Paul Public Schools District Testing Program Report of Disaggregated Results for the Period 1985-87. Department of Research, Evaluation and Testing, District 625, St. Paul, MN (August 1988).

In summarizing these results, the district report commented: "At both the elementary and secondary levels, the percentages of white students scoring above the national average exceeded the national value of 50 for all three years. For all four minority groups, the percentages of students scoring above the national average were lower than the national value for all three years."

The report noted there was steady improvement of minority student scores over the three years for all four of the minority groups. The data varied from school to school. Table 33 displays the data for Central Senior High School.

Table 33

CENTRAL SENIOR HIGH SCHOOL (MINNESOTA) SRA SURVEY OF BASIC SKILLS, 1985-87

COMPOSITE SCORE

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 9-11 combined)

	1985	1986	1987
American Indian	50	70	55
Asian	38	34	55
Black	24	30	26
White	65	68	73
Hispanic	64	50	48

LANGUAGE TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 9-11 combined)

	1985	1986	1987
American Indian	50	70	55
Asian	33	30	51
Black	27	30	28
White	59	66	69
Hispanic	73	44	62

MATH TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 9-11 combined)

	1985	1986	1987
American Indian	53	62	64
Asian	65	52	67
Black	25	28	25
White	61	67	70
Hispanic	55	56	64

READING TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 9-11 combined)

	1985	1986	1987
American Indian	39	73	64
Asian	27	30	43
Black	22	28	21
White	62	67	69
Hispanic	64	50	46

SOURCE: St. Paul Public Schools District Testing Program Report of Disaggregated Results for the Period 1985-87. Department of Research, Evaluation and Testing, District 625, St. Paul, MN (August 1988).

Central has the largest percentage of black students -- 34.6% -- of any St. Paul high school. About 32% of its students qualify for free lunches. These data can be compared to those for Humboldt Junior-Senior High School Complex, which has the largest Hispanic presence (22%) and 50% of its students qualifying for free lunches.

Table 34

HUMBOLDT JUNIOR-SENIOR HIGH SCHOOL COMPLEX (MINN.) SRA SURVEY OF BASIC SKILLS, 1985-87

COMPOSITE SCORE

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 7-11 combined)

	1985	1986	1987
American Indian	18	35	29
Asian	19	33	32
Black	14	21	15
White	45	41	39
Hispanic	24	25	32

LANGUAGE TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 7-11 combined)

	1985	1986	1987
American Indian	18	21	36
Asian	38	49	47
Black	16	14	11
White	44	39	42
Hispanic	25	25	32

MATH TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 7-11 combined)

	1985	1986	1987
American Indian	20	22	23
Asian	18	31	33
Black	16	25	16
White	45	42	41
Hispanic	27	27	33

READING TEST

PERCENTAGE ABOVE THE NATIONAL MEDIAN (Grades 7-11 combined)

	1985	1986	1987
American Indian	23	24	18
Asian	6	20	15
Black	20	27	14
White	45	39	40
Hispanic	25	25	28

SOURCE: St. Paul Public Schools District Testing Program Report of Disaggregated Results for the Period 1985-87. Department of Research, Evaluation and Testing, District 625, St. Paul, MN (August 1988).

Although St. Paul is making progress in raising the performance of its minority students, not all of its minority students fare well. For many, the 1985 level of performance was very poor. In individual schools, one minority group might remain mired in low performance while others improve. In schools such as Humboldt, the record is checkered at best. Poverty seems to be a major determinant of poor performance among both minority and white students.

If one assumes that students who score below the national median in a test of basic skills are not likely to succeed in college, then the data have serious implications. About three-quarters of the black students in Central High and 85% of those from Humboldt are not likely to succeed in postsecondary education. The numbers for the other minorities are less drastic, but still cause for concern. It is doubtful that St. Paul can

grow its own minority teachers, unless the record of improvement of minority student performance continues and accelerates.

Participation data from the district were not available for this project. However, the state department of education's district profiles show a 92.5% attendance rate for St. Paul for 1986-87. This places the district in the bottom 5% of the state's 436 districts. If one assumes that low attendance and high dropout rates are correlated, one can conclude that the district has the same kind of participation profile as many large urban school districts.

Career Preference

Data from Minnesota demonstrate some of the difficulties faced by a state with relatively small but growing minority group populations.

The explanation for Minnesota's lack of a sufficient supply of minority teachers is unique. As noted in the demographic description, the data for K-12 enrollment show a substantial growth of minority students, though the proportions remain relatively small. The state experienced its greatest gain from 1986-87 to 1987-88 (Table 35).

Table 35

MINNESOTA MINORITY ENROLLMENT IN GRADES PreK-12, 1983-84 to 1987-88

	1983-84	1984-85	1985-86	1986-87	1987-88
Total Minority Enrollment	46,692	48,816	51,806	55,074	59,272
Percent of Total Enrollment	6.6%	7.0%	7.3%	7.7%	8.2%
American Indian	10,935	11,184	11,240	11,566	12,116
Asian	13,618	14,556	15,726	17,005	18,545
Hispanic	5,580	5,681	6,034	6,515	7,270
Black	16,559	17,395	18,806	19,988	21,341

SOURCE: Minnesota Department of Education, District Data/Management Information System

Data from the state university system and the University of Minnesota combined indicate the relatively low number of minority students enrolled. Minority representation remained relatively constant with only a moderate increase as shown in Table 36.

Table 36

HEADCOUNT ENROLLMENT BY RACIAL/ETHNIC GROUP,
STATE UNIVERSITY SYSTEM/UNIVERSITY OF MINNESOTA, 1984-88

	1984	1985	1986	1987	1988
Total Enrollment	138,790	140,431	144,392	151,113	156,618
Non-Resident Alien	3,937	4,078	4,219	4,427	4,052
(Percent)	(2.8)	(2.9)	(2.9)	(2.9)	(2.6)
Black	1,616	1,728	1,743	1,908	2,106
(Percent)	(1.2)	(1.2)	(1.2)	(1.3)	(1.3)
American Indian/ Alaskan Native	718	815	835	896	959
(Percent)	(.5)	(.6)	(.6)	(.6)	(.6)
Asian and Pacific Islander	1,936	2,315	2,567	2,768	3,021
(Percent)	(1.4)	(1.6)	(1.8)	(1.8)	(1.9)
Hispanic	811	857	870	950	1,090
(Percent)	(.6)	(.6)	(.6)	(.6)	(.7)
Unknown Racial/ Ethnic Group	14,817	9,375	8,128	8,960	9,609
(Percent)	(10.7)	(6.7)	(5.6)	(5.9)	(6.1)
White	114,925	121,263	126,030	131,204	135,781
(Percent)	(82.8)	(86.3)	(87.3)	(86.8)	(86.7)
Minority	5,111	5,715	6,015	6,522	7,176
(Percent)	(3.7)	(4.1)	(4.2)	(4.3)	(4.6)

SOURCE: Extrapolated from Headcount Enrollment and Percent of Total Headcount Enrollment by Racial/Ethnic Group and System, Fall 1983-87. Minnesota Higher Education Coordinating Board Student Record Data Base.

When Tables 35 and 36 are compared, it seems likely that only a small fraction of minority students ever enter postsecondary schooling. Even if these students enter

teacher training programs in proportion to white entry, the numbers of minority students trained as teachers are small.

The data on teacher preparation in Minnesota also indicate erosion over two decades with improvements in 1987 and 1988 (Table 37).

Table 37

PREPARATION OF NEW TEACHERS* IN MINNESOTA, 1969-88

Year	Total**
1969	6,572
1971	7,903
1973	6,658
1975	4,692
1977	3,817
1979	3,360
1981	2,811
1983	2,765
1984	2,480
1985	2,582
1986	2,707
1987	3,037
1988	3,465

*Bachelors degree level.
**Total equals elementary, secondary and special education teachers combined.

SOURCE: Extrapolated from Report on Production and Placement of New Teachers in Minnesota, 1988. Minnesota Institutional Teacher Placement Association (MITPA), Mankato State University, Mankato, MN.

Minnesota schools produced the fewest new teachers in 1984. Moreover, in 1985 the state legislature recommended a statewide assessment measure for beginning teachers. This proposed legislation may have been a disincentive for prospective teachers. However, the numbers did increase in 1987 and 1988, reaching numbers comparable to those achieved in the late '70s.

The state has the potential to prepare its prospective teachers. However, those teachers might not obtain employment. Evidence of success of teacher training graduates lies in the number of new teachers securing positions. Table 38 identifies the percent of new teachers securing full-time positions between 1972 to 1988.

Table 38

PERCENT OF NEW TEACHERS IN MINNESOTA FULL-TIME TEACHING POSITIONS, 1972-88

Year	Percent(%)*
1972	52.0
1979	65.3
1980	59.8
1981	63.3
1982	45.2
1983	44.8
1984	56.0
1985	47.2
1986	41.0
1987	39.2
1988	38.5

* Percent total equals elementary, secondary and special education teachers combined.

SOURCE: Extrapolated from Report on Production and Placement of New Teachers in Minnesota, 1983 & 1988. Minnesota Institutional Teacher Placement Association, Mankato State University, Mankato, MN.

New teachers in Minnesota enter a market that favors the employer rather than the employee. As the state reverses the decline in teacher preparation, the market is likely to remain tilted toward the employer.

The state's record for minority instructional staff hiring is very weak. Table 39 shows the racial and ethnic distribution of full- and part-time hires for elementary, secondary and other teacher teaching staff from 1983-84 to 1987-88.

Table 39

MINNESOTA FULL-TIME HIRES BY RACE/ETHNICITY FOR ELEMENTARY, SECONDARY AND OTHER TEACHERS, 1983-84 to 1987-88

	1983-84	1984-85	1985-86	1986-87	1987-88
Total	34,795	35,272	35,105	35,645	38,234
Minority Total	506	561	514	589	555
American Indian	88	103	100	92	90
Asian	77	75	79	85	67
Hispanic	61	57	63	74	76
Black	280	326	304	338	322
White	34,297	34,150	34,347	35,056	37,679

SOURCE: Extrapolated from Minnesota's statewide totals of staff data

These figures indicate clearly that minority teachers are not entering the profession in Minnesota at the same rate the minority K-12 rate is growing.

