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Increasing the Academic Pool of Minority Students for Higher Education

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A Literature Review

A Report to the R.F.P. #92-3 Team

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Submitted by
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Division Chief: Ken Magill

Title: A Plan to Increase the Academic Pool of Minority Students for Higher Education

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Executive Summary

The review of the literature on "Increasing the Academic Pool of Minority Students for Higher Education" was conducted in response to a request from the Virginia Department of Education R.F.P. #92-3 Team. The paper examines the factors that have an impact on increasing the number of minority students prepared to attend and succeed in college and reviews a number of successful programs, many of which are supported by business and industry. In addition to these two basic areas of inquiry, the R.F.P. #92-3 Team requested that the problem of increasing the minority student pool for college be examined in the context of the following issues: 1) school organization issues, 2) counseling issues, 3) factors related to minority participation in the sciences, 4) increasing the pool of minority teachers and students, 5) learning styles of at-risk students, and 6) issues related to dropout, and 7) financial aid.

The report is divided into two sections: Part One reviews the current status of the pool of minority students, particularly Blacks in the nation, including educational policies and related factors which have impact on college preparation of minority students, many of whom are "at risk"; and Part Two highlights model programs, many of which are collaborative efforts between public schools and business and industry and are designed to increase the numbers of minority students prepared to enter college and persist to graduation.

To ensure an exhaustive search of the literature, the writer utilized the on-line computer information services and CD ROM computer services, books, periodicals, and invited papers found in document searches.

Findings

A review of the literature on increasing the academic pool of minority students for higher education indicates:

- a disparity in the numbers of minority students as compared with their White counterparts who are **prepared** to enter college based on academic performance (i.e. low G.P.A.), low scores on comprehensive examinations required for college admission, lack of access to college preparatory courses in high school (particularly in lower socioeconomic status schools), and high school enrollment in a general diploma rather than an academic (college preparatory) program.

- **school organization policies and practices** including tracking, retention in grade, and special education placements have a long-term and deleterious impact on Black students and other minority students:

> **Tracking** may have a cumulative effect on students in low or middle-ability groups. Once placed in a low-ability track, students have difficulty switching because low-level courses do not provide the prerequisite information for success in advanced academic programs. Black students and low socioeconomic status students who have been in low or middle-ability tracks are unable to attempt challenging advanced academic courses required for college admission (Virginia Department of Education, Tracking Study, 1992).

Although 15 or 20 percent of students at each grade are routinely retained each year, research indicates that **retention** practices have not shown any consistent learning benefits over the duration of the retained students career (Gottfredson, 1988).

Blacks are disproportionally placed in **special education** classes. Black males are more likely to be diagnosed as mentally retarded or emotionally disturbed and are more likely to be placed in classes for such individuals than Whites with identical diagnoses. Despite being in the minority, Black males, even when they attend school with Whites, are three times as likely to be assigned to a class for educable mentally retarded as their White counterparts (Gary, 1981).

- The school **guidance counselor** is often considered to be a detriment to minority and at-risk children. LeMelle (1992) notes that guidance counselors frequently operate under the assumption that Black students and other minority students do not belong in college and assume that the children who have received good grades did not really earn them or that the courses they took did not prepare them for the academic challenge of college. These counselors tend to dismiss minority populations as failures and therefore pass over them in the counseling process and assign them to unchallenging courses "they can pass." The problem is further exacerbated by the fact that the guidance counseling staff is frequently underfunded in predominantly minority schools. This translates into the use of other school personnel who lack adequate professional training and who may bring negative attitudes and stereotypical preconceptions to the counseling process.

It should be noted that educational reforms that have translated into increased requirements in the absence of adequate funding to provide the critically needed programs to ensure academic success only remind struggling students of their failure and further alienate them from school (McDill, 1986). Moreover, the problem of minority student achievement is further complicated by the current status of children in poverty in our society. Research indicates that the dropout problem is increased if the students are also minority, poor, or living in urban settings (Hahn, 1987). As the numbers of students at risk continue to escalate, American schools are failing to educate an alarming number of students and the academic pool of minority students prepared to enter college and persist to graduation will continue to dwindle.

Collaborative partnerships between schools, business and industry, and higher education can provide financial and human resources to help at-risk students stay in school, guide and direct them toward college careers, and provide sorely needed financial support. A number of programs designed to increase the numbers of minority students prepared to enter college and persist to graduation have been developed and implemented through collaborative partnerships between schools and business and industry. Such programs, particularly those with a proven track record of success, provide a comprehensive approach to helping disadvantaged students succeed and include several if not most of the following characteristics: field trips, small classes, child development initiatives, business internships, financial incentives, staff/teacher training, improvement of self esteem, mentoring, parent involvement, collaborative learning, ethnic affirmation, counseling, affective/social skills, tutoring, decisions by consensus, extracurricular activities, and positive school climate.

Two stellar examples of partnerships to help disadvantaged students succeed include the **Communities in Schools** (CIS) program and the Cleveland Scholarship Program. The CIS

program involves the Austin, Texas Independent School System, community and business and social service agencies. A major principle of CIS is that most social services and other programs are already in place in the community. However, these resources are not typically being utilized in the schools and remain separate entities to which students seldom go. Rather than refer students out to community agencies that are large bureaucracies far removed from the school world, students are being served in the schools. Representatives from social service agencies and the corporate sector form small teams with school teachers to provide direly needed support, mentoring, counseling and tutorial assistance.

The results of the program are impressive--over 95% of CIS participants remain in school, grades have improved, absenteeism has declined by over 35%, and nearly 70% have been promoted or graduated (Compton & Baizerman, 1991).

The **Cleveland Scholarship Program** (CSP) was designed to help Greater Cleveland students to enter and complete college and to help finance their postsecondary education. The major program components include the following:

1. *Advisory services.* CSP advisors work in the guidance offices of local schools, collaborating with guidance counselors to identify and assist college-bound seniors. CSP pays testing fees, financial aid form (FAF) fees, and college deposits for low-income students.

2. *Financial aid.* In 1990-91, the CSP disbursed $346,952 to more than 700 students. Most of the students' families have limited resources (55 percent of which have annual incomes of less than $15,000), and CSP funds help to ease the expense of college.

3. *Adjustment to college life.* To help students make the transition to college life, CSP established the Campus Representative Program on seven campuses. These representatives provide support and encouragement to freshmen throughout their first year. This program component is funded by the Cleveland Foundation.

4. *Academic performance.* Scholastic success is the main objective of the students served by the CSP. While academic success can only be indirectly influenced by CSP, the program provides a pre-college meeting on "How to Survive - Or not Survive--In College."

5. *Rotary Bruening Scholarships.* CSP helps administer these awards which are funded by a $500,000 grant to the Cleveland Rotary Foundation by the Eva L. and Joseph M. Bruening Foundation. Graduates of Cleveland public high schools are eligible for $1,000 grants, payable over two years.

6. *College and career services.* Community outreach is the hallmark of the College and Career Services. CSP helps individuals and families outside of the school districts served by advisors through telephone consultation, group presentations and private counseling.

Other specially funded programs offered by CSP include: 1) an early awareness project to reduce the dropout rate among eighth graders; 2) a non-traditional student program, supported by the Cleveland Foundation and the Jane D. White Fund, to help adults seek post-secondary education; 3) a corporate mentor program to provide encouragement for college students to persist to graduation. Mentors include attorneys, corporate managers, and alumni of the CSP program who are currently active in various professions in Cleveland.

CSP administers scholarship funds, under contractual agreement, for several companies and organizations. Two major corporations for which CSP administers scholarships include the American Greetings Company and TRW - a major diversified corporation with international headquarters in Greater Cleveland.

In operation for more than 20 years, the CSP Program offers a comprehensive support program, including financial aid as well as human resources, to disadvantaged students.

Summary

In summary, a review of the literature related to increasing the academic pool of minority students for higher education indicates that efforts to address this issue must be multi-faceted and comprehensive. Of primary concern is the need to address the achievement levels of minority students in the classroom and in the context of home and community. More research is needed to determine the effectiveness of academic programs aimed at improving achievement levels of at-risk students in middle and high schools. Programs proven to be effective on all levels should be adequately funded and widely replicated in schools where children in poverty and/or at-risk of failure demonstrate that the greatest need for such programs exists.

Federal, state and local initiatives need to be developed to provide a stronger knowledge base for improving achievement of at-risk students. Further, educational policies that have a negative impact on minority student achievement (e.g. tracking, retention, lack of access to courses which prepare students for college entry) should be eliminated where reasonable alternatives are not available. No plan to address Black student achievement should ignore the impact of the guidance counselor on the preparation of minority students for college. Specialized training to include sensitivity to diversity is imperative. Adequate funding of schools and programs is a major concern. Excellence, whether in terms of school resources or community programs, requires real dollar commitments and does not come cheaply.

Increasing the academic pool of minority students for higher education can only be realized through a strong commitment on the part of educators on all levels, policy makers as well as parents, and the community.

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PART ONE: A REVIEW OF THE LITERATURE

SCOPE OF THE PROBLEM: A VIEW OF THE NATIONAL AND THE STATE PERSPECTIVES

"Despite progress since the days of near exclusion, the full participation of minority students in our nations' colleges and universities remains unrealized. In fact, there is strong evidence we are losing ground. The minority population in the United States is growing rapidly. Yet participation in higher education among Blacks, Hispanics, and other minority groups lags. The result is a growing segment of our population that is effectively removed from contributing productively to the life of the nation. America faces not only a moral mandate but an economic necessity when it seeks to include all its citizens in a quality postsecondary education."

Patrick M. Callan
Vice President
Education Commission of the States

The 1980's was a decade in which numerous national education reform reports stressed the need to achieve excellence in American Education. The highly influential report, A Nation At Risk (National Commission on Excellence in Education, 1983, p. 5), indicated that "the educational foundations of American society are presently being eroded by a rising tide of mediocrity that threatens our very future as a nation and as a people." The Education Commission of the States in its report Action for Excellence (1983), expressed concern about the decline of excellence in schools, underscored the shortage of qualified teachers and decried the low achievement levels of new teachers entering the profession. More recently, the Education Commission of the States in cooperation with the American Council on Education formed the Commission on Minority Participation in Education and American Life. The Commission issued a compelling report, One Third of A Nation (1988) which challenged the nation to address a growing disparity in social and economic conditions between members of minority groups and the majority population. The report suggests that "leaders at all educational levels must recognize their interdependence and decide that attention to the total system is among their highest priorities, and further, that the full participation of minority citizens is vital to our survival as a free and prosperous nation" (Cited in Wilson and Carter, 1988, p. 3)

Educational reforms which have translated into increased course units for graduation, more rigorous courses, and passing scores on comprehensive examinations in the absence of adequate funding to implement programs and services have had a negative impact on the academic achievement of minority students, particularly Blacks, who are failing, being retained, and dropping out of school in record numbers. Shor (1978, p. 184) succinctly states that "the antidote for education's ills fits the regressive tenor of the times--more traditional courses, more mechanical testing, a lust for 'excellence', and a token glance at equality." When educational reform reports include recommendations for students at risk, they frequently prescribe more remediation which only reminds struggling students of their failure and further alienates them from school (McDill, 1986). The current educational, social and economic condition of Blacks in this country is dismal and the future seems to hold little promise (Irvine, 1990). Edelman (Cited in Irvine, 1990) provides a glance at the current status of Black children who are at risk. She notes that compared to White children, Black children are two to four times as likely to:

- die before adulthood because of inadequate prenatal or postnatal health care, abuse, or murder;
- live in a single-parent household because of parental death, separation, divorce, or no marriage;
- live in foster care or under the custody of a child welfare agency;
- be poor, living in substandard housing with an unemployed teenaged mother.

The problem of minority student achievement is further exacerbated by the current status of children in poverty in our society. In the 1990's, the fact that American schools are failing to educate an alarming number of students continues to be of serious concern. A number of these students who are considered to be "at risk" can be described as those who are in danger of dropping out of school because of academic failure and/or other problems. Although some of these students considered to be a risk finish their schooling later in life, many of these individuals fail to acquire the minimum levels of competence in basic academic skills that most jobs require. Professional educators, business and political leaders are aware of the increasing urgency to address these problems and are searching for solutions.

This paper examines the factors which have an impact on increasing the number of minority students prepared to attend and succeed in college and reviews a number of successful programs, many of which are supported by business and industry. The report is divided into two sections: Part One reviews the current status of the pool of minority students, particularly Blacks in the nation, including educational policies and related factors which have impact on college preparation of minority students, many of whom are "at risk"; and Part Two highlights model programs, many of which are collaborative efforts between public schools and business and industry and are designed to increase the numbers of minority students prepared to enter college and persist to graduation. In addition to these two basic areas of inquiry, the Department of Education (DOE) and State Council of Higher Education for Virginia (SCHEV) Team members for this project, entitled "*A Plan to Increase the Academic Pool of Minority Students for Higher Education,*" requested that the problem of increasing the minority student pool for college be examined in the context of the following issues: school organizational issues, counseling issues, factors related to minority participation in the sciences, increasing the pool of minority teachers and students, learning styles of at-risk students, issues related to dropout, and financial aid.

Population Trends and High School Completion Rates

Rhodes (1987) states that minorities are growing rapidly as a proportion of the nation's population and by the year 2020 they will account for 35 percent of all Americans. Hispanics will become our largest minority, increasing from 7.2 percent of the population to 14.7 percent. Blacks will increase from 12.7 percent to 14 percent, and Asians will increase from 2.0 percent to 5.0 percent of the population, while American Indians will account for roughly one percent as compared with .7 percent in 1987. Unless minorities participate fully in higher education, the nation "will face a serious shortage of skilled labor and an expansion of the underclass that will place increasingly heavy burdens upon our welfare and social service systems. Of equally serious concern are the loss of cultural richness, the wasted human potential, and the lack of minority leadership that these trends portend" (p. 7).

The Bureau of the Census' *Current Population Reports, Series P-20*, indicates that in 1986, high school completion rates by 18-to-24 year olds continued to improve. Also, a larger percentage of Black and Hispanic 18-to-24 year olds are finishing high school; however, a lower percentage of these

young people are enrolling in college. The percentage of young people completing high school in the 18-to-24 year old age cohort has improved more for Blacks than for any other racial or ethnic group (see Figure 1). Hispanics also have made gains but continue to have the lowest high school completion rate, lagging behind Blacks and Whites. The gap between the completion rate of Whites and of Blacks and Hispanics appears to be closing; however, in 1986, Whites continued to complete high school at a higher rate (Whites - 83.1 percent, compared to Blacks - 76.4 percent and Hispanics - 59.9 percent). From 1976 to 1986, the completion rate for Black 18-to-24 year olds increased from 67.5 percent to 76.4 percent. Black females completed high school at a much higher rate than Black males during this period (from 71.8 percent to 80.2 percent); however, Black males experienced a slightly larger gain (10 points) than Black females (from 62.3 percent to 72.1 percent; see Figures 2 and 3). In 1986, the high school completion rate for Hispanics continued to be low at 55.6 percent in 1976 compared to 59.9 percent in 1986 (a decline from the 1985 rate of 62.8 percent). Hispanic females in the 18-to-24 year old cohort had a completion rate of 3 to 4 points higher than that of Hispanic males. The rate for Hispanic males increased from 53.9 percent in 1976 to 57.7 percent in 1986 as compared to an increase from 56.8 percent to 62.7 percent for Hispanic females (Wilson and Carter, 1988).

College Enrollment

Changes in college enrollment for a specific racial or ethnic group may reflect proportional changes in the nation's population. In order to determine whether or not there have been relative changes in the participation rates for different groups, it is important to compare college enrollments with population estimates (Wilson and Carter, 1988).

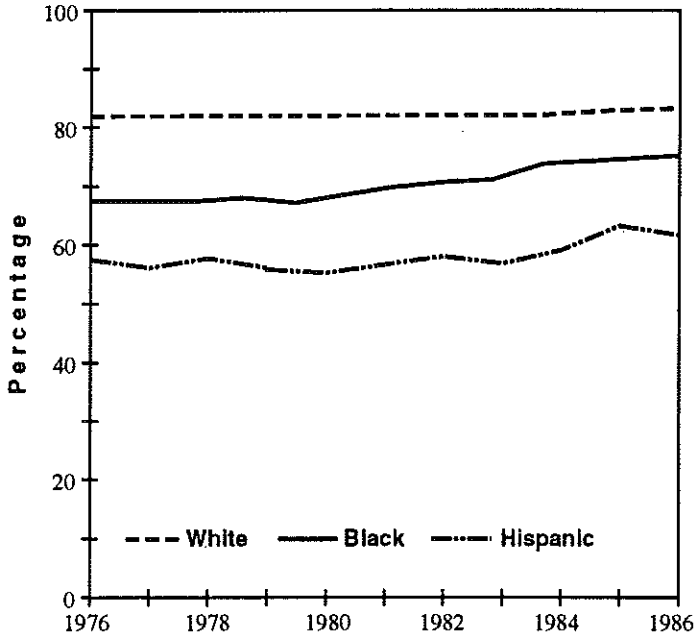
Using the *Current Population Reports, Series P-20*, the Seventh Annual Status Report on Minorities in Higher Education (Wilson and Carter, 1988) analyzed data on two college participation rates. This includes data on those "enrolled in college," which is defined as the percentage of high school graduates who are actually enrolled in college in October of a given year. The second participation rate, "attended-college," is defined as the percentage of high school graduates who are currently enrolled in college or have completed one or more years of college. This rate is proportionally higher for all groups because it includes those who have attended college but are no longer enrolled.

The 18-to-24 year old population is considered the traditional college-going age group. This group offers a representative picture of both high school completion and college participation rates, since it includes students who finish high school at 18 and go directly on to college, GED recipients, students who enroll late in college, and those who pursue post-graduate work. This is of particular importance when considering minority and lower-income students who tend to postpone college entrance more often than do White and middle and upper-income students (Wilson and Carter, 1988).

"Enrolled in College" Participation Rates

College participation trends by racial/ethnic group indicate the following for the 18-to-24 year old high school graduates (See Table 1):

Figure 1
High School Completion Rates for 18-to-24-Year-Olds by Race/Ethnicity, 1976 to 1986



Source: Bureau of the Census, Current *Population Reports*, Series P-20, various years.

Figure 2
High School Completion Rates for 18-to-24-Year-Old Women by Race, 1976 to 1986

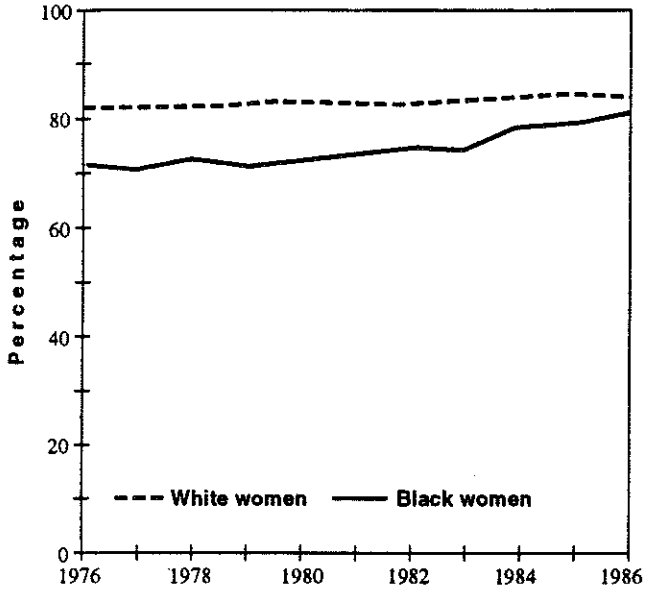
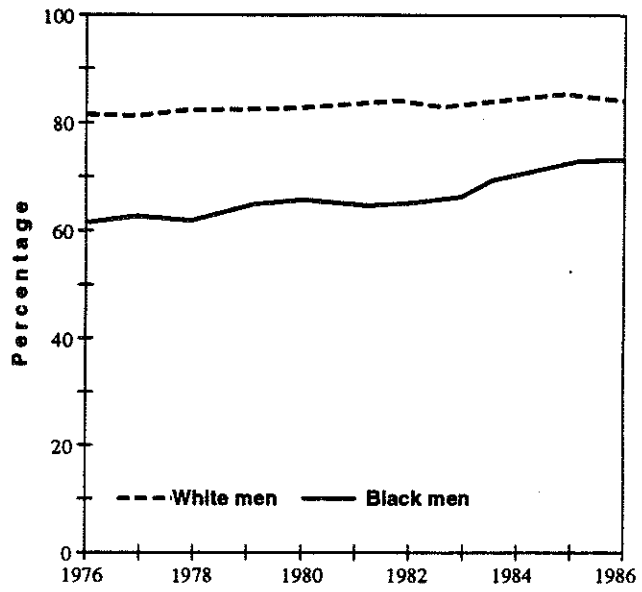


Figure 3
High School Completion Rates for 18-to-24-Year-Old Men by Race, 1976 to 1986



Source: Bureau of the Census, Current *Population Reports*, Series P-20, various years.

Table 1
High School Completion Rates and Enrolled-In-College Participation Rates for 18-to-24-Year-Old High School Graduates in Institutions of Higher Education by Race/Ethnicity, 1976 to 1986

Total Population

(numbers in thousands)

	Total Population	High School Graduates	High School Completion Rate (a) (Percentages)	Enrolled in College (b)	Enrolled-in-College Participation Rate (Percentages)
1976	26,919	21,677	80.5	7,181	33.1
1977	27,331	22,008	80.5	7,142	32.5
1978	27,647	22,309	80.7	6,995	31.4
1979	27,974	22,421	80.1	6,991	31.2
1980	28,130	22,745	80.8	7,226	31.8
1981	28,965	23,343	80.6	7,575	32.5
1982	28,846	23,291	80.7	7,678	33.0
1983	28,580	22,988	80.4	7,477	32.5
1984	28,031	22,870	81.6	7,591	33.2
1985	27,122	22,349	82.4	7,537	33.7
1986	26,512	21,766	82.1	7,397	34.0

White

	Total Population	High School Graduates	High School Completion Rate (a) (Percentages)	Enrolled in College (b)	Enrolled-in-College Participation Rate (Percentages)
1976	23,119	19,046	82.4	6,276	33.0
1977	23,430	19,292	82.3	6,209	32.2
1978	23,650	19,526	82.6	6,077	31.1
1979	23,895	19,614	82.1	6,119	31.2
1980	23,975	19,786	82.5	6,334	32.0
1981	24,486	20,123	82.2	6,548	32.5
1982	24,206	19,944	82.4	6,593	33.1
1983	23,899	19,644	82.2	6,464	32.9
1984	23,347	19,374	83.0	6,526	33.7
1985	22,632	18,917	83.6	6,501	34.4
1986	22,008	18,280	83.1	6,239	34.1

Black

	Total Population	High School Graduates	High School Completion Rate (a) (Percentages)	Enrolled in College (b)	Enrolled-in-College Participaton Rate (Percentages)
1976	3,316	2,238	67.5	748	33.4
1977	3,387	2,287	67.5	722	31.6
1978	3,451	2,340	67.8	695	29.7
1979	3,511	2,356	67.1	696	29.5
1980	3,555	2,480	69.8	688	27.7
1981	3,779	2,680	70.9	749	27.9
1982	3,872	2,743	70.8	767	28.0
1983	3,865	2,741	70.9	742	27.1
1984	3,863	2,885	74.7	786	27.2
1985	3,716	2,809	75.6	734	26.1
1986	3,665	2,801	76.4	801	28.6

Hispanic(c)

	Total Population	High School Graduates	High School Completion Rate (a) (Percentage)	Enrolled in College (B)	Enrolled-in-College Participation Rate (Percentage)
1976	1,551	862	55.6	309	35.8
1977	1,609	880	54.7	277	31.5
1978	1,672	935	55.9	254	27.2
1979	1,754	968	55.2	292	30.2
1980	1,963	1,054	53.7	315	29.9
1981	2,052	1,144	55.8	342	29.9
1982	2,000	1,153	57.7	337	29.2
1983	2,025	1,110	54.8	349	31.4
1984	2,017	1,212	60.0	362	29.9
1985	2,223	1,396	62.8	375	26.9
1986	2,513	1,506	59.9	443	29.4

(a) The number of high school graduates was calculated by adding the number of individuals in this age group enrolled in college as of October of that year and the number of high school graduates not enrolled in college; these rates include individuals who enrolled in college without receiving a high school diploma or a GED. Several states do not require entering junior college students to have a diploma or GED. Therefore, these high school completion rates will be slightly higher than figures that do not include this relatively small population. hat do not include this relatively small population.

(b) Totals differ from those shown in other labels. These figures came from sample surveys of households rather than surveys of institutions of higher education. The Current Population Survey samples are derived from the decennial census of the U.S. population.

(c) Hispanics may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-20, various years.

1. Despite declines in the number of White high school graduates, Whites maintained "enrolled in college" participation rates ranging from a low of 31.1 percent in 1978 to 34.4 percent in 1985. During the period of 1976 to 1986, White participation increased from 33 percent to 34.1 percent.

2. The participation rate for Black 18-to-24 year olds ranged from a high of 33.4 percent in 1976 to a low of 26.1 percent in 1985. Between 1985 and 1986, this participation rate showed some improvement, rising to 28.6 percent.

3. Between 1976 and 1986, the Hispanic population increased by 62 percent which represents the largest population increase for any racial or ethnic group in this age cohort. The number of 18-to 24 year old Hispanic high school graduates increased nearly 75 percent. As the size of this population and the number of high school graduates increased, the participation rate declined from 35.8 percent in 1976 to a low of 26.9 percent in 1985. In 1986, this participation rate rebounded in 1986 (as with Blacks), to 29.4 percent.

"Attended-College" Participation Rates

An analysis of the "attended college" participation rates for high school graduates by race and ethnicity indicates the same general pattern as "enrolled in college" participation rates. Whites consistently have the highest rate, followed by Blacks and Hispanics. During the period 1976 to 1986, the "attended college" participation rate for Whites increased from 53.5 percent of 55.3 percent as compared to a decline from 50.4 percent to 47.4 percent for Blacks, and a corresponding decline from 48.9 percent to 45 percent for Hispanics (see Figure 4). In the mid-1970's, the "enrolled in college" rates and the "attended-college" rates were closer to being equal. Since that time, the rate has improved for Whites but has declined for Blacks and Hispanics. Between 1985 and 1986, the "attended-college" rate for Blacks improved (as evidenced by an increase from 43.8 percent to 47.4 percent). In contrast, Hispanics experienced a slight drop from 46.7 percent to 45 percent, while Whites remained stable at 55.3 percent.

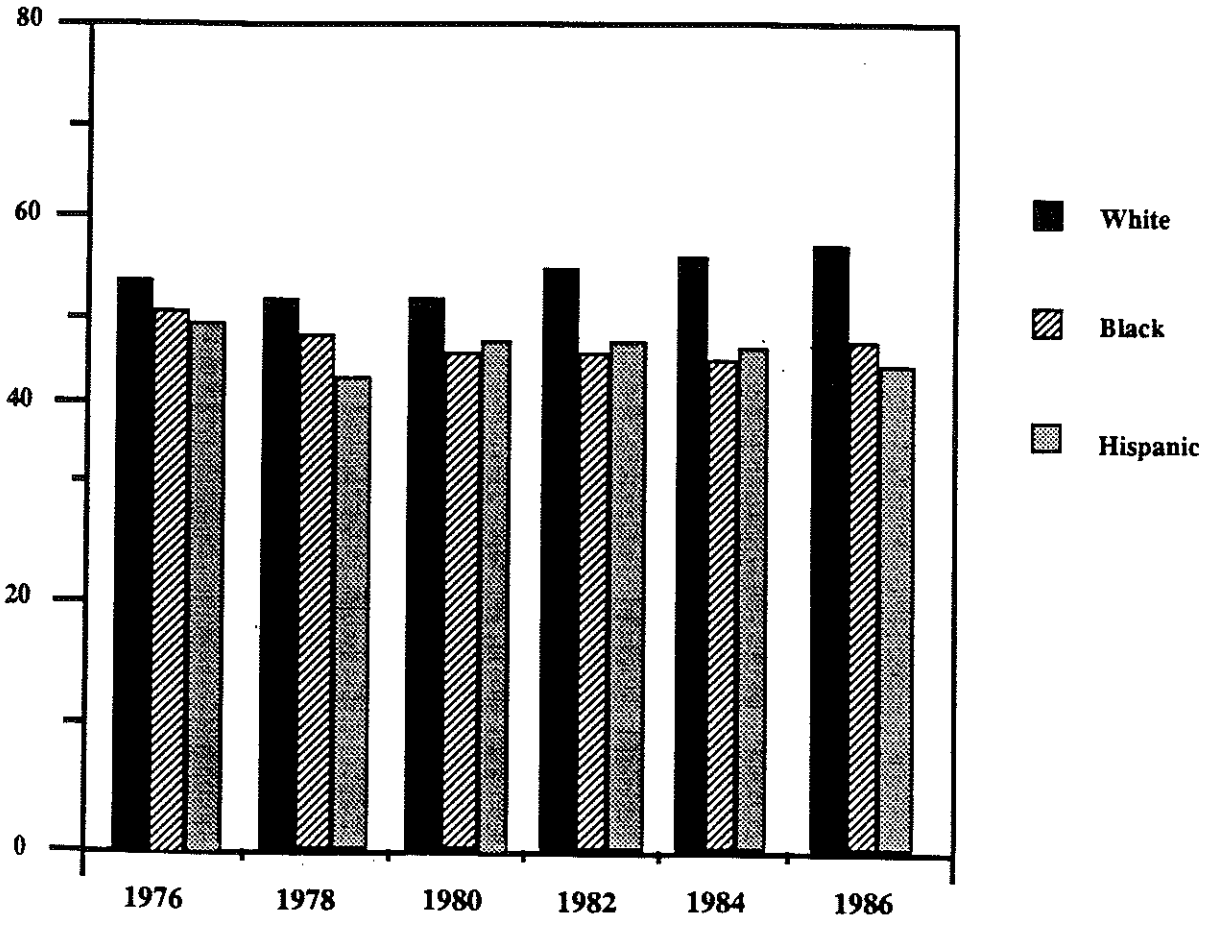
Minority Enrollment Trends

The enrollment of minorities (non-Hispanic Blacks, Hispanics, Asians and American Indians) in higher education increased by 7.6 percent between 1984 and 1986. This increase is purported to have been fueled by increased enrollment of Asians and Hispanics. Although encouraging, these gains must be viewed in terms of the overall participation in-college rates of minorities and the degree completion rates of each group, both of which are less favorable for Blacks and Hispanics than Whites.