The rate of minority teachers grew just under 10% in five years, not quite as fast as the growth of the total teaching force.

It is difficult to assess how much career preference affects the minority teaching force in Minnesota. While the state collects and maintains data on enrollments, teacher production and prospective teacher performance on professional tests, these data are not generally disaggregated by ethnic groups.

The general impression for the state is:

(1) It has begun to raise its teacher production rate in an effort to meet the future need for more teachers.

(2) Few of the newly prepared teachers are minorities.

(3) New teachers face a tough employment market.

Given this situation, it is likely that the pool of minority teachers in the state will remain disproportionately small. The shortage of minority teachers will continue unless there is a significant statewide campaign to identify minority high school students interested in teaching, assure their academic success, support them through college and ultimately hire them within the state.

NEW YORK

Demographics

New York State's student, teaching and administrative populations offer different challenges to policy makers than those of the other states in this study. New York has had established minority populations alongside a recent influx of other minorities to the state. The general pattern of minority population demographics for the state is a mixture of stability and growth. Table 40 shows the state's enrollment of minority students for 1976 to 1986.

Table 40

NEW YORK STATE RACIAL/ETHNIC DISTRIBUTION
OF PUBLIC SCHOOL STUDENTS,
1976-77 to 1985-86

	Black	Hispanic	Amer. Indian/ Asian/Alaskan	Minority Total	Total
1976-77	571,357	354,061	47,034	972,452	3,316,319
1977-78	557,748	346,000	50,382	954,130	3,199,254
1978-79	542,522	336,266	52,795	931,583	3,069,977
1979-80	526,861	328,727	58,094	913,682	2,946,427
1980-81	517,007	329,964	61,317	908,288	2,848,528
1981-82	506,996	330,774	65,215	902,985	2,759,870
1982-83	502,196	337,173	70,628	909,997	2,694,950
1983-84	504,173	347,695	76,541	928,409	2,652,182
1984-85	503,641	356,672	82,633	942,946	2,622,429
1985-86	504,556	364,992	87,086	956,634	2,597,015

SOURCE: Racial/Ethnic Distribution of Public School Students and Staff, New York State 1976-77 to 1985-86. The University of New York/The State Education Department Information Center on Education, Albany, NY.

The trend is fairly stable. High enrollments from the mid '70s dropped slightly in the early '80s and then recovered in the last five years to slightly below their previous levels. In general, the cohort of minority school-age population of the early '70s was

large enough to produce the minority teachers for the students of the late '80s given access, encouragement and support. If there are not enough minority teachers in New York State, then their absence must be explained by phenomena other than demographic phenomena.

This does not mean New York does not face a challenge in staffing as the ethnic distribution of enrollment data for 1982 to 1988 shows.

Table 41

NEW YORK STATE RACIAL/ETHNIC DISTRIBUTION
OF PUBLIC SCHOOL STUDENTS, 1982-83 to 1987-88

	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Other*	70,628 (2.7%)	76,541 (2.9%)	82,633 (3.2%)	87,086 (3.3%)	94,990 (3.7%)	98,266 (3.9%)
Hispanic	337,173 (12.5%)	347,695 (13.1%)	356,672 (13.6%)	364,992 (14.1%)	367,123 (14.3%)	371,230 (14.6%)
Black	502,196 (18.6%)	504,173 (19.0%)	503,641 (19.2%)	504,556 (19.4%)	500,622 (19.5%)	506,134 (19.8%)
Min. Total	909,997 (34.0%)	928,409 (35.0%)	942,946 (36.0%)	956,634 (36.8%)	962,735 (37.5%)	975,630 (38.3%)
White	1,784,953 (66.0%)	1,723,773 (65.0%)	1,679,483 (64.0%)	1,640,381 (63.2%)	1,604,557 (62.5%)	1,574,979 (61.7%)
Total	2,694,950	2,652,182	2,622,429	2,597,015	2,567,292	2,550,609

*Includes American Indian, Alaskan Native, Asian or Pacific Islander

SOURCE Extrapolated from Racial/Ethnic Distribution of Public School Students and Staff, 1982-83, 1983-84,1984-85, 1985-86, 1986-87, 1987-88. The University of the State of New York/The State Education Department Information Center on Education, Albany, NY.

Table 41 indicates a rise in the number of Hispanics and in the minority category classified as "other." Black enrollments showed a marginal rise, while white enrollments declined. In all, minority enrollments are a growing proportion of New York's total enrollment.

The same pattern is seen in the data for enrollments in New York City.

Table 42

NEW YORK CITY DISTRIBUTION OF PUBLIC SCHOOL STUDENTS BY RACE/ETHNICITY, 1982-83 TO 1986-87

	1982-83	1983-84	1984-85	1985-86	1986-87
Amer. Indian, Alaskan Native, Asian or Pacific Islander	44,991 (4.9%)	49,825 (5.4%)	54,929 (5.9%)	58,211 (6.3%)	61,931 (6.6%)
Hispanic	292,124 (31.8%)	300,923 (32.5%)	308,534 (33.1%)	314,640 (33.6%)	316,087 (33.9%)
Black	353,238 (38.5%)	354,974 (38.4%)	355,669 (38.2%)	356,842 (38.1%)	356,053 (38.2%)
Min. Total	690,353 (75.2%)	705,722 (76.3%)	719,132 (77.2%)	729,693 (78.0%)	734,071 (78.7%)
White	228,031 (24.8%)	219,120 (23.7%)	212,013 (22.8%)	206,300 (22.0%)	198,272 (21.3%)
Total	918,384	924,842	931,145	935,993	932,343

SOURCE: Extrapolated from Racial/Ethnic Distribution of Public School Students and Staff, 1982-'83 through 1986-'87. The University of the State of New York/The State Education Department Information Center on Education, Albany, Ny.

Although New York City's enrollment is more heavily minority than the state's, the trends in both tables are virtually identical. Minority enrollment continues to grow as a proportion of total enrollment.

The picture for college and university enrollments is slightly different. Table 43 shows a four-year profile of minority and white enrollments for the City University of New York (CUNY) and State University of New York (SUNY) institutions.

Table 43

ENROLLMENT DISTRIBUTION IN NEW YORK STATE UNIVERSITY AND NEW YORK CITY UNIVERSITY SYSTEMS BY RACIAL/ETHNIC GROUPS, 1980-86

	1980	1982	1984	1986
Asian or Pacific Islander	12,039 (2.6%)	15,082 (2.7%)	17,214 (3.2%)	20,188 (3.7%)
Amer. Indian Alaskan Native	3,160 (0.6%)	3,574 (0.6%)	3,424 (0.6%)	3,759 (0.7%)
Hispanic	35,975 (7.9%)	38,173 (7.0%)	40,421 (7.7%)	45,399 (8.4%)
Black	69,194 (15.3%)	67,312 (12.3%)	70,128 (13.4%)	73,237 (13.6%)
Min. Total	120,368 (26.6%)	124,141 (22.8%)	131,187 (25.1%)	142,583 (26.6%)
White	332,137 (73.4%)	420,132 (77.2%)	391,234 (74.9%)	393,172 (73.4%)
Total	452,505	544,273	522,421	535,755

SOURCE Racial/Ethnic Distribution of Enrollment in Institutions of Higher Education, New York State, 1980, '82, '84, '86. The University of the State of New York/The State Education Department Information Center on Education, Albany, NY.

American Indian, Asian/Pacific Islander and Hispanic enrollments rose sharply from 1980-86. Black enrollment dipped, then recovered for a modest rise. White enrollment grew as fast as that in the minority groups. The proportion of minority to white students in the institutions did not change from 1980 to 1986.

Growth in minority enrollment in public schools becomes problematic from a policy perspective when it is not accompanied by growth in minority teacher and administrative staff. It is important to examine whether the growth of minority student enrollment is accompanied by a similar growth in minority staff figures. Table 44 shows the relationship between enrollment and staffing for the state.

Table 44

PERCENT DISTRIBUTION OF NEW YORK K-12 ENROLLMENT AND STAFFING, 1983-84 TO 1986-87

	1983-84	1984-85	1985-86	1986-87
MINORITY:				
Enrollment (%)	35.0%	36.0%	36.8%	37.5%
Staff (%)	10.3%	1.1%	11.9%	11.6%
MAJORITY:				
Enrollment (%)	65.0%	64.0%	63.2%	62.5%
Staff (%)	89.7%	89.0%	88.1%	88.4%

SOURCE: Extrapolated from Racial/Ethnic Distribution of Enrollment in Institutions of Higher Education, New York State 1980, 1982, 1984, 1986. The University of the State of New York/The State Education Department Information Center on Education, Albany, NY.

Clearly, there is a disproportionately low representation of minorities in K-12 staff for the state, although the growth in minority staffing is faster than the growth in minority enrollments. The rise in staff from 10.3% in 1983-84 to 11.6% in 1986-87 was greater than the rise in enrollment from 35% to 37.5% during the same period. Minority staffing eventually will catch minority enrollment, but will take a long time.

The data for New York City show a more vigorous growth in minority staffing. Table 45 shows substantial increases in the proportion of minority staff from 1982 to 1987.