In 1984, minority enrollment was slightly below 2.1 million students or 17.1 percent of total college enrollment. By 1986, these figures increased by 2.2 million or 17.9 percent of the total enrollment. Enrollment gains by racial/ethnic group are as follows:

- Hispanics increased by 16.6 percent
- Asians increased by 14.9 percent

Figure 4
Attended-College Participation Rates for 18-to-24-Year-Old High School Graduates by Race/Ethnicity, 1976 to 1986



Source: Bureau of the Census, Current *Population Reports*, Series P-20, various years.

- American Indians increased by 7.1 percent
- Blacks increased by only 0.5 percent

When minority figures are considered as a whole, enrollment increases of Asians and Hispanics tend to mask the earlier declines and current stagnation of enrollment by Blacks (Wilson and Carter, 1988).

Between 1984 and 1986, the number of Blacks enrolling in college remained constant while total college enrollment increased. Black enrollment declined from 8.8 percent in 1984 to 8.6 percent in 1986. This represents a sharp contrast to the Black share of college enrollment in 1976 which was at an all-time high at 9.4 percent (Wilson and Carter, 1988).

During the period of 1976 to 1986, Black men experienced the only enrollment decline among minorities (-7.2 percent). Although the downward slide appeared to have leveled off between 1984 and 1986, there is a need to address the issue of the declining college participation rates of Black men (Wilson and Carter, 1988).

From 1988 to 1990, minority group enrollment at colleges rose 10 percent, reaching record levels. During this period, enrollment of American Indians and Alaskan Natives rose 10.8 percent, followed by Asian and Pacific Islanders (11.7 percent), Blacks (8.2 percent), Hispanics (11.5 percent) and Whites (3.8 percent). Although the statistics on enrollment of minority students is encouraging, Robert Atwell, President of the American Council on Education, warns that "we cannot allow attempts to balance federal and state budgets to eradicate efforts on behalf of minorities in higher education . . . . We would be wrong to look at the numbers, see progress, and conclude that the recruitment and retention programs on behalf of underserved groups are no longer necessary. We made that mistake in the late 1970's and we have been struggling ever since to regain lost advances" (Chronicle of Higher Education, p. A33).

Black College Enrollment and the Adams Case

While enrollment at historically Black colleges and universities (HBCUs) peaked in 1980 with over 222,000 students, by 1986, the total enrollment declined to 213, 093 (-4.0 percent). In 1987, enrollment at HBCUs slightly increased to just over 217,000.

Although HBCUs continue to experience greater losses in Black enrollment than other institutions, they continue to enroll a significant percentage of the total Black college population.

The Adams Case had a strong impact on Black student enrollment in public historically Black colleges. Although dismissed in 1987, the original Adams suit was successfully litigated by the NAACP in 1972. U.S. District Judge John H. Pratt ordered the Department of Health, Education, and Welfare to enforce Title VI of the 1964 Civil Rights Act, which required that federal funds be cut off from states which maintained segregated public higher education systems. HBCUs and predominantly white institutions of public education in 19 states, including Virginia, were ordered to submit plans detailing the process of dismantling their dual systems through other-race student and faculty recruitment, among other requirements (Wilson and Carter, 1988).

In 1987, Judge Pratt ended the case citing two legal reasons: 1) that it was not the Department of Education (DOE) which had discriminated but the states themselves; therefore, the

DOE was an inappropriate defendant in the case; and 2) the original plaintiffs, Mr. Adams et al. not having continuing interest in the case, no longer had standing for suit. Subsequently, the DOE certified that most of the states were in "good faith" compliance with the court mandate, irrespective of the fact that none of the states had achieved its goal. More recently, in Virginia, Gordon Davies, Director of the State Council of Higher Education for Virginia, noted that the state has largely met those demands for increased minority enrollment and support for Black schools, while continuing its efforts on a voluntary basis (Richmond Times-Dispatch, June 27, 1992).

A glimpse of the scope of the problem on the state level is, in many ways, a mirror image of the national picture. Given the proud heritage of excellence in education in Virginia, with regard to academic preparation for college among minorities, the picture seems neither as clear nor as bright for minority youth.

A comprehensive study of Virginia high school seniors was implemented by Scott (1982) which reflects the racial/ethnic disparities in academic preparation for college as impacted by high school track. This study also reported the disparity in career aspirations and preparation for the same and the influence of high school counselors in minority students' decisions regarding selection of high school track.

The report indicates how small the pool of eligible black seniors was in 1980. Of the 7,125 Black public high school seniors who planned to enter college in the Fall of 1980 or at some point in the future, only 40 percent were enrolled in an academic program, 31 percent in a general program and 29 percent in a vocational program. These figures represent a sharp contrast for their White counterparts, of whom 61 percent were in academic, 22 percent in general and 17 percent in vocational programs. Further, grouping college-bound seniors by the types of schools that they have chosen and by class rank quartiles shows even greater difference in the preparation of White and Black students. Among seniors planning to attend public four year colleges, 76 percent of Black seniors in the highest quartile had an academic background as compared with 90 percent of the Whites (Scott, 1982).

Similar trends have been documented regarding the disparities between Blacks and Whites in the numbers of Virginia high school graduates who are enrolled in standard versus college preparatory programs. In 1988-89, 20,316 (or 81.7 percent) of White graduates completed an advanced studies diploma college preparatory track as compared with 2,975 (or 12 percent) Blacks, 298 (or 1.1 percent) Hispanic, 1,261 (or 5 percent) Asian/Pacific Islanders, and 24 (or .1 percent) American Indian/Alaskan Natives. During the same academic year 28,184 (or 71 percent) White students completed a standard diploma as compared with 10,212 (or 25.7 percent) Black students, 435 (or 1 percent) Hispanics, 800 (or 2 percent) Asian Pacific Islanders, and 41 (or .1 percent) American Indian/Alaskan Natives (Virginia Department of Education, 1989; see Table 2).

According to Scott (1982), although the proportions of Blacks (76 percent) and Whites (71 percent) who aspired to go to college were fairly close, the proportion of Blacks who actually planned to enter college in the Fall of 1980 was 45 percent which represents less than 54 percent of White seniors. In essence, long term educational aspirations cannot always be immediately translated into plans among Black students. Also, while Black students in the second and third class rank quartile were less likely than White students to fulfill their college plans, Black seniors who completed a vocational program rather than an academic program nonetheless hoped to enroll in a four-year college. White students enrolled in a vocational program typically planned to attend a two-year

Virginia Department of Education

REPORT OF GRADUATION BY RACE, ETHNIC CATEGORY, SEX, AND DIPLOMA TYPE

COMBINED REGULAR AND SUMMER TERMS

1988-1989 School Year

State Summary		American Indian/ Alaskan Native	Asian/ Pacific Islander	Black- Not of Hispanic Origin	Hispanic	White- Not of Hispanic Origin	TOTAL
STANDARD DIPLOMA	*Male*	25	458	4,989	252	15,105	20,829
	Female	16	342	5,223	183	13,079	18,843
	TOTAL	41(.1%)	800(2%)	10,212(25.7%)	435(1%)	28,184(71%)	39,672
ADVANCED STUDIES	*Male*	13	604	1,033	137	8,941	10,728
DIPLOMA	*Female*	11	657	1,942	161	11,375	14,146
	TOTAL	24(.1%)	1,261(5%)	2,975(12%)	298(1.1%)	20,316(81.7)	24,874
SPECIAL DIPLOMA	*Male*	0	3	130	2	125	260
	Female	0	2	74	2	104	182
	TOTAL	0	5	204	4	229	442
CERTIFICATE	*Male*	1	2	198	12	208	421
	Female	0	5	108	8	137	258
	TOTAL	1	7	306	20	345	679
GRADUATE TOTALS	*Male*	39	1,067	6,350	403	24,379	32,238
	Female	27	1,006	7,347	354	24,695	33,429
	TOTAL	66	2,073	13,697	757	49,074	65,667

college. Therefore, it appears that a greater proportion of White than Black seniors had the requisite courses and had achieved class rankings appropriate to their college aspirations.

Another important factor described in the report as having impact on the pool of minority students for college is the influence of school guidance counselors. Seventy-one percent of Black seniors ranked the guidance counselors as important in helping them to make educational or vocational plans as compared with 51 percent of White seniors. Further, in decisions related to college, counselors were ranked as "very important" by 37 percent of Black students as compared with 17 percent of the White students. Of major concern is the fact that a number of students trying to prepare for college were enrolled in a vocational program. The author notes that "some students may have been urged to take vocational training by counselors and teachers who believe that learning job skills is best for all Black and poor youth" (p. 231). Black students were not aware that they were being improperly advised and considered their guidance counselor as helpful in comparison to White seniors who were not as impressed. This phenomenon seems even more significant when we consider that parents who are not college educated are likely not to be aware of the need to enroll in an academic high school track in preparation for college.

Scott's recommendations to increase the minority pool for college a decade ago seem appropriate today. She concludes that Virginia's Black high school students need:

1. Better information about the quality of educational services that institutions provide;
2. Opportunities in their pre-college schooling to acquire cognitive skills and information required for college work; and
3. Adequate resources to finance the cost of a college education.

PERFORMANCE OF MINORITIES IN ELEMENTARY AND SECONDARY EDUCATION

The National Assessment for Educational Progress (NAEP, 1988) has been charting the changes in reading, science, mathematics and more recently, the writing abilities of school-age children by sample testing 9, 13, and 17 year old students since 1971. The changes documented by NAEP have provided an indication of the educational achievement of these populations. An analysis of trends in reading performance from 1971 to 1984 indicates that students at all three ages were reading better in 1984 than in 1971. Although Black and Hispanic students made dramatic improvements during this period, the gap between minority and White student performance remains substantial. Averages do not reflect the range of proficiency of any population and minorities can be found at all levels of the continuum; 17 year old Black and Hispanic students still read only about as well as 13 year old White students (Mingle, 1987).

The NAEP reading assessment identifies rudimentary, basic, intermediate, adept and advanced categories. Mingle (1987) states that an examination of racial/ethnic performance in these categories indicates that:

1. Black 17 year olds have shown improvements in the proportion requiring both basic reading skills (13 percentage points) and intermediate reading skills (25 percentage points) and the percentage with adept reading skills has more than doubled. However, only 16 percent of Black 17 year olds demonstrated adept reading skills, compared to 45 percent of 17 year old White students.

2. The adept reading skills of Hispanic students rose to approximately 20 percent of all 17-year olds in 1984. These gains have been attributed to educational programs developed in the late 1960's and 1970's which were targeted at students who learned Spanish as their first language.

The NAEP report indicates that a good start in school translates into a sustained advantage. Students born in 1965, 1966, and 1967 performed better than students born in 1961, 1962, and 1963 at every age at which they have been assessed. The differences in performance were attributed to Head Start and Title I programs of the Elementary and Secondary Education Act of 1965 which were available to the younger cohort (Mingle, 1987).

The lower academic achievement of minorities is also reflected in the type and number of courses that students take. In 1982, the average number of Carnegie Units earned for all high school graduates was 21.8 (see Table 3). White graduates at 21.9 were slightly higher, followed by Hispanics at 21.7 and Blacks at 21.1 units. With the exception of English and computer courses, Blacks earned fewer total units and fewer units in academic subjects--math, science and social studies--than the typical high school graduate that year. Although Hispanics earned more units than Blacks, the units were not in academic subjects. In all areas except computer science, Hispanics earned fewer academic units than the total graduating population. The NAEP report indicates that the differences in types of courses taken may be attributed to the systems of educational tracking in high school. A number of researchers have documented this practice as having negative impact on minority student preparation for higher education (Mingle, 1987).

Students are typically guided toward college preparatory, general or vocational tracks. In 1980, approximately half of Black seniors reported they were in a college preparatory track as compared with 37.3 percent for Hispanics and 65.3 percent for Whites (see Table 4).

Irrespective of designated tracks, the same groups of 1980 high school seniors showed differences in grade-point averages. Black and Hispanic students earned a GPA of 2.6, which was lower than both high socio-economic status Whites (3.0) or low socio-economic status Whites (2.8) (Mingle, 1987).

In addition to GPA, another measure of high school performance is the Scholastic Aptitude Test (SAT). This test is frequently used to predict college performance based on academic preparation. Many factors including academic track and GPA affect scores on the SAT. According to the ACE report, *Minorities in Higher Education* (1985, p. 20), SAT scores declined during the period of 1976-1984. In each year, Whites have scored higher than average on the verbal portion while minorities scored below the average. Among minorities, Asian-Americans scored second to Whites, followed by American-Indians, then Hispanics, and Blacks, who scored lowest. Performance on the mathematics portion indicates similar results for minority groups with whom they are usually compared. Asian-American students scored above the national average while White students placed second and also above the national average. Among other minorities, American Indians scored highest, followed by Hispanics, and Blacks who scored below the average.

In an examination of the results of the American College Testing Program, Maxey and others (1987) found that: 1) the number and type of courses that minority students take in high school have a significant influence on their test scores, particularly on the mathematics and natural science tests, and 2) the more college preparatory courses taken in the subject area, the higher the students score on the ACT.

Table 3
Average Number of Carnegie Units Earned by High School Graduates by Subject Area, 1982

	ALL SUBJECTS	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	FOREIGN LANGUAGE	COMPUTER
Total	21.8	3.8	2.6	2.1	3.1	1.1	.1
White	21.9	3.8	2.7	2.3	3.1	1.1	.1
Black	21.1	3.8	2.4	2.0	2.9	.7	.1
Hispanic	21.7	3.7	2.2	1.8	3.0	.8	.1

Source: U.S. Department of Education, National Center for Education Statistics, *The Condition of Education*, annual, 1986. As reported in *Statistical Abstracts of the United States 1986, 106th Edition*, U.S. Department of Commerce, Bureau of the Census, Table 243, p. 146.

Table 4
High School Performance and Track of 1980 Seniors

	GRADE-POINT AVERAGE	EDUCATION TRACK (PERCENT)		
		VOCATIONAL	GENERAL	COLLEGE PREP
Black	2.6	24.5	23.8	51.7
Hispanic	2.6	28.6	34.1	37.3
Low-SES White	2.8	28.6	35.0	36.3
High-SES White	3.0	14.0	20.8	65.3

Source: Valerie Lee, *Access to Higher Education: The Experience of Blacks, Hispanics and Low Socio-Economic Status Whites*. American Council of Education, 1985, p. 51.

ISSUES RELATED TO INCREASING THE MINORITY POOL FOR COLLEGE

Increasing the Number of Minority Teachers and the Pool of Minority Students Entering the Profession

In recent years, the recruitment and retention of minorities for the teaching profession has become an increasingly urgent concern for teacher educators, educational planners, administrators, politicians and the general public. This issue seems to be gaining in prominence primarily because of the changing demographics in the United States and the need to accelerate initiatives to address these changes while maintaining standards and working to achieve excellence in our educational programs (Nettles, 1990). The 1987 report of the National Education Association notes that minorities make up approximately 33 percent of the school population as compared with 10.3 percent of the teachers. During a period when America's schools are seeing an increase in minority populations, minority teachers are becoming a vanishing breed.

The 1986 report of the National Education Association indicates that in the South, in the fall of 1971, Blacks constituted 8.1 percent of the teaching force as compared with 6.9 percent in 1986. At the same time, minority children constituted a third of the pre-school population and 30 percent of the elementary and secondary population. In Virginia, 1986-87 figures indicate that 24 percent of the K-12 population was minority while minority teachers represented only 9 percent of the teaching force. The Southern Education Foundation research also indicates that the teacher candidate pool is dwindling. In academic year 1980-81, Blacks and Hispanics earned 17 percent of the baccalaureate degrees in Education. In 1984-85, this figure decreased to 10.4 percent. Certainly, these figures are cause for alarm, but the pipeline seems even more dismal. According to Tracey Robinson (1989) formerly of the Quality Education for Minorities Project at the Massachusetts Institute of Technology, in 1980, 283,000 eighteen- and nineteen-year old Black high school graduates entered college; four years later, only 57,000, less than 21 percent, were awarded degrees. The 1986 report of the American College Testing program stated that among minority undergraduates, in selecting a major, teaching not only comes in behind careers in other fields, but loses out even among those who are "undecided." One factor which further exacerbates the pipeline dilemma is the fact that academically talented women and minorities, once restricted to teaching as a professional option, are now selecting other more exciting professions which offer better salaries, better working conditions, and more opportunities for advancement (Reed, 1988). The current decline in numbers of minority students preparing for careers in teaching presents a critical problem when coupled with current and projected demographic trends.

A look at the enrollment of minority children in public schools as compared with the number of students enrolled in teacher preparation programs by racial/ethnic background gives us a glance at our future. In Indiana, Blacks comprise 18 percent of the children enrolled in Indiana's public schools and only 1.7 percent of the teacher education students are Black. In Mississippi, Blacks comprise 51 percent of the public school enrollment while only 22.9 percent of the teacher education students are Black (See Table 5).

As earlier stated, the 1980's have brought a number of educational reform movements encouraged by such reports as *A Nation at Risk, A Nation Prepared, Time for Results,* and *Tomorrow's Teachers.* The reports provided the impetus for sweeping changes in the way teachers are prepared and their entry to the profession. Many of the recommendations advanced by these reports have translated to state mandates which regulate admission to programs, exit from programs, and control licensure.

Table 5

ENROLLMENT FIGURES FOR UNDERGRADUATE TEACHER PREPARATION PROGRAMS AND K-12 PUBLIC SCHOOLS BY RACE/ETHNICITY FOR SELECTED STATES

ENROLLMENT IN UNDERGRADUATE TEACHER PREPARATION PROGRAMS BY RACE/ETHNICITY		ENROLLMENT IN PUBLIC ELEMENTARY AND SECONDARY SCHOOLS BY RACE/ ETHNICITY	
Wisconsin	%		%
Black	1.8	Black	18.0
Hispanic	—	Hispanic	3.0
Asian	—	Asian	2.0
N. American	—	N. American	2.0
Other	—	Other	N/A
White	96.0	White	75.0
Indiana	%		%
Black	1.7	Black	18.0
Hispanic	—	Hispanic	2.0
Asian	—	Asian	1.0
N. American	—	N. American	—
Other	—	Other	N/A
White	96.6	White	79.0
Georgia	%		%
Black	8.8	Black	37.0
Hispanic	—	Hispanic	1.0
Asian	—	Asian	1.0
N. American	—	N. American	—
Other	—	Other	N/A
White	89.9	White	62.0
Mississippi	%		%
Black	22.9	Black	51.0
Hispanic	—	Hispanic	—
Asian	—	Asian	1.0
N. American	—	N. American	—
Other	—	Other	N/A
White	76.4	White	48.0

Sources: AACTE Minority Teacher Education Enrollment Survey, 1987.

Elementary and Secondary Civil Rights Survey, U.S. Department of Education, 1987.

According to Darling Hammond (1987), almost every state in the nation has enacted legislation to reform teacher education, licensing, and compensation. Among the most challenging of these new standards for minorities is the requirement for teacher competency testing which is used as a vehicle for demonstrating educational excellence and to determine who is entitled to move up the educational ladder. Forty-four states are currently using these examinations. The sad result is that minority performance on these state-mandated tests further confirms the achievement gap between Blacks and Whites in that Blacks have consistently scored lower than Whites and continue to fail at disproportionately high rates. The fact that these examinations do not predict how effective the teacher will be once in the classroom is not at issue given the fact that it is the law (Simon, 1990). The teacher shortage has precipitated the need for emergency credentialing. According to Martin Haberman (1988), it is primarily an urban plight. In the 120 largest school districts in the country serving between 9 million and 10 million children, there is the greatest concentration of "at-risk" students. This is a group that many teacher education graduates do not choose to teach. Data indicate that every state in the country is utilizing uncertified or misassigned teachers in urban areas, while neighboring suburbs get up to 55 applications for each position. As an example, in Fall 1986, the Los Angeles Unified School District hired 2,200 teachers, 60 percent of whom received emergency certificates. In a school district which is 52 percent Hispanic, only 5 percent of these new teachers were Hispanic. Even in a period when traditional certification routes are circumvented, and demographics are clearly changing, minorities are not brought into the fold.

Why Do We Need Black Teachers?

Haberman's (1988, p. A28) very succinct response is, "All children should be afforded the opportunity to experience representation of American society among the teachers who educate and socialize them." The report of the Carnegie Task Force notes that "the race and background of their teachers tells them [students] something about authority and power in contemporary America. These messages influence children's attitudes toward their school, their academic accomplishments, and their views of their own and others' intrinsic worth. The views they form in school about justice and fairness also influence their future citizenship."

Many of the earlier referenced reform reports mention the need for accelerated efforts to recruit minority teachers. According to the Carnegie Forum, between 1986 and 1992, approximately 1.3 million teachers would be hired in the U.S. Unless the number of minority teachers is increased, all children will be "confronted" with almost exclusively White authority figures in the schools. The Holmes Group also affirms the importance of a teaching staff that reflects the diversity of racial and ethnic backgrounds in our country's population. The report indicates that there is a loss of talent if the pool of potentially effective minority candidates is not tapped, particularly in an era of teacher shortages.

The literature indicates that a teaching force which does not reflect the ethnic diversity of the society may send negative messages to White as well as non-White children. The Southern Education Foundation (1989) report describes four pervasive reasons to underscore the need of a representative cadre of minority teachers:

1. Minority teachers serve as role models for minority students. These are essential because they provide minority students with motivation to achieve in school, so students, like their teachers, can aspire to a position of respect and authority. There is justifiable concern that minority students would benefit more from a teacher role model when the teacher is a member of the students' own minority group.

2. Minority teachers may have higher expectations and may provide for more fair treatment. Minority teachers seem to be less likely to classify minority students as slow or disabled students. They also frequently act as advocates for minority students which means minority students are less likely to be expelled or suspended or become the victims of discrimination.

3. Race relations may be improved by the presence of minority teachers. Non-minority students will benefit from the opportunity to experience minority teachers and to see them in professional roles. Further, students with minority teachers who are knowledgeable and articulate are less likely to be handicapped by myths about minorities, such as the pervasive stereotypes attributed to Blacks, Hispanics, and Native Americans regarding intellectual inferiority.

4. Increased parental support. Parental involvement in their children's education may be the most important predictor of the child's achievement and motivation. Minority teachers are likely to be knowledgeable about and comfortable with their relationships with minority parents.

Given current and projected demographics and the impact of the educational reform movement on the supply of minority teachers, a number of approaches have been initiated. Some initiatives or "programs of promise" which have been established on the public school and higher education levels to increase the numbers of minority teachers include the following:

*On the public school level, initiatives have focused on early identification, tutorial efforts and counseling. Early identification of students who wish to pursue careers in teaching should be encouraged. A number of programs already exist on the high school level, and middle school programs are beginning to expand.

*Early contact with potential minority teacher education students is recommended. Witty (1989) notes that recruitment efforts should begin as early as 7th grade. Efforts should be directed to underprepared, high potential students and should include explanations of available academic support, personal instruction, peer buddy systems, and the involvement of parents in this process. Again, guidance counselors need to be involved in this effort.

*On the high school level, Revitalizing Future Teachers of America Clubs is a worthwhile strategy. For years, FTA membership has dwindled in our schools. This type of organization encourages interest in and direction toward teaching. It would fill a void where previously its visibility provided an opportunity to nurture and encourage an interest in teaching. This club would also provide a vehicle to discuss college entrance examinations, scholarships, financial aid, and career opportunities in education. One such school-based program is Virginia's Teacher Cadet Core. Students interested in the profession are engaged in teacher orientation activities across a given school district.

*Another key initiative to increase minority teachers is to improve counseling. Counselors need to be directed to encourage minority students who demonstrate potential to pursue an academic high school track. The academic achievement levels of minorities in this country continue to lag behind average achievement of White students. A disproportionate number of minority students do not enroll in college preparatory courses which encourage their chances for admission to college and provide support to enlarge the pool of minority students from which prospective teachers would be drawn. Data from a variety of sources indicate that approximately one-third of Black high school seniors are enrolled in an academic high school track as compared with two-thirds of their White counterparts. To reduce the achievement gap and to enhance the potential pool of teacher

candidates, more minorities need to be counseled to enroll in more rigorous academic courses. Far too many students have completed high school or a GED to find their options for further advancement are sorely limited.

*The improvement of the quality of primary, elementary and secondary schools in urban areas is the ultimate long-term solution. Most minorities go to school in urban areas, so this is where they must receive the requisite basic education to prepare them for college as well as the necessary motivation and nurturing to pursue careers in teaching. This, of course, represents a long term goal. Other more immediate initiatives are needed. Recruitment and retention efforts for minority teachers cannot be delayed as one waits for institutions to change.

*Initiatives between public schools and institutions of higher education have been found to be effective. The "grow your own" concept is gaining in popularity as evidenced by programs surfacing in a number of states. A special program established by a partnership between Virginia Polytechnic Institute and State University and the Blacksburg, Virginia public schools offers a computer and the promise of a full four-year scholarship to students who commit to prepare for a career in teaching and who agree to return to the district to teach.

*Project: I Teach is another example. This program is a collaborative effort between the University of Texas at San Antonio, the Educational Testing Service and the San Antonio and Edgewood Independent School districts. Its purpose is to recruit Hispanic students for teaching careers. An integral part of this program is a week long summer camp held on the college campus during which time students experience college life while enrolled in classes to strengthen academic skills.

The community colleges provide fertile ground for the recruitment of minority teachers. Wilson and Melendez (1988) indicate that 45 percent of all Blacks in secondary institutions are in two-year colleges. It seems logical that these institutions should be involved in making teaching an attractive option. A major problem, however, is the fact that minority students persist beyond the two-year programs at a much lower rate than Whites. Minorities find two-year colleges more accessible than four-year institutions because they are less expensive, provide remediation programs, and offer a supportive environment in their community. Partnerships between school systems and two-year and four-year colleges may provide rich opportunities for the recruitment of minority candidates for teaching careers.

Milwaukee currently has a pilot program which involves a system of dual admission. Community college students are guaranteed admission to teacher education programs at selected four-year institutions if they complete the prerequisite general education program. Perhaps school systems that support the "grow your own" philosophy might investigate linkages with such programs--offering financial incentives and requiring a commitment to return to teach in the system.

Black colleges in Virginia participate in the Capitol Region Educational Consortium (CREC) with the Greater Hartford school districts. The institutions send their student teachers to the Hartford area to complete the professional semester with the hope that they will remain there to teach. Students have excellent supervising teachers, are fully funded, provided transportation, given weekend excursions and other very attractive benefits. The one ingredient that has been missing is the connection with the Black community which may likely have provided the needed acculturation to the greater community to retain Virginia graduates in that area.

Strategies for institutions of higher education include consortium arrangements and a combination of tutorial programs, counseling, workshops to develop test sophistication skills, scholarships, financial aid packages and honors programs. An increasing number of institutions, particularly the historically Black institutions, are implementing strategies to help minorities to pass comprehensive examinations. Students can be trained to pass comprehensive exams through a combination of mastery of the content to be tested and development of test sophistication skills. Three examples of institutions which have dramatically increased minority performance on comprehensive examinations are Grambling University, Norfolk State University, and the University of Arkansas-Pine Bluff. Through a combination of diagnostic testing, remediation, development of test-taking skills, and in-service training for faculty, these institutions have seen a dramatic increase in student performance on these tests. At Grambling, in a five-year period, the pass rate on the NTE jumped from 5 percent to 85 percent; at Norfolk State, the pass rate increased from 28 percent in 1982 to 71 percent in 1985; and at the University of Arkansas-Pine Bluff, the scores rose from 42 percent in 1983 to 95 percent in 1987 (Spencer, 1986).

A number of institutions provide scholarships to the best and brightest seeking admission to various colleges. However, in most cases, there is not enough money available, and modest amounts, if any, are targeted specifically for minority students. A number of states are providing incentives for students to select teaching through the provision of forgivable loans. Virginia and North Carolina have such a program which offers $2,000 per year and requires the student to teach for one year for every year the student receives assistance. To ease the financial burden of college, the American Association for Colleges in Teacher Education (1989) recommends:

1. Federal support of academically superior students in the amount of $4 - $5,000 per year in scholarship aid.
2. High school work-study programs to expose high school students to the teaching field. Students would participate in work-study employment administered by local educational agencies in cooperation with local community organizations.
3. College work-study programs which provide employment to students preparing for teaching during the academic year and the summer.
4. Assistantships and grant programs should be provided to academically superior minority students completing associate degrees who wish to pursue the baccalaureate degree in education.
5. Teacher induction programs to provide special support for minorities who accept teaching assignments in ethnically or culturally diverse communities.