Table 45

PERCENT DISTRIBUTION OF NEW YORK CITY PUBLIC SCHOOL PROFESSIONAL STAFF BY RACE/ETHNICITY, 1982-83 to 1987-88

	1982-83	1983-84	1984-85	1985-86	1986-87
Amer. Indian Alaskan Native, Asian or Pacific Islander	0.9%	1.0%	1.2%	1.2%	1.3%
Hispanic	5.7%	6.6%	7.0%	7.6%	8.1%
Black	14.3%	15.2%	16.4%	17.1%	17.6%
Min. Total	20.9%	22.8%	24.6%	25.9%	27.0%
White	79.1%	77.2%	75.4%	74.1%	73.0%

SOURCE: Extrapolated from Racial/Ethnic Distribution of Public School Students and Staff, 1982-83 through 1986-87. The University of the State of New York/The State Education Department Information Center on Education, Albany, NY.

While New York has seen a substantial rise in minority staffing for all ethnic groups, the staff population remains disproportionately white in a system with significant minority enrollment. Nevertheless, the trends suggest that minorities will become a majority of New York City schools staff within the next 10 to 15 years.

Performance and Participation

New York State maintains excellent control over the data required to answer the questions above. Both tables and discussion from the annually published Report to the Governor and the Legislature on the Educational Status of the State's Schools provides information and analysis pertinent to questions on performance and participation. Much of the following section of this report relies heavily on tables and discussion from the report.

New York employs a Pupil Evaluation Program (PEP) to assess the performance of its schools. Table 46 shows the PEP data by minority composition of the schools.

Table 46

NEW YORK PUBLIC SCHOOL PUPIL EVALUATION PROGRAM AND PROGRAM EVALUATION TEST RESULTS BY MINORITY COMPOSITION OF SCHOOL, 1987-88

Location/Minority Composition of School	Percent Tested Above SRP					Percentile Rank of Mean Score
	Grade 3		Grade 5	Grade 6		Grade 6
	Reading	Math	Writing	Reading	Math	Social Studies
New York City						
0 - 20%	87%	95%	93%	81%	84%	42%
21 - 40%	84	92	91	77	81	32
41 - 60%	77	89	84	73	75	23
61 - 80%	72	84	86	68	69	17
81 -100%	60	74	78	58	58	7
Total	68	80	82	65	66	15
Other Large Cities*						
0 - 20%	94%	96%	96%	85%	93%	45%
21 - 40%	80	92	91	76	82	24
41 - 60%	79	93	90	76	85	27
61 - 80%	76	88	88	71	82	18
81 -100%	78	93	84	67	77	13
Total	79	92	89	74	83	23
Rest of State						
0 - 20%	92%	98%	95%	90%	95%	68% ile
21 - 40%	87	96	94	83	91	50
41 - 60%	87	95	93	83	91	47
61 - 80%	84	95	91	85	86	43
81 -100%	85	91	90	81	84	19
Total	91	97	95	89	94	65
Total State						
0 - 20%	92%	97%	95%	90%	94%	67% ile
21 - 40%	85	94	92	79	85	38
41 - 60%	81	92	88	77	83	30
61 - 80%	75	87	87	72	74	20
81 -100%	62	75	79	59	59	7
Total	83	91	90	80	84	40

* Buffalo, Rochester, Syracuse and Yonkers
Minority Composition = Black and Hispanic enrollment divided by total enrollment

SOURCE: Report to the Governor and the Legislature on the Educational Status of the State's Schools, 1988.

The report comments that: "Analysis of the 1987-88 PEP test results demonstrates that the higher the percentage of minority enrollment in schools within a given location, the lower the percentage of students scoring above the State Reference Point (SRP), a state norm, on PEP tests administered in those schools. For example, among New York City schools with 81% or more minorities, the percentages of students scoring above the SRP range from 15 to 27 points lower on the same tests than for schools with no more than 20% minority enrollments. Discrepancies in the percentages among schools of varying minority compositions are smallest outside the Big Five cities. Here the range is between five and 11 points, with the lowest percentages reported by schools with more than 80% minority enrollment."

The disproportionately low scores for heavily minority schools are echoed throughout the data for high school students. Table 47 presents the data for reception of regents diplomas by minority composition of the school.

Table 47

NEW YORK STATE PERCENT OF PUBLIC HIGH SCHOOL GRADUATES RECEIVING REGENTS DIPLOMAS BY MINORITY COMPOSITION OF SCHOOL, 1987-88

Location/Minority Composition of School	Percent Receiving Regents Diploma
New York City	
0 - 20%	59%
21 - 40%	56
41 - 60%	53
61 - 80%	37
81 -100%	32
Total	37
Other Large Cities*	
0 - 20%	**
21 - 40%	47%
41 - 60%	26
61 - 80%	27
81 -100%	3
Total	33
Rest of State	
0 - 20%	56%
21 - 40%	46
41 - 60%	36
61 - 80%	38
81 -100%	20
Total	53
Total State	
0 - 20%	56%
21 - 40%	47
41 - 60%	35
61 - 80%	33
81 -100%	26
Total	49

*Buffalo, Rochester, Syracuse and Yonkers
** No high schools in this category

Minority Composition = Black and Hispanic enrollment divided by total enrollment (Grades 9-12)

The report comments: "An analysis of the regents diplomas awarded for 1987-88 indicates that as the minority composition of schools increases, the percentage of graduates receiving regents diplomas decreases, regardless of where the schools are located. For example, a New York City student attending a school with no more than 20% minority enrollment is almost twice as likely to graduate with a regents diploma than a New York City student attending a school which is more than 80% minority (59% compared to 32%). Even worse odds exist in the other Big Five districts, where a student attending a school which is more than 80% minority is 15 times less likely to receive a regents diploma than a student attending a school with no more than 40% minority enrollment (3% compared to 47%)."

These findings are reemphasized by the state's minority student performance on the SAT (Table 48).

Table 48

NEW YORK STATE SAT SCORES FOR PUBLIC AND NONPUBLIC HIGH SCHOOL STUDENTS BY RACIAL/ETHNIC GROUP AND GENDER, 1987-88

Group	Verbal	Math	Combined
Gender			
Male	428	492	920
Female	413	448	861
Racial/Ethnic Group			
Black	359	386	745
Hispanic	362	396	758
Other Minority*	406	511	917
White	439	489	928
Total All Students	420	469	889

*Includes American Indian, Alaskan Native, Asian and Pacific Islander

SOURCE: The College Board

Black and Hispanic students score lower on average than whites or other minorities.

To some extent these scores might be explained by the failure of minority students to pursue special or accelerated courses in preparation for postsecondary work. Table 49 shows the participation rates for regents science courses by minority composition of school.

Table 49

NEW YORK STATE DISTRIBUTION OF PUBLIC HIGH SCHOOL PARTICIPATION RATES IN REGENTS SCIENCE COURSES BY MINORITY COMPOSITION OF SCHOOL 1987-88

Location/Minority Composition of School	Average (Median) Participation Rage	Percent of Schools Having Low Rate	Median Rate	High Rate
New York City				
0 - 20%	.400	20%	60%	20%
21 - 40%	.450	38	25	37
41 - 60%	.400	24	40	36
61 - 80%	.225	83	11	6
81 -100%	.090	94	4	2
Total	.210	70	17	13
Other Large Cities*				
0 - 20%	**	**	**	**
21 - 40%	.390	33%	45%	22%
41 - 60%	.170	81	13	6
61 - 80%	.200	91	9	0
81 -100%	.000	100	0	0
Total	.205	76	17	7
Rest of State				
0 - 20%	.450	11%	54%	35%
21 - 40%	.340	29	67	4
41 - 60%	.320	62	38	0
61 - 80%	.250	67	33	0
81 -100%	.190	75	13	13
Total	.450	14	53	33
Total State				
0 - 20%	.450	11%	54%	35%
21 - 40%	.365	33	48	19
41 - 60%	.325	50	32	18
61 - 80%	.215	84	13	3
81 -100%	.090	93	5	2
Total	.420	25	46	29

*Buffalo, Rochester, Syracuse and Yonkers
** No high schools in this category

Participation Rate = Enrollment in regents science courses divided by grade 9-12 enrollment
Low Rate = less than .330
Medium Rate = .330 - .499
High Rate = .500 and higher
Minority Composition = Black and Hispanic enrollment divided by total enrollment (Grades 9-12)

SOURCE: Report to the Governor and the Legislature on the Educational Status of the State's Schools, 1988.

The report notes: "The participation patterns of minorities in regents science and mathematics courses show significant underrepresentation. In fact, as the minority composition of public high schools increases, the percentage of students who participate in these courses decreases. In schools across the state with minority concentrations of 61% to 80%, less than one-quarter of the students participate in regents science courses. In schools with minority concentrations of more than 80%, the participation rate is only 9% statewide. For regents science courses, the participation rates are lower in Big Five schools with more than 60% minority composition than they are in schools in the remainder of the state with comparable minority composition. For schools with minority concentrations greater than 80%, participation rates are extremely low. In New York City, the rate of participation in regents science courses is only 9%. In the remaining Big Five districts, the average number of participating minorities is so low that it is recorded as 0%."

New York uses both retention rates and dropout rates to record the participation levels of its students. Table 50 shows the retention rates over a period of years.

Table 50

NEW YORK STATE COMPARISON OF GRADE 9 TO GRADE 12 RETENTION RATES,* PUBLIC AND NONPUBLIC SCHOOLS, 1967-70 THROUGH 1984-87

Location/Years	Total	American Indian/ Alaskan Native	Black (Not Hispanic)	Asian/ Pacific Islander	Hispanic	White (Not Hispanic)
New York City						
1967-70	67.5%	84.3%	45.1%	89.2%	39.5%	91.0%
1972-75	60.7	119.6	51.4	97.8	44.1	74.3
1977-80	51.3	75.9	41.7	97.2	35.4	69.7
1982-85	54.5	93.3	42.7	90.0	39.9	75.1
1984-87	49.9	77.7	39.7	80.2	35.9	70.0
Rest of State						
1967-70	87.0%	66.9%	61.2%	100.8%	80.2%	88.5%
1972-75	84.7	68.1	68.7	111.6	82.3	85.7
1977-80	83.2	54.6	72.4	117.8	82.8	84.0
1982-85	82.9	61.4	65.0	97.5	67.5	84.9
1984-87	84.9	74.8	70.4	110.6	82.1	86.1
Total State						
1967-70	79.7%	70.2%	49.0%	91.1%	42.0%	89.1%
1972-75	76.0	72.9	55.7	101.2	47.4	83.0
1977-80	71.0	57.0	49.1	101.5	40.0	81.2
1982-85	72.3	64.6	48.8	92.1	43.9	83.2
1984-87	70.9	75.3	47.4	87.2	41.2	83.1

* Retention Rate = Fall enrollment in grade 12 divided by fall enrollment in grade 9, four years earlier.