Regarding enrollment procedures for Black students in Virginia teacher education programs, aggressive recruitment programs would increase the application rate of students and thereby increase the selection and enrollment rates of critically needed minority teacher education candidates (Salzberg, 1987).

Minority students are encouraged to persist in college when provided with strong academic support through tutorial programs to address deficiencies and through sustained counseling to ease the transition to higher education and address personal issues.

The pursuit of nontraditional routes may prove to be a promising strategy for recruitment and should include efforts to recruit former minority teachers back to the profession. However, incentives including salary considerations for previous teaching experience and reducing the hurdles to update credentials for licensure will need to be addressed.

Retired teachers may consider returning to the profession on a part-time basis if opportunities and attractive incentives are made available.

Career switchers represent a potential pool from which to draw teachers. Individuals who are dissatisfied with their current positions may consider teaching if the incentives are attractive enough. Forgivable loans, and other forms of financial assistance, such as paid experiences for serving as teacher aides while enrolled in courses to provide knowledge of methodology and pedagogy for teaching, salary considerations for previous related experience once teaching begins, and the provision of a clearly articulated route for certification and licensure will need to be addressed. Another strategy would be to review the number of teacher aides in the school system who are college graduates. Offer incentives to train them to become teachers. The Milwaukee Public School System is currently exploring this option.

There are other necessary long-term initiatives which will require serious support related to public opinion, public policy, and related financial support:

First, the status of the profession must be raised. Part of the "status" issue relates to money but it also relates to the often frustrating conditions under which teachers work. Retention of minorities in the teaching force is a continuing challenge. The 1988 Survey of the American Teacher indicated that 41 percent of 300 minority teachers surveyed said they were likely to leave the profession within five years. The 1987 report of the Council of Great City Schools states that only 39 percent of urban teachers feel respected by society.

Second, teachers must be empowered. Also related to the "status" issue is the concept of teacher empowerment. The teaching profession, unlike a number of other professions, is not the gatekeeper who decides the requirements for entry to the profession or who will enter the profession. Teachers need to have more control over their profession and an active voice in certification standards and licensure.

Third, teacher salaries must be raised. Teacher salaries need to be increased to such a degree that it will elevate the status of teaching. Again, we have a rising tide of expectations without the concomitant rise in willingness to support such local improvement. Rochester, New York may be an exception to this rule in that its master teachers earn up to $70,000 per year.

Through a systematic focus on the recruitment and retention of minorities in the teaching force, the flow of well prepared minority teachers would be maximized. It is a need which should not be ignored, and if adequately funded, would be another manifestation of the kinder, gentler America that we have heard about over the past four years.

Influence of Guidance Counselor in Guiding and Preparing Minority Students for College Careers

Counseling At-Risk High School Students

Guidance counselors frequently operate under the assumption that Blacks and other minorities do not belong in college. LeMelle (1992) notes that many guidance counselors often assume that children who have received good grades did not really earn them or that the courses they took did not prepare them for the academic challenge of college. To further complicate the issue, many high school counselors do not spend enough time and effort with less able minority students

to guide them into accredited vocational, trade and career schools or to corporations with training programs and entry level jobs.

Kozol (1991), in his book, Savage Inequalities, graphically portrays negative counselor attitudes toward minorities with the following example: A Cambodian girl attending a predominantly minority high school in Camden, New Jersey said to her guidance counselor, "I want to be a lawyer." He replied "No, you cannot be a lawyer." The girl asked, "Why?" He replied "No, you cannot be a lawyer. Look for something else. Look for an easier job" (p. 156).

LeMelle (1992) states that the greatest tragedy of faulty counseling in high school is the dropouts whose potential may be forever lost to society. These young people may sooner or later cost society many times what good counseling would have cost had they been motivated to continue their education.

The guidance counseling staff is frequently underfunded in predominantly minority schools and is often too small to adequately serve the student population in the schools. Also, in instances of shortages of counseling staff, teachers who lack the professional training to competently serve children frequently wind up counseling them. In essence, high school guidance counselors may lack adequate professional training, may be too few in number, and may bring negative attitudes and stereotypical preconceptions to the job. These counselors are most apt to steer minority children away from challenging educational goals for "their own good" (LeMelle, p. 12).

A number of at-risk students remain in school despite having fallen below their age-peers academically. Counselors dismiss this population as failures and therefore pass over them in the counseling process and assign them to unchallenging courses they can pass. Students who remain in high school through the junior or senior year and decide to do something with their lives discover that they "have wasted irretrievable years learning little of value and that the opportunity for the more serious work they need to qualify for college or career training has been lost or at best will take years of costly catch-up efforts" (LeMelle, p. 12).

Brown (1991), in describing seven suggested strategies to increase minority access to college, states that it is imperative for colleges and universities to build strong ties with predominantly Black and Hispanic high schools. High school counselors and administrators should be involved in ongoing orientation throughout the year to facilitate greater student exposure to college and universities earlier in their schooling.

The development of community alliances among colleges, schools and community agencies can be an effective method of improving minority student access. Several colleges such as Coppin State, Santa Clara University, the University of Wisconsin-Milwaukee, and Hunter College have established such collaborative programs.

LeMelle (1992) recommends the following strategies to address the counseling needs of at risk students:

1. As a matter of school policy, guidance counselors should work closely with faculty who are providing academic training and encouragement to go on to college, a trade or professional training program, or a career job.
2. Guidance counselors should be trained to deal with parents who may not place a high value on education and should take steps to work with parents who are interested in

education, need help and advice about furthering their education and that of their children.

3. Guidance counselors should give the highest priority to children who are potential dropouts and who cannot understand the relevance of education.
4. Guidance counselors in predominantly minority high schools should be specially trained college and career counselors capable of moving successful graduates into appropriate college, vocational and career opportunities.
5. Counselors should be knowledgeable about financial aid and should assist students in obtaining financial assistance to pursue their education beyond high school.

Counseling At-Risk Elementary, Middle and Junior High School Students

Children need academic encouragement in elementary and middle school and, at an early age, need to envision going to college after high school graduation. Children and their parents must be provided with higher education information and experiences at transitional points in the students' academic careers at a time when it is still possible for them to select appropriate and prescribed courses to maximize preparation for high school success, retention, and graduation (Gray, 1986).

The Baltimore City Schools Guidance Services Office initiated an Early Guidance Model for middle and junior high school students. Gray (1986) notes that the program was developed in response to the decline in the numbers of students applying to and actually attending college and the perception that schools wait too late in the students' academic life to provide the requisite information. A committee of middle and junior high school counselors in the Baltimore City Schools developed the model which is designed to facilitate interaction of parents, faculty and community. Counselors are encouraged to become change agents, acknowledge their commitment to students, to expect that all students are capable of achieving success, to continuously motivate students to achieve their goals to do their best, and ensure that students are capable of making more definitive decisions earlier in pursuit of their options.

In an article entitled "*Keeping the Options Open: Early Guidance as the Key,*" Gray (1990) outlines the basic components of the program which include a College Awareness Day and a College Admissions Assembly and a plethora of related activities.

College Awareness Day for middle and junior high school students is observed annually in the month of October to coincide with the College Fair for junior and senior high school students. Certain middle school counselors took groups of students to the fair site but because this effort met with mixed reactions, it was not encouraged. In a specific school, counselors spearheaded a number of related activities including:

1. Teachers were requested (by counselors) to spend approximately ten minutes at the beginning of each period sharing information about their college and/or college experience with students.
2. The counselors inquired of each teacher the name and school colors of the college or university he or she attended and had the art instructor make a banner.
3. The teachers were asked to display the banner in their classrooms. Posters highlighting College Awareness Day were displayed throughout the school prior to the activity.
4. Staff members were asked to wear clothing with the college/university name on it or to display memorabilia from the college.

5. During the last period, students were given a quiz based on information and events during College Day. Quizzes were sent to the Guidance Office for evaluation of the activity.
6. Parents and friends were informed of College Awareness Day and were requested to support the activities.
7. Each morning for seven days prior to Career Day, the counselor read information about a different Maryland College over the school's public address system and students were to guess the name of the college and call in with the name of the college. If there was a winning homeroom, the class was announced along with the name of the college.

College Admissions Assemblies are held for parents and students at the school. Following the assembly, buses take the parents to one of the local community colleges for a financial aid workshop and a luncheon hosted by the college.

Gray (1990) suggests other strategies considered to be effective with middle and junior high school students including:

1. Securing bookmarks and book covers from colleges and universities which are well endowed.
2. Inviting former graduates, now enrolled in college, to return to their middle and junior high schools to speak to small groups of students concerning their college experiences.
3. Developing a 'pen pal' relationship between students and college student recruiters to sustain and reinforce interest in college.
4. Involving alumni organizations, fraternities, sororities, and recent retirees in mentoring programs and tutorial programs.
5. Training students as peer counselors to provide college resource information to their friends.
6. Providing local college campus visits when school is in session.
7. Inviting students and their parents on campus for cost-free cultural, academic, and athletic activities.
8. Providing middle and junior high school students with an opportunity for a one-to-two week overnight college experience in a structured program cooperatively designed by counselors and college representatives.
9. Inviting parents to participate in Financial Aid Parent Night programs.
10. Sharing old college catalogues and unused applications received from high schools and colleges or universities.
11. Utilizing computerized guidance information systems to obtain information about two-year and four-year colleges.
12. Providing early financial planning workshops for the parents.
13. Informing parents and students early of the graduation requirements of the Maryland State Department of Education.
14. Informing students and parents of high school opportunities for the academically talented (i.e. "A Better Chance" program, Boston, Massachusetts).
15. Involving federally funded programs in the provision of resources (i.e. Upward Bound).
16. Developing a college library for middle school consumers, writing for free materials and developing a bibliography of recommended readings.
17. Investigating the possibility of establishing incentive programs which guarantee support for college tuition.

Effective counseling programs for at-risk children must be delivered by licensed professionals and must be comprehensive, equitable, address course enrollment based on realistic educational and professional goals, and include parental involvement throughout the student's academic career.

Impact of Learning Styles and Cultural Differences on Achievement of Minority Students

Learning style consists of a combination of environmental, emotional, sociological, physical, and psychological elements that permit students to receive, store, and use knowledge or abilities (Dunn & Dunn, 1978). Ogden and Germinario (1988) note that information on the effectiveness of teaching students through individual learning styles is now available through a broad network of well-conceived research on students at all grade levels; therefore the concept of teaching through learning styles as an efficient methodology for all learners seems a viable concept to improve achievement. This concept can be particularly significant for students at risk whose learning style is so idiosyncratic that efforts to educate them through traditional methods have been unsuccessful. Further, attention to cultural differences in the organization and delivery of instruction appears to be relevant for success of minority students (Au, 1980).

Jacqueline Irvine (1990) notes that lack of cultural synchronization has an impact on minority student achievement. Well-intentioned teachers may want desperately for their students to learn, yet they may not understand the culture-language, values, home environment or learning styles of these children. The author identifies three cultural characteristics and related research which are especially problematic for Black children, including style, use of Black English, and cognition.

1. Style or manner of personal presentation. The language, style of walking, glances and dress of Black children have created fear, apprehension, and overreaction among teachers and school administrators. The communication styles of Black children including exaggerated language, mimicry and plays on words, and verbal sparring which turns into rough-shod play, may confuse White teachers and be interpreted as attacks.

2. Black English. School success is largely dependent on the use of standard English. Black students who speak standard English are perceived to be of higher ability and more middle-class than students who speak Black English. The spoken language of Black students frequently does not match the requirements of standard English; therefore to be successful, these students must learn to translate into standard English (code switch) before they write or speak.

3. Cognition. A number of researchers believe that Black and White children in western culture perceive the world and process and organize information differently and that these differences negatively affect Black students' achievement (Anderson, 1988; Hilliard cited in Hale-Benson, 1986; Pasteur and Todson, 1982; Shade, 1982). Hilliard (cited in Hale-Benson, 1986) observed that schools' approach to curriculum and instruction is from an analytical rather than a relational cognitive style. Black students are believed to be relational. More specifically, they are predisposed to learning characterized by freedom of movement, variation, creativity, divergent thinking approaches, inductive reasoning, and a focus on people. Conversely, schools emphasize analytical style or learning which is characterized by rules and restriction of movement, standardization, conformity, convergent thinking approaches, deductive reasoning, and a focus on things. In summarizing the predicament of lower-class Black children when they go to school at age four or five, Peters (1981) found that these children discover that behavioral rules have changed--they are interested in exploring the attractive "things" in the school environment, yet there is a new emphasis on sitting still; play and interaction with others are encouraged only during specific times during the day; music is played only

at "music time;" and physical activity (body movement and expression) not associated with cognitive learning is only encouraged during activity or play periods or physical education (p. 84).

Irvine (1990) concluded that this treatment of cultural differences does not imply "a superiority or inferiority relationship between Eurocentric (analytical) and Afrocentric (relational) styles. Unfortunately most teachers use one method of instruction--analytical--and ignore relational methods; hence they fail to capitalize on the strengths of Black and other children's learning modalities, directly contributing to those students' school failure" (p. 33).

EDUCATIONAL POLICIES AND SCHOOL ORGANIZATION ISSUES HAVING IMPACT ON ACHIEVEMENT

In a comprehensive report on *Increasing Achievement of At-Risk Students at Each Grade Level,* McPartland and Slavin (1990) note that programs designed to increase achievement of at-risk students at all grade levels must address organizational, instructional, and curricular practice and resources. "Ultimately, American education will do a better job in serving these students only when more effective ways of delivering high quality instruction are instituted in the Nation's schools and classrooms" (McPartland and Slavin, 1990, p. 1). Currently, schools typically respond to the poor academic performance of these students with three organizational approaches: 1) retention in grade, 2) ability grouping and tracking, and 3) special education. There is evidence to suggest that these organizational structures further diminish the dwindling pool of minority students prepared to enter college during a period when the number of minority school-age students is increasing. Effective programs at all levels either remove these barriers or function within them to improve achievement and prevent dropout.

Impact of Retention in Grade

Retention refers to the practice of requiring students to repeat a grade when they have not achieved the minimum levels of academic achievement expected at a particular stage in schooling. Retention policies are generally instituted to maintain minimum standards of school progress and reduce "social promotions" which frequently result in high school graduates who have not learned the basic academic skills (McPartland and Slavin, 1990). According to Gottfredson (1988), while this practice cannot usually be defended as a timely or effective response to improving the achievement of at-risk students, a number of urban school systems routinely retain 15 or 20 percent of students at each grade level, and by grade 10, up to 60 percent of students in these schools have been retained at least once.

Research indicates that typical practices have not shown any consistent learning benefits over the duration of the retained students' school career, as compared with age-mates with similar academic records who were not held back (Shepard & Smith, 1989; Jackson, 1975). Further, there is strong evidence which indicates that being retained significantly increased the probability that an individual will drop out before graduation from high school (Natriello McDill, & Pallas, 1990).