Note: Data in this table do not represent actual high school completion rates of 9th-grade students since the effects of student migration (transfers in and transfers out) have not been accounted for, e.g., retention rates of near or more than 100% for Asian/Pacific Islanders during most of the period 1967-87. However, the data may be indicative of the relative completion rates for the subgroups shown.

The report comments: "Estimates of retention rates for several groups of 9th graders indicate that statewide retention rates have declined overall. Of the 9th graders enrolled in New York State's schools in 1967, 79.7% were estimated to have graduated four years later. For 9th graders enrolled in 1984, that percentage had decreased to 70.9%. Significantly lower retention rates were estimated for minority students than for whites. The most recent calculations estimated a statewide retention rate for whites of 83.1%; for blacks, 47.4%; and for Hispanics, 41.2. Other studies indicate that in New York City the rate for students not completing high school

within the traditional four-year period may be as high as 72% for black students (a 28% retention rate) and 80% for Hispanics (a 20% retention rate)."

These observations are bolstered by more recent data on dropout rates. Table 51 shows the dropout rate for 1986-87 by minority composition of the school.

Table 51

NEW YORK STATE DISTRIBUTION OF PUBLIC HIGH SCHOOL ANNUAL DROPOUT RATES BY MINORITY COMPOSITION OF SCHOOL, 1986-87

Location/Minority Composition of School	Average Dropout Rate	Percent of Schools Having Low Rate	Medium Rate	High Rate
New York City				
0 - 20%	.034	20%	80%	0%
21 - 40%	.039	27	53	20
41 - 60%	.049	8	67	25
61 - 80%	.118	0	53	47
81 -100%	.105	5	22	74
Total	.082	8	40	52
Other "Big 5" Cities*				
0 - 20%	**	**	**	**
21 - 40%	.044	56%	11%	33%
41 - 60%	.065	20	33	47
61 - 80%	.061	0	60	40
81 -100%	.281	0	0	100
Total	.067	20	31	49
Rest of State				
0 - 20%	.029	37%	60%	3%
21 - 40%	.048	9	67	24
41 - 60%	.048	23	54	23
61 - 80%	.049	0	100	0
81 -100%	.054	12	50	38
Total	.031	36	60	4
Total State				
0 - 20%	.030	37%	60%	3%
21 - 40%	.043	24	51	24
41 - 60%	.051	15	54	31
61 - 80%	.105	0	60	40
81 -100%	.103	5	23	72
Total	.050	31	56	13

* Buffalo, Rochester, Syracuse and Yonkers
** No high schools in this category

Dropout Rate = Number of dropouts divided by grades 9-12 enrollment, including the portion of ungraded secondary enrollment that can be attributed to grades 9-12.

Low Rate = less than 20%
Medium Rate = 20-69%
High Rate = 70% and higher
Minority Composition = Black and Hispanic enrollment divided by total enrollment (Grades 9-12).

The report notes: "An analysis of the dropout rate for 1986-87 indicates a similar pattern to that discussed earlier in regard to attendance. Higher minority composition of schools within a given location is correlated with higher average dropout rates. There also appears to be a relationship between dropout rates and the location of schools. More than one-half (52%) of New York City schools and almost one-half (49%) of the schools in other Big Five districts have annual dropout rates considered 'high' (7% or greater). This compares with only 4% of the remaining schools. Conversely, only 8% of New York City schools and 20% of other Big Five districts have rates considered 'low' (less than 2%), compared with 36% for schools located outside the Big Five cities. The highest dropout rate, 28.1%, was recorded for schools in the other Big Five districts with more than 80% minority enrollment. The lowest recorded rate was for schools outside the Big Five cities with no more than 20% minority enrollment."

In further discussion, the report notes that poverty is a powerful predictor for all of the variables of interest in this section of the report. It is linked to poor test performance, poor attendance, greater likelihood of dropping out and poor SAT performance, among other factors.

One cannot avoid the conclusion that huge numbers of minority children lose the chance for postsecondary schooling to the environmental conditions prompting poor performance and participation. The report calls the dropout problem "disastrous." There can be no long-term solution to the need to generate greater numbers of minority teachers until minority children in the state have a better chance to attend college and flourish in its environment.

Career Preference

Data gathered from New York State allow for the development of answers to many of the questions raised. Table 52 shows the distribution of public high school graduates by minority composition of the school and indicates the percent of graduates going to college.

Table 52

NEW YORK STATE DISTRIBUTION OF PUBLIC HIGH SCHOOL GRADUATES BY MINORITY COMPOSITION OF SCHOOL, 1986-87

Location/Minority Composition of School	Percent to 4-Year College	Percent to 2-Year College	Percent to Other Postsecondary
New York City			
0 - 20%	69.3%	10.9%	3.3%
21 - 40%	59.7	22	2.7
41 - 60%	56.6	21.3	4.0
61 - 80%	50.7	26.2	3.5
81 -100%	42.2	25.5	5.1
Total	51.7	22.6	4.1
Other Large Cities*			
0 - 20%	**	**	**
21 - 40%	40.5%	22.5%	4.3%
41 - 60%	26.2	25.2	9.1
61 - 80%	39.4	19.9	2.7
81 -100%	16.0	20.0	1.5
Total	32.9	23.1	6.0
Rest of State			
0 - 20%	40.3%	28.0%	3.0%
21 - 40%	41.7	25.9	3.6
41 - 60%	38.0	24.8	6.0
61 - 80%	37.9	19.1	8.1
81 -100%	39.2	19.7	6.4
Total	40.3	27.6	3.2
Total State			
0 - 20%	41.1%	27.5%	3.1%
21 - 40%	49.4	23.8	3.3
41 - 60%	47.4	22.8	5.3
61 - 80%	47.4	24.3	3.8
81 -100%	41.5	24.7	5.2
Total	42.6	26.3	3.5

* Buffalo, Rochester, Syracuse and Yonkers
** No high schools in this category
Minority Composition = Black and Hispanic enrollment divided by total enrollment (Grades 9-12)

These data indicate considerable variation within the state. For instance, graduates of heavily minority populated high schools in New York City are just as likely to go to college as any other graduate in the state. Graduates of New York City high schools with sizable minority enrollments are more likely to go to college. Graduates of high schools with high minority presence in the other large cities of New York State are much less likely to go to college than their counterparts throughout the state. Only 16% of the graduates from heavily minority (81-100%) high schools enroll in a four-year college, whereas 42% percent of the total state's public high school graduates go on to a four-year college.

The trend for minority enrollment in colleges and universities is less clear. Table 53 outlines the realities.

Table 53

ENROLLMENT OF FIRST-TIME FRESHMEN* IN NEW YORK STATE COLLEGES AND UNIVERSITIES BY RACIAL/ETHNIC GROUP AND GENDER FALL 1982, 1984 AND 1986

		Percent Distributions					
		Racial/Ethnic Group				Gender	
Sector and Year	Total Number	Black	Hispanic	Other Minority**	White	Male	Female
State University of New York							
Fall 1982	77,177	5.7%	2.5%	2.1%	89.7%	48.3%	51.7%
Fall 1984	73,810	7.0	2.9	2.3	87.8	47.9	52.1
Fall 1986	71,793	5.6	2.5	2.3	89.6	46.9	53.1
City University of New York							
Fall 1982	31,469					41.8	57.2
Fall 1984	28,699	NOT AVAILABLE ***				42.0	58.0
Fall 1986	26,159					41.9	58.1
Independent							
Fall 1982	55,037	10.7	5.4	3.5	80.4	49.5	50.5
Fall 1984	56,513	9.8	5.2	3.7	81.3	48.7	51.3
Fall 1986	54,502	8.7	6.2	4.4	80.7	48.2	51.8
Proprietary							
Fall 1982	10,599	25.4	12.0	1.7	60.9	22.9	77.1
Fall 1984	10,887	26.5	11.6	1.4	60.5	28.3	71.7
Fall 1986	8,724	25.0	12.3	2.1	60.6	23.9	76.1
Total							
Fall 1982	174,282					46.1	53.9
Fall 1984	169,909	NOT AVAILABLE ***				45.9	54.1
Fall 1986	161,178					45.3	54.7

* Includes both full-time and part-time students.
** Includes American Indian, Alaskan Native, Asian and Pacific Islander
*** Data are not available from CUNY's current data collection. The collection has been revamped for 1989-90 to provide this information.

Enrollment for black college students peaked in the early or mid-'80s and is now falling for SUNY and independent institutions in the state. Hispanic enrollment has decreased in the SUNY institutions but is rising in the independent colleges. Other minority groups are experiencing rapid enrollment growth in the institutions for which data are available. These trends do not express the entire picture of college enrollment for minorities in the state, largely because the CUNY data were unavailable.

Table 54 shows the enrollment by ethnic group for the SUNY institutions.

Table 54

NEW YORK STATE FULL-/PART-TIME COLLEGE AND UNIVERSITY ENROLLMENT BY RACE/ETHNICITY, 1980-86

	1980		1982		1984		1986*
	F.T.	P.T.	F.T.	P.T.	F.T.	P.T.	F.T. P.T.
Black	70,948	34,787	69,040	35,613	68,193	39,150	107,674
Hispanic	35,714	17,006	39,177	17,329	39,486	19,461	64,738
Amer. Ind.	2,824	1,708	2,872	1,872	2,691	1,847	4,721
Asian/Pacific Islander	14,468	7,651	17,581	8,923	19,645	10,442	34,813
White	483,824	273,441	474,303	274,373	461,351	262,307	712,560

* For 1986, numbers for full- and part-time student enrollment were combined.