McPartland and Slavin (1990) note that some retention policies do attempt to help improve at risk students' achievement in a timely and effective way. For example, very young children may not be as sensitive to the stigma of grade retention as older children and some educators recommend holding back low achievers in the earliest elementary grades. Another recommendation is to make retention decisions at key transition points over 12 grades of schooling, including: 1) between

elementary and middle grades and 2) between middle grades and high school while providing special intensive, high quality programs for the students who are retained.

Impact of Tracking

Tracking is used to accommodate instruction and curriculum to the diverse needs, interests and abilities of students. The underlying rationale of tracking theory is that students will learn best when instructional content and practice are well-matched to individual knowledge and abilities. With students so divided into homogeneous learning groups, teachers can offer instruction and curriculum at a level that the student can handle, thereby maximizing motivation and learning (McPartland & Slavin, 1990).

Braddock (1990) notes that schools often address the issue of students' academic diversity by separating them into different classrooms on the basis of their previous grades, tests, or teacher evaluations. The researcher further states that this practice, in some form, is almost universal in American high schools, and it is increasingly prominent in the Nation's elementary and middle schools.

At the elementary level, students are often grouped within a heterogeneous class through the formulation of smaller subgroups for instruction, such as reading "ability groups" which are common in elementary classrooms. On the middle and high school level, homogeneous groups are typically formed between classes with assignments made according to recent test performance or grades on report cards. High school students are often assigned to differentiated curriculum programs, including academic/college preparatory, general, and vocational and may be assigned to separate classes within these programs based on further assessments of differences in needs and abilities (McPartland & Slavin, 1990).

One of the greatest stigmas resulting from lower track classes is the informal classroom climate. A general feeling that students are not capable learners and are unable to master the same kinds of skills demanded of other classes results in negative instructional consequences including: a less challenging curriculum, fewer curriculum units, slower instructional pace, fewer demands for higher order skills, and a less serious attitude toward tests and homework requirements (Oakes, 1985; Mitchell, 1989; McPartland & Slavin, 1990).

The literature indicates that tracking produces unequal educational opportunities by distributing formal and informal educational resources unevenly among students. Therefore, separately tracked classes receive unequal shares of key formal/informal aspects of a good learning environment (McPartland & Slavin, 1990).

Tracking can have long-term deleterious and cumulative effects on students who are labelled as low or middle-ability students. A study by the Virginia Department of Education entitled, "*A Study of Tracking and Ability Grouping in Virginia Secondary Schools*" indicates that " . . . during the whole of the educational experience, tracking affected both what students learned and in what future programs they were eligible and/or qualified to participate" (p. 6). It actually widens the achievement gap between students in the top and bottom levels (Goodlad, 1983).

This is a sad commentary given the fact that the least experienced teachers are frequently assigned to lower classroom tracks which enroll the weakest students who present the greatest challenge to teachers. Further, the report notes that once placed in a low-ability track, students have

difficulty switching to high-ability tracks because low-level courses do not teach the prerequisite concepts and skills essential for successful achievement in advanced academic programs. Tracking produces slower and slower learning rates for those at the bottom while reducing prospects of their receiving improved track assignments. The study also summarized research literature which indicates the disparity in the quality of instruction between course levels and factors which influence the quality of instruction in low-ability grouped classes including:

- the amount of material taught in low ability class (Oakes, 1985);
- the amount of time low ability grouped students are engaged in learning compared to the amount of time they are off task (Evertson, 1982);
- the lower level of expectation for the low ability students (George, 1988); and,
- the qualifications of the teacher in terms of effectiveness, certification to teach the course, and ability to manage students (George, 1988).

The 1991 report of the Governor's Commission on Educational Opportunity for All Virginians found that, in a sample of 26 Virginia public school divisions surveyed, 54 percent tracked middle school students and 95 percent tracked high school students. The report noted that while research indicates that separate instruction for high achievers results in enhanced learning for those students, there is also strong evidence that ability grouping of low and middle-ability students retards academic progress and lowers self-esteem because it: "1) places children in a caste system, frequently as early as kindergarten; 2) can create low expectations for those students in the lower tracks; and 3) can result in unintentional segregation and stereotyping of students" (p. 48).

The practice of tracking and ability groups also has a negative impact on the pool of minorities prepared to enter college. According to the Virginia Department of Education study ". . . Black students and low socioeconomic status students were unable to achieve the level of preparation necessary to attempt the challenging advanced academic courses (required for college admission). Opportunities to enroll in the advanced academic courses were limited. All students need access to other prerequisite courses and/or the advanced academic mathematics and science courses. The limited number of offerings in advanced academic courses, particularly in rural divisions of the state, specifically reduces the possibility of a larger number of students acquiring the skills and abilities taught in those courses" (p. ii).

Katie Haycock, head of a new project at the American Association for Higher Education designed to draw academic leaders more substantially into school reform activities succinctly states, "In general, we herd poor and minority youngsters into low-track classes, assign them our worst teachers, and then expect essentially nothing from them" (The Chronicle of Higher Education, p. A5).

Impact of Special Education Placements

Special education programs, in contrast to retention and tracking practices, usually provide more resources for the students they serve. These programs offer a broad range of services which range from special schools to special classes within schools, as well as a number of part-time arrangements. Special education classes frequently offer small-group instruction by teachers who are trained and licensed for special education. However, in the past 15 years, schools have frequently used special education labels to secure additional resources for low-achieving students with no other major handicapping conditions. As a result, the number of children classified as learning disabled for placement in special education programs has doubled, even though the numbers of students classified as physically disabled or mentally retarded have not substantially changed (McPartland & Slavin,

1992). In fact, the literature on learning disabled students indicates that these students ". . . are usually the lowest of low achievers, with no other distinctive characteristics (Deshler et al., 1982).

The learning disabilities label and the high cost of special education services when used to address low achievement of at-risk students can be a serious problem. Funding for the additional educational resources for low-achieving students who are not enrolled in special education classes may decrease due to the high costs of individual assessment and because local matching funds for special education participants must be deducted from district money that would typically be available for other uses (McPartland & Slavin, 1990). Of critical importance is the fact that research fails to document any significant improvements in learning outcomes of the students who receive special education services through the learning disabled designation (Leinhardt & Pallas, 1982; Madden & Slavin, 1983).

Further, individuals designated for special education usually remain in these programs throughout their school tenure which limits their educational and occupational opportunities. Special education placement in response to low achievement has major impact on how educational resources are allocated to meet the diverse needs of students in a school district (McPartland & Slavin, 1990).

Another related issue of critical importance is the fact that Blacks are disproportionately placed in special education classes. Black males are more likely to be diagnosed as mentally retarded or emotionally disturbed and are more likely to be placed in classes for such individuals than Whites with identical diagnoses. Therefore, despite being in the minority, Black and Hispanic males constitute the largest percentage of those in special education classes (Gary 1981). The fact is that Black students, particularly Black males, even when they attend school with Whites, are three times as likely to be assigned to a class for educable mentally retarded as their White counterparts. Further, Black students are only half as likely to be in a class for the gifted and talented (College Board, 1985; Carnegie Quarterly, 1985).

Because of the conspicuousness of such disproportionate placement, courts in a number of jurisdictions have ruled that such placements are racially discriminatory and have ordered the discontinuance of standardized assessment procedures used to make these placements (*Larry P. v. Wilson Riles*, California, 1980).

Course Availability and Socioeconomic Status

While retention in grade and special education designations have a negative impact on increasing achievement of students at risk, tracking and ability grouping also further exacerbate the problem because of the impact on enrollment in courses which are critical for college preparation.

There is a direct correlation between student exposure to a subject and the level of achievement in that subject. A number of factors (including tracking) affect this exposure including: a) the extent and kinds of courses offered in the program; 2) content and rigor of courses and the extent to which students take advantage of the available opportunities (NAEP, 1990). For example, three basic levels of math and science courses are offered in the secondary schools: applied/general, academic, and advanced academic. These three levels differ on the basis of content and result in a continuum of offerings with varying complexity in the presentation of material.

A student enrolled in an applied/general course is exposed to general information which will not prepare him or her for higher level courses. Students have the option of discontinuing their

mathematics and science study after completion of minimum requirements, and may continue to enroll in applied/general courses, or enroll in other math or science courses. However, the content of the applied/general courses does not meet the prerequisite for academic and advanced courses (typically required for college admission) (Department of Education, Tracking, 1990, p. 9).

Oakes (1990) reported that lower socioeconomic status schools and predominately Black schools grouped students in average and low-ability courses in which student did not receive the preparation nor did they enroll in the prerequisite courses, particularly in science and mathematics, for advanced academic work. The researcher also noted that, in comparison, higher socioeconomic status schools tended to offer only courses for average, above average, and high-ability students offering opportunities for students to complete prerequisites that enabled them to take advanced science and mathematic courses and become better prepared.

This contrast between high and low socioeconomic status schools seems to be applicable to Virginia. The Department of Education Tracking Study (1990) notes that" . . . students enrolled in advanced academic mathematics courses vary with respect to the percentage of students on full or reduced lunch, an indication of low socioeconomic status students. School divisions with a high percentage of low socioeconomic status students had low enrollments in advanced academic courses. This finding has implication for low socioeconomic status students' enrollment in college" (p. 47).

INCREASING ACHIEVEMENT OF AT-RISK STUDENTS AT THE ELEMENTARY, MIDDLE AND HIGH SCHOOL LEVELS

A review of the literature on increasing academic achievement of at-risk children indicates that there is no single definitive approach. Children may be at risk of failure in school for a variety of reasons (e.g., poor grades, retention in grade, low self-esteem, discipline problems, poor attendance, drug abuse, low socioeconomic status, and attendance in schools with large numbers of poor children) at varying periods in their lives. The information which follows is a summary of research reviews on varying approaches to increase academic achievement of at-risk children.

The amount of knowledge and information on effective practices for increasing achievement of at-risk students is not equal. Significantly more research has been done at the elementary level than the middle and high school levels. In view of the fact that there is a paucity of research on effective programs and practices at the higher grades, the information presented for these grades is mainly prescriptive. Further research is needed to broaden the knowledge base and to facilitate systematic evaluation of existing programs and practices.

This section of the report draws heavily from a paper by McPartland and Slavin (1990) entitled "*Increasing Achievement of At-Risk Students at Each Grade Level,*" published by the Office of Educational Research and Improvement. This paper serves as the main focus of this section because it is a comprehensive review of available research-based practices and programs. Further, in areas where there is a paucity of research, the authors highlight existing and proposed strategies to increase academic achievement of at-risk children.

Increasing Achievement of At-Risk Students in Elementary School

In an article by Slavin and Madden (1989) entitled "*What Works for Students At Risk: A Research Synthesis,* the authors provide a comprehensive review of effective instructional practices.

They note that "one of the most frequently used strategies to deal with at risk students is also the least effective: flunking them" (p. 4). Approximately 20 percent of students in each of the elementary grades in many urban school districts are retained. Further, in a number of districts, the majority of students have been retained at least once by the end of elementary school (Gottfredson, 1988).

Another widely used, but highly criticized strategy is the traditional diagnostic/prescriptive pullout program. It continues to be the most widely used mode of service delivered under Chapter 1 (Birman, et al., 1987). Pullout programs have been criticized based on the fact that they provide instruction which is poorly integrated with the students' regular classroom instruction, disrupt regular classroom instruction, and label students (Cohen et al., 1978; Johnson, et al., 1985). Increased awareness of the disadvantages of pullouts has led to increasing use of in-class models in which Special Education or Chapter 1 aides work right in the regular classroom. Such in-class models are no more effective than pullouts (Achambault, 1989; Madden & Slaven, 1989).

Prevention

Slavin and Madden (1989) note that the learning deficits easiest to remediate are those that never occur in the first place. Given the limited capacity of Chapter One's special education programs to bring students up to an adequate level of academic performance, there has been increasing interest in the program and strategies to give intensive services in the early grades so that the need for remedial services later on will be reduced or eliminated. Prevention programs are typically focused on the preschool, kindergarten and first grade.

Preschool. Provisions of preschool education for four-year olds, particularly disadvantaged students, is one of the most widely discussed preventive strategies. The concept that high quality preschool programs could give disadvantaged students a leg up in their education was an important part of Lyndon Johnson's War on Poverty in the 1960's which led to the Head Start Program and other preschool initiatives. Research indicates strong effects on the language and IQ scores of disadvantaged children immediately after the preschool experience but these effects diminish each subsequent year until, by the second and third grade, they are undetectable (Karweit, 1989; McKey et al., 1985). However, the students involved in many of the early studies of preschool are now in their early twenties and longitudinal data indicate positive effects of preschool participation on such outcomes as graduation from high school and low rates of delinquency (Berrueta-Clement et al., 1984).

Long term effects of preschool attrition are difficult to evaluate in that no achievement effects are detected for many years before graduation or dropout would occur. However, more compelling short-term evidence indicates effects on both achievement and referrals to special education in the early grades. Preschool may be viewed as a means of getting students off to a good start in school, rather than as a program (Slavin & Madden, 1989).

Kindergarten. Kindergarten attendance is nearly so universal that it is no longer of particular interest. Concern in this area has shifted to two issues: 1) full day versus half-day programs, and 2) special kindergarten curriculums and programs (Slavin & Madden, 1989).

Karweit (1989), in a review of the literature, found that the effects of full-day kindergarten versus half-day programs are very similar to the effects of preschool. Full-day programs have positive effects on the first grade readiness or performance, but these effects generally disappear by the

second or third grade. Similar to preschool, full-day kindergarten may start students off with good language skills and promote school readiness; however, it is not a sufficient intervention alone (McPartland & Slavin, 1990).

McPartland and Slavin (1990) found 20 effective kindergarten programs--primarily directed at developing reading of mathematics readiness--that had been successfully compared with control groups. These programs include Alphaphonics, Astra Math, MECCA (Make Every Child Capable of Achieving), Right to Read, Early Prevention of School Failure, among others.

First Grade. A number of effective instructional programs build on the proposition that success in first grade, particularly reading, is essential for later success in school. Such programs utilize intensive resources, usually tutors and/or other additional staff to ensure that every child succeeds in beginning reading. First grade prevention programs are based on the argument that success in reading is the basis for school success, not enrollment in preschool or kindergarten (McPartland & Slavin, 1990).

The most effective way to reduce the number of children who will ultimately need remedial services is to provide the most appropriate classroom instruction in the beginning. Therefore, an important strategy to serve at-risk students, introducing instructional methods with proven capacities to accelerate achievement, is essential. Slavin and Madden (1989) found that in a search for evidence of effectiveness, nearly all programs fell into two categories: continuous progress models and certain forms of cooperative learning.

In continuous progress programs, students proceed at their own pace through a sequence of well-defined instructional objectives. Students are taught in small groups composed of children with similar skill levels but may come from different homerooms or grades. As an example, a teacher may present a unit to third, fourth and fifth graders who have all arrived at the same point in the skills sequence. Based on assessment, students are frequently assessed and then regrouped based on their assessments. Examples of continuous progress programs include the highly structured Distar Program, the Utah System Approach to Individualized Learning (U-Sail) and Continuing Progress Reading Program: Personalized Education Growth and Selective Utilization of Staff--Personalized Approach to Continuous Education (PEGASUS-PACE) which use flexible groupings and skill hierarchies but adapt them to existing curriculum and teaching strategies.

Cooperative learning allows students to work in small teams to master the material taught. The teams are rewarded for group achievement based on the individual learning of all team members. According to Slavin (1989), cooperative learning can be effective in increasing students' achievement in comparison to the traditionally taught control groups. Team Accelerated Learning (TAL) and Cooperative Integrated Reading and Composition (CIRC) have been found to be effective programs, in which students work in mixed-ability groups, but are taught in small groups performing at the same level (McPartland & Slavin, 1990).

Remedial Tutoring Programs that are most effective involve one-to-one tutoring. These programs use older students, volunteers, or both. Such programs include Training for Turnabout Volunteers, the School Volunteer Development Project, and Success Controlled Optimal Reading Experience (SCORE).

Computer-Assisted Instruction has not been shown to have positive effects on achievement. However, a few models exist that have been found to be effective, one of which is the Computer Curriculum Corporation's (CCC) drill and practice programs in which students spend ten minutes per day, in addition to regular class time, using CCC programs. Two examples include the Title I Mathematics Laboratory and the Merrimack Education Center CAI programs.

Several features characterize effective programs for at-risk students including:

1. Comprehensive approaches to instruction that include detailed teacher's manuals and usually include curriculum materials, lesson guides, and other supportive materials. These approaches are systematic, carefully constructed, complete alternatives to traditional methods;
2. Effective preventive and remedial programs use either one-to-one tutoring (by teachers, paraprofessionals, volunteers, or other students) or individually adapted computer-assisted instruction; and
3. All instructional programs deemed effective for at-risk youngsters frequently assess their programs and modify grouping instructional content to meet individual needs (McPartland and Slavin, 1990).

Increasing Achievement of At-Risk Students in Middle School and High School

According to McPartland and Slavin (1990) the knowledge base relative to effective programs for disadvantaged students on the middle and high school levels is severely lacking. Much of the research on effective programs for disadvantaged students has been conducted with children in grades pre-K through six; therefore, no comparable scientific basis exists for the recommendation of programs for at risk students on the middle and high school levels. The researchers note that in the upper grades, there is a mix of disparate programs that have "been proposed but seldom implemented, or have been implemented but seldom evaluated, or have been completely evaluated" (p. 15).

Intervention and Content in Remedial Reading. Applebee, Langer and Mullis (1989) note that no proven approaches exist for middle and high school students who cannot read above the third or fourth grade level. Further, a 1988 NAEP study reports that remedial reading takes place on a regular basis in middle and high schools. Remedial activities may have increased because of state mandated competency exams in reading as a requirement for high school graduation. It is not known whether these endeavors differ much from the strategies used in elementary grades with poor or beginning readers since few programs aimed at readers in this age cohort are evaluated to determine effectiveness. Remedial programs may consist of using children's stories from elementary grade basal readers in cohort with drill and practice exercises which were not effective in earlier grades. Individuals who are responsible for providing effective reading instruction to at risk students in middle and high school need information on instructional strategies and practices along with the kind of high quality content of interest to older students (McPartland and Slavin, 1990).

Dropout Prevention Programs. A requisite first step to improving academic achievements of middle and high school students is getting them to remain in school. Dropout prevention programs exist in almost all large school districts; however, the absence of useful program evaluations is a problem. A 1988 study (by Natriello, Pallos, McDill, McPartland & Royster) of high school dropout prevention practices and approaches identifies four categories that programs need to address, including:

1. Student success in school. Dropout prevention programs aimed at improving chances for success in school usually provide extra instructional assistance in required course areas. Additional instruction, including make-up classes to recover course credits, or remedial classes that may or may not provide credits toward graduation, may also be offered during the summer.

2. Positive relations in school. In an effort to provide an ethos of caring in schools, middle and high schools are implementing initiatives to create conditions for a more personal and supportive human environment, including dividing large schools into smaller functioning units, assigning students to a single adult as their main point of contact and guidance in school, limiting the number of different teachers for at-risk students, pairing students with older students in the same school to ease transition between grade levels, and keeping instructional teams of teachers with the same groups of students for two or more years. In some districts, alternative schools are also available for students experiencing the greatest difficulty in coping with the demands of a large secondary school.

3. Relevance of school. A number of approaches have been attempted to strengthen connections between school success and the student's own life and career. These include incentives and programs which seek to link school courses directly with the world of work by improving work study and vocational-technical course offerings or by incorporating real world applications to required courses. Two examples include the Boston Compact (which links good school attendance or schoolwork to job or college opportunities); and the I Have A Dream Foundation (which guarantees payment of college expenses for students who meet the standards).

4. Outside interferences. For many students, personal problems are such serious distractions from schooling that the problems must be reduced before school achievement can be improved. Schools may attempt to assist with such problems either directly or through coordinated referrals to other relevant agencies.

Tracking and Curriculum

A number of recent reports on restructuring schools recommend modifications in tracking. At the same time, a number of programs aimed at alternatives to tracking are in the infant stages of research and development. Such programs seek to: 1) limit tracking in ways that will alleviate its negative effects on at-risk students, and 2) continue to vary instructional practice and curriculum to address diversity in achievement (McPartland & Slavin, 1990).

McPartland & Slavin (1990) indicate that research reviews on tracking and curriculum (Gamoran & Berends, 1987; Oakes, 1989; Braddock, 1990) in addition to information from schools and school districts that are struggling with the issue, suggest the following alternatives:

1. Postpone between-class homogeneous grouping until as late in the grade span as possible. On the elementary level, within class methods of adapting instruction to student diversity and cross-age regrouping approaches which emphasize direct instruction should be utilized.

2. Limit tracking in later grades to those academic subjects where differences in the students' prior preparation are detrimental to the entire class. Research indicates that between-class grouping plans in the later elementary grades are most beneficial when students remain in heterogeneous classes most of the day and are regrouped for specific subjects based on their current

skills. On the middle and high school levels, a similar approach to limiting use of tracking is recommended.

3. Improve placement criteria and resource allocations when utilizing tracking. Tracking in basic courses is logical only if students are helped to learn better by a stronger learning environment closely matched to current needs. Criteria for students in course assignments should be differentiated (so students may have advanced math but lower-level English based on skill level) and this practice should not be unusual.

4. Experiment with new ways to place students in tracked courses that offer students in upper grades greater involvement and incentive for taking challenging courses. Track-level placement in selected courses might be open to some student choices with extra incentives (i.e. grading options such as pass-fail or extra credit) provided to those who select more demanding courses.

5. Maintain separate offerings for gifted students, limited English proficient students, and Special Education students. Such separate offerings are themselves a version of general curriculum tracking and these offerings should be clearly defined and restricted to meeting the needs of exceptional children.

The recommendations for limitations on tracked classes outlined above would yield schools where most students have heterogenous classes for most of their program. Therefore, it is also critical that untracked classes work better for all students. McPartland and Slavin (1990) note that research indicates that this goal can be accomplished by using the following strategies:

1. On a regular basis, provide sources of extra help to any student experiencing difficulty in a nontracked class. For example, coaching classes and peer tutoring could be provided within the regular schedule to prevent course failure by students having difficulty early in class.

2. Equip teaching staffs with a variety of within-class methods to address student diversity in nontracked classes. For example, cooperative learning techniques that use student teams for learning tasks are useful for actively involving all students from a heterogeneous class in learning activities to enhance achievement (Newmann & Thompson, 1987; Cohen, 1986). Staff development should be provided for teachers to enable them to provide enrichment projects for advanced students and remedial activities for slow students in each subject matter area.

3. Expand opportunities for all students to earn good grades in the nontracked classes. Credit should be permitted to reward progress irrespective of a student's starting point and schools should offer multiple methods for students to demonstrate competence in a subject area.

4. Implement innovative secondary school scheduling and student evaluation policies (such as continuous progress programs in which students can complete course units at different rates) in order to adapt heterogeneous class grouping to individual student differences (Carnegie Task Force, 1989; Boyer, 1983).

Despite research evidence and school reform pressures, both system-wide and school site efforts to reform tracking are rare. Current efforts, however limited, indicate that it is possible to address student diversity in innovative and effective alternative ways and have potential to greatly improve achievement and life chances of at-risk students in middle and high schools (McPartland & Slavin, 1990).

Minorities and the Sciences

Current Status of the Problem

Academic underpreparedness as a result of tracking (or other school organization issues) not only has a negative impact on preparation for college but results in limited access to a number of challenging careers, particularly in the sciences.

Shom and Spooner (1990) state that the generally low level of minority educational attainment is the single greatest barrier to complete minority integration into our Nation's economic and social fabric. American higher education has an enormous responsibility for the economic, social, and personal fulfillment of United States citizens as any of the nation's major institutions. ". . . in a democratic society, the development of talent and skills in our citizens both as a means to facilitate their social and economic advancement and as a mechanism for developing and utilizing our nation's resources is a basic principle of our education enterprise, from kindergarten through graduate school" (p. 222). The authors argue that the issue is not whether colleges have a responsibility to enhance the lives of the country's minority citizens but rather how institutions of higher education should equitably and comprehensively fulfill this responsibility.

In the 1990's, the challenge is to provide higher educational access for minorities while at the same time ensuring some reasonable change for academic success. Shom and Spooner (1990) note that we are moving from a period when denial of minority opportunity was the central problem to an era in which the key issue is assuring that minorities are able to take advantage of increased opportunities available to them.

According to the Virginia Education Department report (1992), A Study of Participation and Achievement of Black, Hispanic and Female Students in Mathematics, Science and Advanced Technologies in Virginia's Secondary Schools, tracking, low expectations and mind-numbing repetitions account for much of American students' lackluster performance in mathematics and science. In its latest report based on a long-term study of more than 22,000 eighth graders, the U.S. Office of Educational Research and Improvement (OERI) notes that low-income, minority students have fewer experienced teachers and fewer chances than Whites to take tough courses. Eve Bither, Math and Science Coordinator for the OERI, said "the report confirms that students in remedial math classes or the basic classes are given less work and achieve less. This report also shows the perniciousness of tracking" (Report on Educational Research, p. 1).

In a study of high school student enrollment in mathematics and science courses, Czujko and Bernstein (Cited in Virginia Department of Education, Participation in Science, 1990) reported that:

1. Mastery of basic skills and enrollment in an academic track will likely result in students taking physics and chemistry and aspiring to graduate from a four-year college. High school seniors who take physics have the highest achievement test scores in mathematics, reading, and vocabulary and are more likely to be involved in extra-curricular activities.

2. Sixty percent of high school seniors have taken neither physics nor chemistry, and "dramatic" attrition occurs very early in the mathematics course sequence for this group.

3. Almost 60 percent of the students who take high school chemistry, but not physics, are female and fewer than one third of women in high school chemistry classes take physics while over half of the men take physics classes.

4. Students who plan to major in engineering or the physical sciences in college are predominantly male and most likely to have completed physics in high school.

5. Students aspiring toward an education major in college are the least likely of any surveyed major to have taken a high school physics or chemistry course while students who aspire toward a major in health sciences or social science are predominantly female and more likely to have taken a chemistry but not a physics course.

Czujko and Bernstein (1989) also report the disparities in racial and ethnic background with regard to achievement in the sciences:

1. Among students with poor reading skills, Blacks and Hispanics are more likely than Asians or Whites to have difficulty with mathematics; and among students with strong reading skills, Asians and White are more likely than Blacks or Hispanics to have strong mathematical skills.

2. Eighty-four percent of Black students and 78 percent Hispanic students score lower on mathematics achievement tests than average White students; among students with high mathematics achievement test scores, Black students are more likely than students from any other racial group to take both chemistry and physics.

3. Although Black students have high postsecondary school aspirations, proportionally few are enrolled in college preparatory programs.

4. Among seniors with above average test scores of mathematic achievement, Hispanics are the least likely to be enrolled in a college preparatory program.

The study further reports a gender gap in mathematics and sciences as it was noted that females score lower on mathematics achievement tests; males are more likely to take higher level mathematics courses.

The 1989 report by the Task Force on Women, Minorities and Handicapped in Science and Technology, "Changing America: The New Face of Science and Engineering," illustrates the disproportionate representation of minorities in the sciences. This study reports that in the United States, in 1989, Blacks comprised only 2 percent of all employed scientists and engineers while they represented 12 percent of the general population. During that same year, Blacks earned 5 percent of the bachelors degrees and one percent of the Ph.D. degrees in science and engineering. In 1988, only 47 Blacks earned doctorates in science and only 15 earned engineering degrees (Virginia Department of Education, Participation in Science, 1990).

The lack of participation in the sciences by the Hispanic population creates additional cause for alarm. In 1989, Hispanics represented 9 percent of the United States population, but only 2 percent of Hispanics are scientists and engineers. Hispanics hold three percent of the baccalaureate degrees and two percent of all Ph.D. degrees in science and engineering.

Since the early 1970's, there has been an accellerated effort to increase the number of minorities entering engineering and related science fields. Interest in increasing the numbers of minorities in the sciences has been historically driven by two factors: 1) pressure for an increase in minority professionals as a result of federal government demands for Affirmative Action employment for federal contracts; and 2) a basic concern for equal opportunity and the belief that attaining higher education affords broader career opportunities. Another related issue of importance is the potential for greatest impact in the preparation of professionals for science related fields exists at the secondary school level. A strong grounding in mathematics and physical sciences affords students aspiring toward science careers the preparation which makes them eligible to enroll in collegiate level technical studies. Further, the size of the minority pool who graduate and seek employment is actually determined eight or more years earlier by secondary school decisions to enroll in basic math and science courses. In essence, most students must make critical decisions about curriculum selection at a period in their lives in which they have little realization about the eventual consequences (Virginia Department of Education, Participation in Science, 1990).

MESA Program: A Pre-collegiate Program to Increase the Numbers of Minorities in the Sciences

Of critical importance to increasing the numbers of minorities in the sciences is the need for role models. With the paucity of minority engineers, for example, the possibility of ninth and tenth grade students becoming aware of career opportunities in engineering from their families--a traditional source of role models--is slim at best. Further, high school counselors may expose students to career possibilities beyond those that students are already aware, yet demanding workloads and the fact that counselors can hardly be expected to have extensive knowledge of all career fields and related academic requirements create even greater challenges.