SOURCE: College and University Racial/Ethnic Distribution of Enrollment. University of the State of New York/The State Education Department/Information Center on Education, Albany, NY.

From 1980 to 1986, there was a slight drop in the enrollment for blacks, a substantial rise in the number of Hispanics and a very marked rise among Asian-Pacific Islander students attending SUNY. The American Indian presence has remained roughly constant. Among blacks in particular, there was an observable rise in the number of part-time as opposed to full-time students.

These data give concrete answers to some of the questions asked above. However, questions about entry into teacher preparation curricula still need to be answered. Table 55 illustrates the trend in this area by cataloguing the degrees earned for the SUNY institutions from 1980-81 through 1986-87 on a biannual basis.

Table 55

NEW YORK STATE* BACHELORS AND EDUCATION DEGREES CONFERRED BY RACE/ETHNICITY 1980-81 to 1986-87

	1980-81		1982-83		1984-85		1986-87	
	Total Degrees	Education Degrees	Total Degrees	Education Degrees	Total Degrees	Education Degrees	Total Degrees	Education Degrees
Black	6,075	490	6,284	442	6,672	376	6,370	119
Hispanic	3,028	198	3,166	203	3,399	210	3,757	121
Other	2,132	101	2,460	89	3,106	97	3,354	15
White	66,783	4,491	64,833	4,039	69,110	3,690	68,199	3,406

* Does not include City University of New York.

SOURCE: College and University Racial/Ethnic Distribution of Degrees Conferred. University of the State of New York/The State Education Department/Information Center on Education, Albany, New York

These data show substantial declines in the number of education baccalaureates earned for all ethnic groups. These declines occurred while ethnic groups exhibited a rise in total degrees earned. While both white and minority students are staying away from teacher education curricula, the dropoff in the numbers of minority students choosing teacher preparation as a college major is even more striking than for whites. The number of education B.A.'s awarded to blacks in New York fell from 490 to 119 from 1980-81 to 1986-87; from 198 to 121 for Hispanics; from 101 to 15 for other minorities; from 4,491 to 3,406 for whites. Since these data were taken from SUNY institutions only, they do not reveal the whole picture for the preparation of teachers in New York State. But to the extent that they indicate a trend, they are calamitous.

The data in Tables 54 and 55 may also be used to catalog the persistence of minority students enrolled in college. Note that 6,370 degrees were awarded to black graduates from New York State institutions in 1986-87. This figure can be compared to the total enrollment for blacks from the period two years before to obtain a useful measure of the likelihood of graduation. The assumption behind such a comparison is that, on average, college students are two years away from graduation. Some will graduate next semester and others not for three-and-one-half years. This assumption can be used to calculate a persistence rate for minorities. Ideally, in any given year roughly 25% of the students would obtain degrees. However, for 1984-85 and 1986-87, the rates were: blacks, 5.9%; Hispanics, 6.4%; all other minorities, 9.7%; and whites, 9.4%.

In the real world, students leave college for any number of reasons. The data suggest that roughly 40% of whites and other minorities who enter college eventually graduate. For blacks and Hispanics, the figure is roughly 25%; for the two largest minorities, the pipeline narrows toward the end.

To summarize, there is a no-more-than-average expectation that minority students will go to college in New York, and a significantly less-than-average expectation that they will complete their degree. Of those who do finish their degrees in SUNY institutions, only a minute fraction will take degrees in education, and this figure has diminished over the years.

Despite these difficulties, New York's record for minority hiring is strong. Table 56 specifies the ethnic and gender distribution of new hires for 1986.

Table 56

NEW YORK RACIAL/ETHNIC AND GENDER DISTRIBUTION
OF PUBLIC SCHOOL CLASSROOM TEACHER NEW HIRES, FALL 1986

	Racial/Ethnic Group				Gender	
Location	Black	Hispanic	Other Minority*	White	Male	Female
New York City						
Total Teachers	17.6%	8.1%	1.3%	73.0%	66.9%	33.1%
New Hires	25.1	13.3	1.9	59.7	30.1	69.9
State Excluding New York City						
Total Teachers	2.8%	0.6%	0.3%	96.3%	64.8%	35.2%
New Hires	3.4	1.4	0.3	94.9	19.3	80.7

* Includes American Indian, Alaskan Native, Asian and Pacific Islander.

SOURCES: New York State Education Department, Basic Educational Data System and U.S. Equal Employment Opportunity Commission.

The data indicate that the proportion of minorities being hired is greater than the proportion of minority teachers already hired. The minority hiring effort appears to be particularly successful in New York City. However, the data for Table 56 are not broken out into the other "Big Five" cities for the state and minority hiring may be less successful overall in those areas.

Teacher Turnover: A Regression Model

New York State provides a statistical abstract of its school districts which this report used to test some of the often-heard hypotheses about teacher turnover. Commentators suggest that working conditions for teachers are poor, pay is low, support for professional development is minimal, and talented teachers are driven away by high teacher:student ratios, poor students, indifferent administration and unions controlled by those already established in the profession. If these hypotheses are true, then teacher turnover should be high at schools where pay is low, students do poorly on tests, the student:teacher ratio is high and so on. To test these suggestions, a multiple regression model was developed from the data provided for New York school districts, 107 of which were randomly chosen for review. Indices associated with the district were coded for analysis. The dependent variable for the analysis was the turnover rate. Independent variables were:

- Total enrollment
- Percent white, black, Hispanic, other
- Annual attendance rate
- Participation rate in advanced math
- Participation rate in advanced science
- Dropout rate
- Poverty index for district
- Limited English Proficiency rate
- Percent of graduates with regents diplomas
- Percent of graduates going to college
- Pupil-teacher ratio
- Percent of minority teachers
- Median salary
- Percent permanently certified, provisionally certified, without certification
- Average years of experience for teachers
- Total expenditures per pupil enrolled
- Percent of expenditures for central administration
- Expenditures for instruction, transportation, operation and maintenance, other
- Twelve separate scores for student achievement in language, mathematics, science and social science.

The model was created using stepwise regression with a probability for inclusion into the model of alpha = .05 for a T test for the partial correlation coefficient for each independent variable. For the first model developed, an R of .56 was achieved with the use of three of the independent variables. These were: % of teachers permanently certified (-ß), % of expenditures on central administration (+ß), and % of teacher provisionally certified (+ß). Permanent certification is powerfully related to a stable teacher corps. Expenditure on central administration is statistically related to turnover. These findings may represent artifacts of state or district policy. To see if there were determinants of turnover rate associated with school/community characteristics, a second model was developed in which the three independent variables above were excluded.

Three independent variables emerged as significant in the second model. These were the poverty index figure for the district, the amount of expenditure in the district on "other" items in the budget and the average number of years of experience for teachers in the district. These variables together achieved a multiple R of .44.

The findings from these two models suggest that turnover rates in schools in New York are a result of complex interactions between state and school policy on certification, expenditure and the poverty of the district.

Administrations of districts with relatively impoverished populations tend to have higher administrative overhead associated with attempts to serve these populations. They also have difficulty acquiring teachers for the district, even when they pay well. Because they need teachers, these districts are likely to accept the young, inexperienced or only provisionally certified teacher. These teachers, sensing the poverty of the district and noting the lack of funds for "other" activities in the schools -- such as training, mentoring or special programs -- are likely to leave the district if they can. When they do so, either for another school or another profession, they leave a void which the administration must then fill. More paperwork occurs. And the cycle starts over.

It is equally important to note that certain variables do not appear in the regression models for teacher turnover. The student:teacher ratio does not greatly affect turnover, nor do student scores on a host of tests. There was no evidence that racial composition of the school district was a determinant of turnover. Perhaps teachers are emotionally tougher, less prone to burnout and more tolerant of racial differences than they are generally perceived to be.

The analyses offered by some critics of education are only partially confirmed in these models. The models suggest that administrators need to pay particular attention to those teachers in the provisional certification stage. The state may need to examine more closely the certification path for its teachers or find ways to induce provisionally certified teachers to complete the process. Extrapolation from these models must be limited by the data employed in their development. The data were aggregate in form, hence problems of lack of independence and multicolinearity undoubtedly inhabit the data base. Nevertheless, the finding suggests areas for future analysis.

NORTH CAROLINA

Demographics

North Carolina has a large and stable student minority population of blacks and a much smaller but still significant population of American Indians. Blacks compose roughly 30% of the elementary school population of the state, American Indians a little less than 1%. The general trend of school populations is exhibited in Table 57. The population of elementary schoolchildren has fallen slightly in the last decade and is projected to continue falling until the early 1990s and then slowly reverse itself.

Table 57

FINAL AVERAGE DAILY MEMBERSHIP (ADM) IN NORTH CAROLINA PUBLIC SCHOOLS, PAST AND PRELIMINARY PROJECTIONS TO 1995-96

	GRADE				
Year	K-3	4-6	7-8	9-12	TOTAL*
1976-77	350,976	268,013	201,968	355,718	1,183,191
1977-78	354,495	261,142	197,006	354,764	1,174,302
1978-79	350,775	260,209	186,768	351,167	1,155,501
1979-80	341,689	263,902	180,943	343,480	1,142,552
1980-81	328,403	269,418	178,289	334,889	1,123,840
1981-82	316,911	267,930	178,004	327,368	1,102,951
1982-83	315,249	260,096	183,058	321,822	1,092,930
1983-84	314,135	249,211	187,401	321,253	1,084,728
1984-85	316,731	241,967	183,428	323,851	1,078,700
1985-86	324,172	236,231	174,785	327,105	1,075,289
		PROJECTED GROUP TOTAL			
1986-87	327,878	236,157	169,451	325,582	1,072,064
1987-88	333,810	237,250	165,898	320,681	1,070,635
1988-89	337,895	242,200	161,838	311,616	1,066,545
1989-90	340,329	245,315	163,352	301,260	1,063,252
1990-91	342,792	249,121	167,049	292,925	1,064,883
1991-92	343,081	253,635	168,150	291,730	1,069,592
1992-93	344,201	255,276	171,687	291,893	1,076,053
1993-94	344,832	257,078	174,259	294,283	1,083,448
1994-95	344,981	257,207	176,765	300,574	1,092,523
1995-96	345,228	257,927	178,016	303,929	1,098,096

* Includes exceptional children and the trainable mentally handicapped in the totals, but not in the grade-level counts.
SOURCE: Planning and Research Division, State Department of Public Instruction, September 1986.

Blacks appear to be growing slowly as a proportion of the enrollment in elementary and secondary schools. In 1984, they composed 30% of the enrollment; in 1986, 31%.

Minorities are clearly underrepresented in the state's postsecondary schools. One 1986 report showed blacks at only 17.8% of the college and university population. American Indians were less than .5%.

It appears that if the minority teacher pool in the state were to grow, even slowly, there would eventually be proportionate representation of minority teachers. But Table 58 indicates that the proportion of minority teachers declined from 1978 to 1988.

Table 58

RACIAL AND SEXUAL COMPOSITION OF TEACHING STAFF, 1978-88
(in percents)

	78/79	79/80	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88
Black										
Males	4.3%	4.1%	4.1%	3.9%	3.9%	3.7%	3.5%	3.5%	3.4%	3.2%
Females	16.9	16.7	16.7	16.6	16.6	16.5	16.0	15.5	15.2	14.7
Total Black	21.2	20.8	20.8	20.5	20.5	20.2	19.5	19.0	18.6	17.9
White										
Males	16.7	16.4	16.2	16.3	16.4	16.4	16.0	16.2	16.3	16.5
Females	60.9	61.6	61.8	62.0	61.9	62.2	63.3	63.6	63.9	64.6
Total White	77.6	78.0	78.0	78.3	78.3	78.6	79.3	79.8	80.2	81.1
Indian										
Males	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
Females	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7
Total Indian	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Other										
Males	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0
Females	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1
Total Other	.3	.3	.3	.3	.3	.3	.3	.3	.3	.1
Total										
Males	21.3	20.8	20.6	20.5	20.6	20.4	19.8	20.0	20.0	19.9
Females	78.7%	79.2%	79.4%	79.5%	79.4%	79.6%	80.2%	80.0%	80.0%	80.1%
Total Number	56,309	57,267	56,808	55,515	54,754	54,826	56,040	57,604	57,935	59,397

Table 58 shows that the American Indian teacher pool has remained constant, but the black teacher pool has declined. In particular, black male teachers have declined from 4.3% to 3.2%, a decline of approximately 25%. While North Carolina's proportion of black elementary school enrollments is growing slowly, the proportion of black teachers is declining.

Along with these trends have come changes in state certification and teacher preparation policy. The production of black teachers initially certified declined as a

percentage and in absolute numbers from 1979 to 1988. In 1988, only 8.9% of the teachers initially certified in the state were black.

These figures place tremendous pressure on school districts trying to develop minority staff in proportion to their student body. Table 59 shows the race of new hires for the Greensboro City Schools in 1989-90. Twenty-three percent of the district's new hires were minority, but it is doubtful this can continue if the initial certification figure for minorities continues to hover below 10%.

Table 59

GREENSBORO (NORTH CAROLINA) CITY SCHOOLS
NEW HIRES, 1989-90

Male	26	
Female	159	
Total	**185**	
White	143	
Black	41	(37 female; 4 male)
Hispanic	1	(1 male)

One response to this problem has been to rely on talented and mature minority teachers from outside the state and on teachers previously educated in the state. Table 60 shows that initial certifications for recent black graduates of public, private and out-of-state colleges has declined, while certification of previous graduates and experienced persons has risen. To some extent, these data may be an artifact of more rigorous certification procedures, but the ultimate outcome is undeniable: black certification dropped in the previous decade and has yet to rebound to its previous strength.

Table 60

NUMBER OF BLACK YEARLY INITIAL CERTIFICATIONS BY EXPERIENCE, BACKGROUND AND TYPE OF COLLEGE ATTENDED, NORTH CAROLINA

	INEXPERIENCED PERSONS OBTAINING INITIAL CERTIFICATION																		EXPERIENCED PERSONS OBTAINING INITIAL CERTIFICATION																	
	RECENT GRADUATES**						PREVIOUS GRADUATES ***												BACHELOR DEGREE FROM																	
Year of Initial Certs *	NC Public Colleges		NC Private Colleges		Out-of State Colleges		NC Public Colleges		NC Private Colleges		Out-of State Colleges		With Less Than 4 Yr. Degree ****		Subtotal In-Exp. Initial				NC Public College		NC Private College		Out-of State College		With Less Than 4 Yr. Degree ****		Subtotal Exp. Initial Certs.						Total Initial Certs.
	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%	Num	%			Num	%	Num	%	Num	%	Num	%	Num	%							
1979-80	369	43.3	103	12.1	48	5.6	48	5.6	24	2.8	59	6.9	3	0.4	654	76.7			36	4.2	24	2.8	125	14.7	14	1.6	199	23.3								853
1980-81	203	35.1	62	10.7	35	6.1	63	10.9	16	2.8	49	8.5	3	0.5	431	74.6			32	5.5	10	1.7	96	16.6	9	1.6	147	25.4								578
1981-82	150	39.9	42	11.2	16	4.3	40	10.6	9	2.4	32	8.5	4	1.1	293	77.9			8	2.1	7	1.9	61	16.2	7	1.9	83	22.1								376
1982-83	207	36.7	46	8.2	20	3.6	107	19.0	30	5.3	39	6.9	2	0.4	451	80.0			23	4.1	11	2.0	72	12.8	7	1.2	113	20.0								564
1983-84	109	30.3	27	7.4	20	5.5	53	14.6	24	6.6	34	9.4	3	0.8	270	74.4			10	2.8	8	2.2	68	18.7	7	1.9	93	25.6								363
1984-85	102	27.1	20	5.3	18	4.8	60	16.0	20	5.3	42	11.2	4	1.1	266	70.7			5	1.3	12	3.2	83	22.1	10	2.7	110	29.3								376
1985-86	126	22.9	45	8.2	24	4.4	82	14.9	29	5.3	56	10.2	3	0.6	365	66.4			32	5.8	18	3.3	125	22.7	10	1.8	185	33.6								550
1986-87	124	25.4	33	6.8	13	2.7	98	20.0	27	5.5	33	6.8	2	0.4	330	67.5			38	7.8	14	2.9	84	17.2	23	4.7	159	32.5								489
1987-88	137	25.1	29	5.3	14	2.6	102	18.7	35	6.4	56	10.3	5	0.9	378	69.4			31	5.7	28	5.1	105	19.3	3	0.6	167	30.6								545
1988-89	160	23.3	26	3.8	17	2.5	109	15.9	38	5.5	97	14.1	4	0.6	451	65.7			63	9.2	24	3.5	141	20.6	7	1.0	235	34.3								686

* Year covers September 1 to August 31
** Graduated with a bachelor degree after September 1 of the year before the initial certification was granted.
*** Graduated with a bachelor degree before September 1 of the year before the initial certification was granted.
**** Mainly trade and industry and health occupation vocational teachers.

White initial certification figures show some of the same trends, although not as strongly.

Table 61

RACIAL BREAKDOWN OF INITIAL NORTH CAROLINA CERTIFICATIONS ISSUED YEARLY*

YEAR	White Num.	%	Black Num.	%	Indian Num.	%	Other Num.	%	Total Num.
1979-80	5,563	85.8	853	13.2	44	0.7	25	0.4	6,485
1980-81	4,996	89.0	578	10.3	21	0.4	19	0.3	5,614
1981-82	4,377	91.1	376	7.8	28	0.6	22	0.5	4,803
1982-83	4,036	86.6	564	12.1	38	0.8	25	0.5	4,663
1983-84	4,033	91.1	363	8.2	13	0.3	20	0.5	4,429
1984-85	3,777	89.6	376	8.9	18	0.4	43	1.0	4,214
1985-86	5,156	88.4	550	9.4	47	0.8	82	1.4	5,835
1986-87	3,879	86.8	489	10.9	47	1.1	56	1.3	4,471
1987-88	5,155	89.1	545	9.4	30	0.5	56	1.0	5,786
1988-89	6,798	88.3	686	8.9	34	0.4	180	2.3	7,698

* Survey includes initial certifications issued between September 1 and August 31 of year indicated.

There is an irony in these figures. If North Carolina continues to experience the same trend, it soon will reach a point where the greatest source of minority teachers will be those obtaining bachelor's degrees from out of state. The state has a number of historically black colleges, a commitment to reforming its education system, a series of initiatives designed to pay for the education of those who wish to be teachers, and a substantial number of education programs around the state.

Is this what policy makers intended? North Carolina may be fortunate in its ability to import minority teachers from out of the state, but the supply of minority teachers is shrinking around the entire country; in-migration of minority teacher cannot be counted on indefinitely. Perhaps policy makers should more vigorously examine the

potential role of the historically black colleges and universities, private and public, in meeting the state's need for minority teachers.

Performance and Participation

As with the other states in this report, the key determinants of minority rates of matriculation are performance in elementary and secondary schools and participation in schooling throughout high school years. To look at how the state's school systems measure participation and performance, the Greensboro Public Schools were asked to provide data on student test scores and dropout rates.

The State Department of Public Instruction established a goal of reducing the number of dropouts by 10% each year. For Greensboro, the number was reduced from 565 in 1987-88 to 423 in 1988-89, a full 25%. The overall meaning of the decrease cannot be assessed without knowledge of the school population and the population of the ethnic subgroup (Tables 62 and 63).

Table 62

NUMBER OF DROPOUTS DURING THE 12-MONTH SCHOOL YEAR, GREENSBORO (NORTH CAROLINA) PUBLIC SCHOOLS, ALTERNATIVE SCHOOL, 1988-89

Grade	White		Black		Hispanic		Asian		American Indian		Total
	M	F	M	F	M	F	M	F	M	F	
Below 7											
7											
8											
9	4	8	41	32					1		86
10	7	5	32	27							71
11	2	2	16	10							30
12	1	2	6	7							16
*SPH											
TOTAL	14	17	95	76					1		203

Table 63

NUMBER OF DROPOUTS DURING THE 12-MONTH SCHOOL YEAR GREENSBORO (NORTH CAROLINA) PUBLIC SCHOOLS, REGULAR SCHOOL, 1988-89

Grade	White		Black		Hispanic		Asian		American Indian		Total
	M	F	M	F	M	F	M	F	M	F	
Below 7			1	1							2
7	1	2	2	2							7
8	9	2	15	9					1	1	37
9	6	7	14	10					1		38
10	24	9	20	13			4				70
11	15	2	18	11				2			48
12	6	1	5	6							18
*SPH											
TOTAL	61	23	75	52			4	2	2	1	220

* Special Education Handicapped/Self-Contained/Non-Graded

These tables indicate that the substantial majority of dropouts from both the alternative school and the general schools are black.

The text of Greensboro's report on dropouts provides additional information. Of the students dropping out, the great proportion scored below competencies required on standardized tests. Of the 203 students dropping out of the alternative schools, only 37 passed the competency test for reading, 30 for math, 33 for writing and 22 for the objective test on writing. Of the 223 students dropping out of general schools, only 28 passed the competency test in reading, 27 in math, 52 in writing and 22 in the objective writing exam. As is expected, dropping out is related to poor performance in schools. Only one of the dropouts tested as academically gifted. Data provided by the school district indicated that the most common reason for dropping out was poor academic performance, and it affected 8th graders more than those in other grades. The second most important factor was choice of work over school. Its impact was felt most strongly at the 10th and 11th grades.

These data confirm the pattern that has emerged in all of the other studies of dropout rates in this report. The dropout problem is substantially a minority problem. Large numbers of minority students are lost to college participation early on in their academic lives.

The picture is completed by the examination of minority student performance of standardized test. Table 64 shows the performance of minority and white students in the Greensboro School District.

Table 64

GREENSBORO (NORTH CAROLINA) PUBLIC SCHOOLS PERFORMANCE ON CAT/13E, 16E, 18E BY RACE/ETHNICITY, 1989

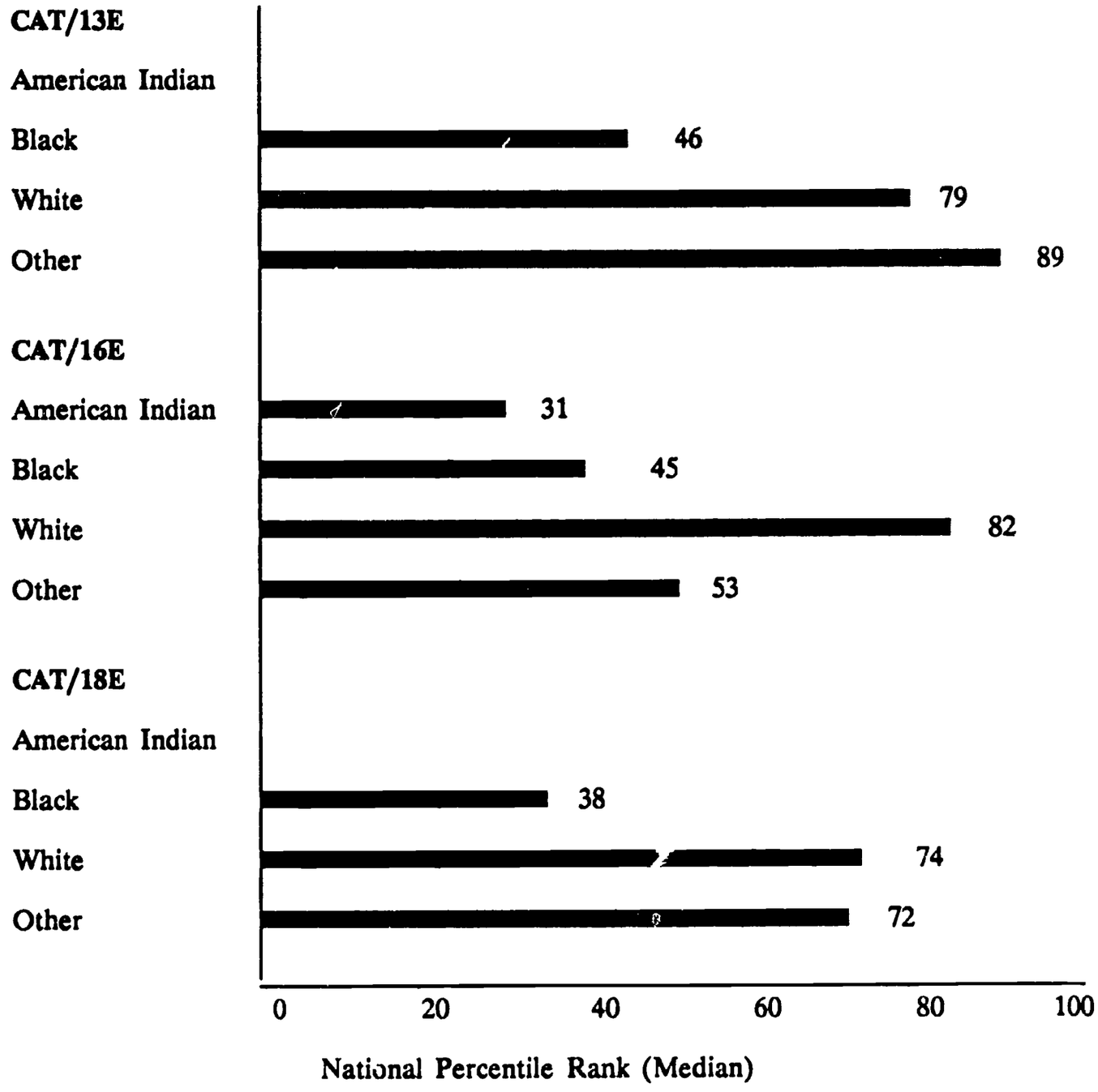
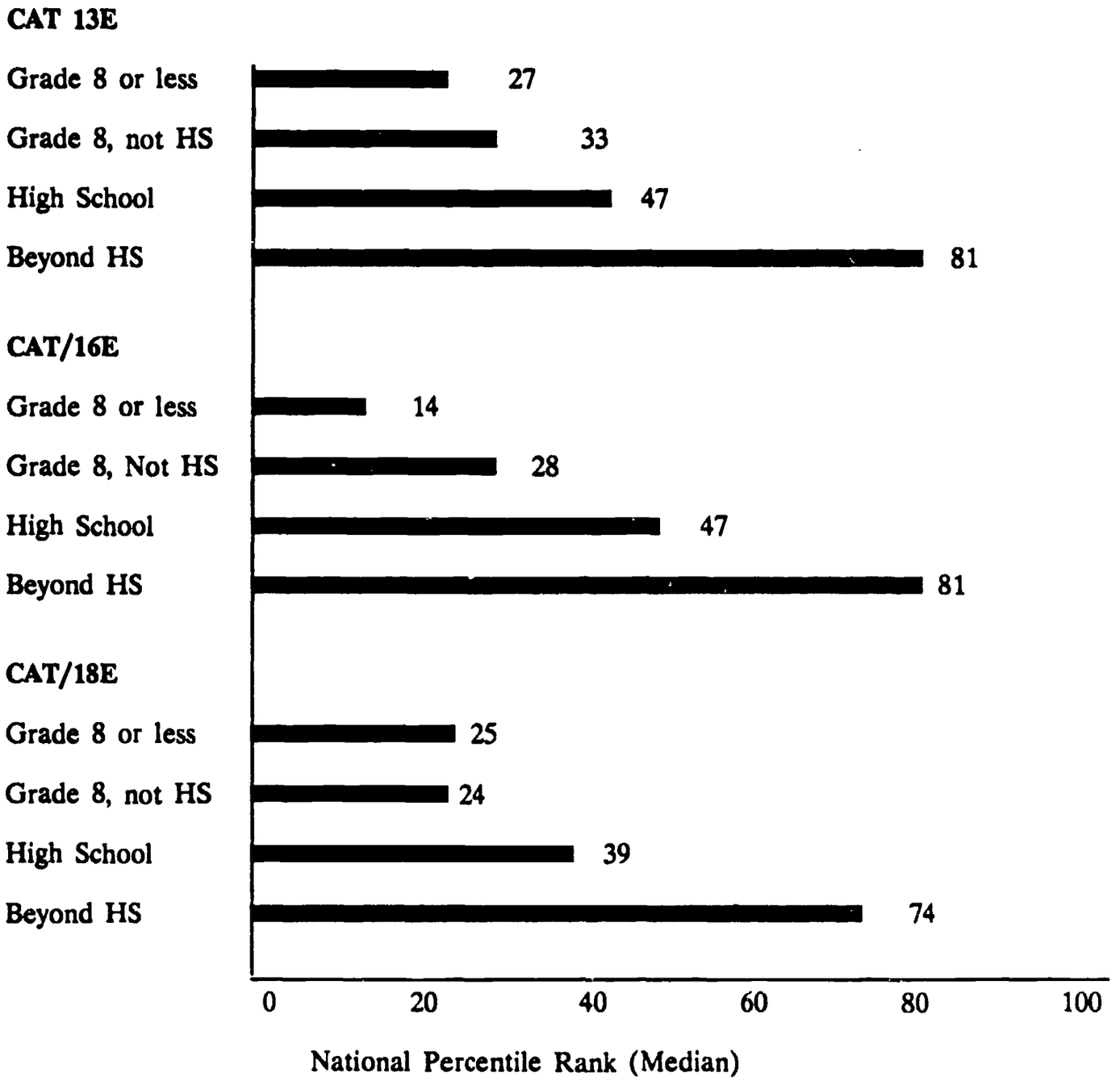


Table 65

GREENSBORO (NORTH CAROLINA) PUBLIC SCHOOLS PERFORMANCE ON CAT/13E, 16E, 18E BY PARENTAL EDUCATION, 1989



Test scores for black students are substantially below those for whites and other minority students. This finding holds true for all three batteries of tests. As test difficulty increases, the difference between black and white students increases. It is important to note here that data show that parental education has a powerful effect on achievement

(Table 65). Children with less well-educated parents do less well on the California Achievement Test (CAT). These data show how schools must struggle to overcome the shortcomings of schooling decades ago and how failure to provide for full schooling for today's children establishes the basis for failure tomorrow.

The data for Greensboro must be compared with the state as a whole. The North Carolina Department of Public Instruction notes in an October 1989 report on dropouts that the probability that black students will drop out is no higher than for whites (21.5% to 23.4%). The American Indian dropout probability was greater than for both blacks and whites (39%). As in Greensboro, the propensity to drop out was strongly related to lack of education in parents and poor performance on standardized tests.

While data such as that provided in Tables 64 and 65 are important and useful, additional data would greatly aid decisions about building the minority teacher pool. North Carolina has a substantial black population. Even if many black youth drop out or do not perform well on standardized tests, there is still likely to be a cadre of college-bound black students who could furnish the teachers of tomorrow. But they must be enticed into teaching as a career. The state needs to examine its support for black students enrolled in teacher preparation programs and provide it where it is lacking.

Career Preference

North Carolina has 45 teacher education programs, a factor that makes it difficult to explain why a large percentage of its teachers graduate from colleges and universities out of state. Table 66 shows the number of initial certificates granted from graduates of out-of-state teacher education programs and in-state public or private colleges/institutions.

Table 66

NORTH CAROLINA DISTRIBUTION OF INITIAL CERTIFICATES BY INEXPERIENCED PERSONS BY INSTITUTION TYPE, BY ETHNICITY, 1979-80 to 1988-89

North Carolina Public/Private Colleges

Year	Black	White	Other	Total
1979-80	544	3228	47	3819
1980-81	344	4433	17	4794
1981-82	241	2593	32	3107
1982-83	390	2448	44	2882
1983-84	213	2147	20	2380
1984-85	202	1971	31	2204
1985-86	282	2376	77	2735
1986-87	282	1991	58	2331
1987-88	303	2493	40	2836
1988-89	333	2932	61	3659

Out-of-State College

Year	Black	White	Other	Total
1979-80	107	876	6	989
1980-81	84	802	12	898
1981-82	48	674	6	728
1982-83	59	582	7	648
1983-84	54	719	6	779
1984-85	62	631	11	704
1985-86	101	1061	20	1182
1986-87	46	642	15	703
1987-88	70	989	17	1076
1988-89	114	1596	60	1770

Source: North Carolina Department of Public Instruction, October 1, 1989.

The fact that ever increasing numbers of teachers are actually prepared in out-of-state teacher education programs suggests that the state policy makers should examine the system for producing teachers, majority or minority. In particular policy makers should examine predominantly black institutions that historically have been the major producers of minority teachers.

Meanwhile, the trend of the data in Table 66 is inescapable. The preparation of white and black teachers in North Carolina colleges has dropped. But white imports from out of state have offset lower teacher preparation dates. The falling rate of black teacher preparation has not been offset by imports. The data for overall initial certificates indicate a significant decrease in teachers seeking certification between 1981-82 to 1984-85 with another significant drop in 1986-87. In 1988-89, numbers rose, surpassing the total from almost a decade before (Table 67).

Table 67

NORTH CAROLINA RACIAL BREAKDOWN OF INITIAL CERTIFICATIONS ISSUED YEARLY BY ETHNICITY, 1979-80 TO 1988-89

Year	White	Black	Indian	Other	Total
1979-80	5,563	853	44	25	6,485
Percent	(85.8)	(13.2)	(0.7)	(0.4)	
1980-81	4,966	578	21	19	5,614
Percent	(89.0)	(10.3)	(0.4)	(0.3)	
1981-82	4,377	376	28	22	4,803
Percent	(91.1)	(7.8)	(0.6)	(0.5)	
1982-83	4,036	564	38	25	4,663
Percent	(86.6)	(12.1)	(0.8)	(0.5)	
1983-84	4,033	363	13	20	4,429
Percent	(91.1)	(8.2)	(0.3)	(0.5)	
1984-85	3,777	376	18	43	4,214
Percent	(89.6)	(8.9)	(0.4)	(1.0)	
1985-86	5,156	550	47	82	5,835
Percent	(88.4)	(9.4)	(0.8)	(1.4)	
1986-87	3,879	489	47	56	4,471
Percent	(86.8)	(10.9)	(1.1)	(1.3)	
1987-88	5,155	545	30	56	5,786
Percent	(89.1)	(9.4)	(0.5)	(1.0)	
1988-89	6,789	686	34	180	7,698
Percent	(88.3)	(8.9)	(0.4)	(2.3)	

SOURCE: North Carolina Department of Instruction, October 1, 1989.

Since 1985, North Carolina has required the National Teachers Examination to determine entry into teacher education programs and for initial certification. In 1988 the state board of education contracted with the Educational Testing Service to review and conduct validation studies for present exams used by the state. The passing rates for blacks are consistently low for all three areas tested. A projected revision of passing scores would likely increase the failure rates statewide for both the communication skills and general knowledge tests, potentially exacerbating the already existing shortage of minority teachers. Table 68 indicates the performance projections from the validation study for the NTE core battery examinations.

Table 68

NORTH CAROLINA NTE PERFORMANCE PROJECTIONS VALIDATION STUDY, CORE BATTERY EXAMINATIONS, 1987-88

COMMUNICATION SKILLS

	Number Tested 1987-88	Percent Failure 1987-88 Required Score 636	Projected Percent Failure with Revised Score of 639
State Totals	5013	5.4	8.1
Black	512	24.0	33.8
White	3813	2.1	3.6

GENERAL KNOWLEDGE

	Number Tested 1987-88	Percent Failure 1987-88 Required Score 631	Projected Percent Failure with Revised Score of 641
State Totals	4987	2.6	11.9
Black	517	15.7	47.4
White	3792	0.6	6.1

PROFESSIONAL KNOWLEDGE

	Number Tested 1987-88	Percent Failure 1987-88 Required Score 644	Projected Percent Failure with Revised Score - No Change 644
State Totals	5517	17.1	17.1
Black	111	53.6	53.6
White	2852	8.2	8.2

SOURCE: North Carolina Department of Instruction.

The demand for teachers in North Carolina is projected to increase by 17.5%, according to a 1987 report from the University of North Carolina board of governors. Ideally, the supply and demand of teachers should equal. Table 69, however, indicates that the state may be unable to meet the demand for teachers.

Table 69

NORTH CAROLINA TEACHERS, TURNOVER AND NEW HIRES PROJECTED THROUGH 1995-96

Year	FTE Teachers	Previous Year Turnover	New Hires
1986-87	57,799	4,383	4,352
1987-88	59,563	4,334	6,104
1988-89	61,278	4,639	6,348
1989-90	62,573	5,393	6,699
1990-91	63,645	5,561	6,626
1991-92	65,448	5,092	6,895
1992-93	66,705	5,236	6,493
1993-94	67,139	5,336	5,770
1994-95	67,627	5,371	5,859
1995-96	67,969	5,410	5,752

SOURCE: G.T. Barnes et al., Teacher Supply and Demand in North Carolina Public Schools: 1986-1995 (November 1986).

Note: New hires and turnover may not be equal due to rounding.

The combined affects of the forces illustrated in Tables 67, 68 and 69 may endanger attempts to build proportionate representation in individual districts. For instance, take Greensboro. Greensboro hired 42 minority teachers out of a total of 185 for 1989-90. But of initial certifications for blacks trends are down, and if small teacher training programs at historically black colleges and universities close, how can Greensboro continue to hire over 72% minority. Initial certification for both in-state and out-of-state graduates is less than 10% for blacks. These figures occur against a backdrop of an increasingly competitive market for employers. Meanwhile, state policy may further reduce minority entry into the teacher pool.

Table 70 indicates the number of new teachers hired for the 36 Greensboro schools in 1989-90 by ethnicity.

Table 70

GREENSBORO (NORTH CAROLINA) CITY SCHOOLS
NEW HIRES, 1989-90

Total	**185**
White	**143**
Black	**41**
Hispanic	**1**

Source: North Carolina Department of Instruction.

North Carolina has an existing pool of potential minority teachers and a significant number of teacher education programs. However, because it still is unlikely to meet the demand for minority teachers in the next decade, the state must begin to look at the effectiveness of various procedures to increase the supply, i.e. testing procedures, early identification programs, teacher education programs.

The state collects comprehensive data that would help it address the issue of increasing the supply of minority teachers. But it seems that some of the trends in the data either remain undetected or do not influence policy formulation.

The general impression for the state is:

(1) More teachers are being produced out-of-state.

(2) The low production level in state has grave implications for institutions that have historically produced minority teachers.

(3) An increase in minimum test score rates will increase the shortage of minority teachers.

With these realities, the relatively small proportion of minority teachers will remain small. A statewide campaign needs to be instituted to bring more graduates, particularly minorities, into college, who will ultimately fill the vacancies in the teacher education programs.

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