In response to escalating dropout rates among high school students and indications that America's emerging workforce will be predominantly minority and disadvantaged, the MESA (Mathematical Engineering Science Achievement) Partners Program, was developed in the state of Colorado to encourage minority students from as early as seventh grade to remain and succeed in school. Further, the program is designed to prepare, motivate and provide students with the support system to ensure persistence in a college curriculum and the attainment of a bachelors degree. The program is a collaborative partnership between the Colorado Community College and Occupational Education System (CCCOES), the Denver Public Schools, and the Colorado Minority Engineers Association. Through this program, minority high school students who desire to begin their postsecondary education at a Denver metro-area state community college, are mentored and counseled. It should be noted that the MESA Partnership program is not just a science-oriented track. The program emphasizes that strong high school preparation is appropriate for all careers and that math and science are good for many non-science careers.

Key components of the MESA program include the following:

1. High School Curricula Counseling. MESA Partners advisors should review the individual student's curriculum program to ensure that the selected courses will provide him or her the required four years of college preparatory math, English and science. Advisors also encourage students to maintain a high level of academic performance ("B" grades or a 3.0 on a 4.0 scale) in order to enhance the possibility of college admission, to increase selectivity of colleges, and to compete for scholarships.

2. College and Career Counseling. In addition to the counseling provided by the schools, MESA Partners advisors provide special counseling related to college entrance preparation and guidance in career selection. MESA advisors meet with students on an individual basis to provide support and guidance for individual needs and goals and meet with students, parent(s)/guardian(s) on a formal basis at least twice per year for a group discussion with local college counselors and college admissions officers.

3. Academic Tutorials: In view of the fact that many minority students have not had the necessary academic background and curriculum experiences to be successful in advanced mathematics and science courses, MESA Partners advisors develop weekly tutorials to help students master the requisite math, science and English skills.

4. Field Trips. To provide actual contact with minority role models in engineering, mathematics and science related occupations in their work environment, field trips to research centers, universities, and engineering firms are offered.

5. Incentive Scholarship Awards. Each semester, incentive scholarship awards are credited to 11th and 12th grade students who earn a "C" average or better in college-preparatory mathematics, physical science, and English courses and fulfill other MESA Partners program requirements.

6. Summer Enrichment and Training Opportunities. MESA Partners advisors contact local business and industry to conduct a job fair with local youth employment agencies. MESA Partners advisors ensure that students have a resume and are counseled on job interview techniques. This program component provides opportunities for further development of career option awareness as well as financial assistance for students. In addition, when possible, a special summer course should be provided by industry, volunteers, or universities to provide additional enrichment to MESA Partners students.

Early Intervention and the Role of the Community in Reducing the Dropout Rate

Dropout Rates

The national dropout rate averages 25%. According to Sklarz (1989), if the trend continues "at this rate, only half the kindergarten class of 1988 will graduate from high school in the class of 2001" (p. 1). In a recent study by Frymier and Gansneder (1989) of 22,018 students in grades four, seven, and ten, the authors summarized data about the numbers of at-risk students. The findings revealed that nearly one-third of the students were seriously at risk. Because of the nature of the data collection, the researchers believe this is a conservative figure and that the number of students at risk is even larger.

Research indicates that the dropout problem is exacerbated if the students are also minority, poor or urban. Hahn (1987) reports that disadvantaged students are three times more likely to drop out than advantaged students. The school-leaving rates tend to increase with the proportion of the student body classified as poor. In schools where less than 20% of the students were classified as poor, the dropout rate was 13%; in schools where more than 50% of the students were classified as poor, the rate rose to 30%. Dropout rates were highest in schools where there were large numbers of minority, low-income students. Further, large cities which typically have large numbers of minority students also have exceedingly high dropout rates. The researchers also noted that cities such as

Boston, Chicago, Detroit, and Los Angeles have dropout rates ranging from 40% to 60%. As the minority school age population is increasing, these figures are of particular cause for alarm given the fact that minority populations have always had higher dropout rates than whites (Rumberger, 1987). Dropout prevention programs for at-risk, urban minority students must be a high priority for educators. It is also important for such programs to begin during the middle school years because the preadolescent years are a crucial time for shaping students' lives and values. These programs should explore various means of assuring that middle school students have positive educational experiences which will enable them to attain success, advance to high school, and complete their education. Improving the preparation of at-risk middle school students who demonstrate potential is critical to the fulfillment of our national promise of equity and access to higher education. Academic success at the middle school level frequently determines readiness for a college preparatory track in high school (College Board, 1983).

Importance of Home, School and Community

Large numbers of minority parents have not attended college and find it difficult to provide their children with accurate information, or specific academic support in preparing for college. Thus, large numbers of minority youth are left to their own devices in aspiring to, or preparing for, postsecondary educational experiences. Minority students experience several sorts of dilemmas in their transition to higher education because of this lack of parental academic mentoring.

As earlier stated, since 1983, beginning with the release of *A Nation At Risk*, schools and communities have devoted increasing attention to issues related to "at-risk" students. Reform efforts have focused on raising standards for teachers (e.g. more than 44 states require teachers to pass a competency exam) and for students, reform efforts have translated into greater requirements for graduation from high school.

Compton and Baizerman (1991) suggest that some educators have expressed concern that this elevation of standards will have an adverse impact on the at-risk student who may already be struggling to perform scholastically. Recent studies project that the nation's demographics are rapidly changing and there is a need to expand the number and proportion of services.

Compton and Baizerman (1991) postulate that limited educational perspective regarding at-risk children commonly misses the obvious. At-risk students are children and youth who are vulnerable to a variety of poor life-outcomes and it is the school which identifies them as manifesting problems and having increased potential to perform poorly, miss classes and eventually drop out. Students whose educational risk status is arbitrarily assigned by the school on the basis of a student's classroom performance and attendance, socioeconomic status, racial/ethnic background, and neighborhood residence comes close to "blaming the victim." This designation of at-risk status simply reflects the probability that a particular youth will do poorly because he or she is a member of the youth population who have shown over the years that they do a relatively poor job in school as compared with students of other socioeconomic classes or backgrounds (Ryan, 1971).

More emphasis should be placed on everyday life circumstances that inadequately prepare children for maximizing existing academic and social opportunities--ranging from improving socioeconomic status to strengthening the family. Individual development is related to family, group and community, and the interactions among these institutions (Friedman, et al., 1987).

Early preventive intervention is particularly logical for the schools. The community and the families within it will continue to produce children considered to be at risk because of their personal or subcultural styles and failure to meet the expectations of the school.

Policy and program approaches provide two ways of responding to these problems: 1) changes in state and local level policies, and 2) the implementation of programs that engage the community and the school in collaborative efforts. Compton and Baizerman (1991) suggest that state policies should be formulated to encourage local schools to initiate or participate in programs that reverse everyday practices of family and community living which limit children's life chances as follows:

1. In areas where there are literally no human services, the school should take the lead in working with community leaders to create new kinds of preventive and habilitative care.
2. In areas where there are adequate services, schools should get more involved and educators must be persuaded to move out of the buildings into the larger community.

School policies should support alternative learning arrangements as follows:

1. Changes in curriculum, classroom and school design;
2. Smaller class sizes, experiential learning, including curriculum that is used to enhance critical thinking;
3. Options, including night school, furloughs for students who leave school for a year to work and then return;
4. Use of non-formal youth organizations (i.e. YWCA and YMCA, Boys & Girls Clubs, etc.) which play a viable role in a child's development;
5. Utilization by non-school workers of facilities for joint work with students; and
6. Community seminars can be developed to teach parents, business leaders and others about the current status of the local school and how they might contribute their talents for its improvement.

A Collaborative Model for Dropout Prevention

A stellar example of a school/community initiative is the Communities in Schools (CIS) program. The basic philosophy of the program is that services to in-school, at-risk youth can best be delivered by bringing professional social services staff and volunteers from business and the community directly to the school. The program intervenes in the lives of students at risk of dropping out of school and reconnects them with the people who can meet their needs for education, counseling and employment. A completing assumption of the CIS approach is that most human services necessary to help at-risk youth "are already in place--but in the wrong place" (p. 7). Troubled youth should not have to be responsible for seeking out the help they need--job counseling, health care, or drug rehabilitation--from a confusing collection of frequently disconnected agencies scattered throughout the community. CIS does an effective job of combining efforts of school officials, local government and volunteer organizations brought together in a partnership (Compton & Baizerman, 1991).

In the Austin, Texas Independent School District, CIS has been implemented in nine schools. There is one program manager and one-half to one full-time social worker. Also, there are 24 graduate interns in social work and over 400 volunteers participating in the program. The Austin school district supplies space and pays the utilities. Funding for the program is provided by the Job

Training Partnership Act and state, city and county government with additional support from business and industry (Compton & Baizerman, 1991).

The CIS program has been evaluated as effective as evidenced by the following:

* over 95 percent of the program participants remain in school;
* nearly 93 percent of those demonstrating behavioral problems, pre-delinquent and delinquent behaviors have stayed out of serious trouble;
* over 49 percent of those failing mathematics and 60 percent of those failing English prior to joining CIS have raised their grades to passing levels;
* school absenteeism has declined over 35 percent; and
* nearly 70 percent of participating students have been promoted to the next grade level or have graduated. (Compton & Baizerman, 1991)

Other Early Intervention, Pre-collegiate Programs and Relations with Elementary and Secondary Schools

It has become increasingly apparent to college level leaders that institutions of higher education must intervene in the lives of minority youth prior to high school education. Many of these early intervention efforts come under the rubric of "precollegiate programs." Although precollegiate programs have existed for some time, it has only been in the past several years that a large number of the nation's colleges have begun to realize the powerful potential these programs have in the enhancement of academic preparation and educational motivation.

Upward Bound was initiated by the federal government as a part of the Trio programs of the Economic Opportunity Act of 1964. Upward Bound was designed to assist high school students from disadvantaged backgrounds. Since 1964, the program has grown from an initial group of 18 centers on college campuses to 330 colleges in 1990. The program has proven to be effective as evidenced by a study commission on education implemented by the U.S. Department of Education which found that 91 percent of Upward Bound graduates entered postsecondary institutions and that these participants were more than twice as likely to enroll in a four-year college than were students in a control group (National Council of Educational Opportunity Association, 1988).

The University of California Early Outreach Program was initiated in 1975 at the University of California to attract and academically prepare junior high school minority youth for college. The program is designed to improve participants' basic study skills through the use of college students working as program assistants serving as role models, group leaders, and counselors. During the summer, the participants commute to a university campus to develop competence in writing, study and interpersonal skills. The results of the program have been encouraging. In 1985, 25 percent of the Hispanic participants achieved University of California eligibility as compared with 5 percent of other Hispanic students in the state (University of California-Berkley, 1981).

Crossen (1987) reports on a study entitled "*Organizational Influences on Baccalaureate Achievement by Minorities: Ten Case Studies,*" which indicates that pre-college programs and collaborative partnerships between colleges and universities have become a growing trend. These institutions recognize their ability to influence educational aspirations, motivation, and academic preparation of students during their high school as well as elementary school years. Institutions of higher education recognize that pre-college activity can be of particular benefit to educationally disadvantaged students. A number of pre-college efforts reach out to students to involve them in

mathematics or science projects in their early years, special counseling and tutorial projects to help motivate students to choose college preparatory classes, study skills workshops for parents and related activities. Other initiatives include linking college and high school faculty members in curriculum projects to improve the high school curriculum and make it more relevant to college level work. Administrators and faculty members believe that these efforts are paying rewards in community support, recruitment and retention and, as a result, devote extensive resources to these programs.

Part II of this report outlines a number of early intervention and pre-collegiate activities on the national and state level.

FINANCING COLLEGE FOR DISADVANTAGED STUDENTS

A Glance at the Issues

A number of researchers have written about the critical need to help low-income young people continue their education beyond high school. This issue is of critical importance, given the fact that there is a widening gap in the college-going rate based on income and race. Bernard Hindmarsh, Executive Director of the ACCESS Tidewater Scholarship Program notes that "If our community, and indeed the nation, is to continue to progress, it is essential to assist those who aspire to go to college but are unable to pay for it" (Access, Annual Report, 1990,-91, p. 2).

In spite of a burgeoning minority population, the number of Black students attending college has not kept pace in proportion to the population. When one poses the question, "Why?" Hauser and Anderson (1992) respond that the reason lies in a single word: money. The authors note that from 1975-76 to 1985-86, the percentage of all financial aid that was in the form of outright grants declined from 80 percent to 46 percent, while the percentage of financial aid in the form of loans increased from 17 percent to 50 percent. This change likely hurt Blacks' chances of going to college more than it did Whites" (p. 194). Further, Hauser and Anderson note that in the 1980 *High School and Beyond* survey, 63 percent of Black male seniors rated financial aid as "very important," while only 37 percent of White male seniors did. Bracey (1991) states that other studies have found that minorities are less likely than Whites to borrow money to cover the cost of college. It is believed that this reflects the history of greater financial uncertainty of many minority households in that a potential post-college debt of $10,000 would appear greater to Blacks, regardless of their family's current income, than for Whites.

The Census Bureau reports that the recession pushed more than two million Americans into poverty in 1991, and individuals' chances of being poor increased if the individual were Black or Hispanic. According to Daniel Weinberg, the Bureau's housing and household economics chief, education seems to have the biggest impact on later earnings, second to marriage and a working spouse (Richmond Times-Dispatch, September 4, 1992).

With the burgeoning numbers of families in poverty, minority families will have an increasingly difficult challenge in financing a college education.

Model Programs

Following is a summary of four programs which provide financial aid and related support to disadvantaged students aspiring to college. Two of the programs are based in Cleveland, Ohio and provide the framework for two similar programs in Virginia.

Cleveland Scholarship Program, Cleveland, Ohio

The Cleveland Scholarship Program (CSP) was designed to help Greater Cleveland students to enter and complete college and to help finance their postsecondary education.

The major program components include the following:

1. Advisory services. CSP advisors work in the guidance offices of local schools, collaborating with guidance counselors to identify and assist college-bound seniors. CSP pays testing fees, financial aid form (FAF) fees, and college deposits for low-income students.

2. Financial aid. In 1990-91, the CSP disbursed $346,952 to more than 700 students. Most of the students' families have limited resources (55 percent of which have annual incomes of less than $15,000), and CSP funds help to ease the expense of college.

3. Adjustment to college life. To help students make the transition to college life, CSP established the Campus Representative Program on seven campuses. These representatives provide support and encouragement to freshmen throughout their first year. This program component is funded by the Cleveland Foundation.

4. Academic performance. Scholastic success is the main objective of the students served by the CSP. While academic success can only be indirectly influenced by CSP, the program provides a pre-college meeting on "How to Survive - Or Not Survive--In College."

5. Rotary Bruening Scholarships. CSP helps administer these awards which are funded by a $500,000 grant to the Cleveland Rotary Foundation by the Eva L. and Joseph M. Bruening Foundation. Graduates of Cleveland public high schools are eligible for $1,000 grants, payable over two years.

6. College and career services. Community outreach is the hallmark of the College and Career Services. Through telephone consultation, group presentations and private counseling, CSP helped individuals and families outside of the school districts served by advisors.

Other specially funded programs offered by CSP include: 1) an early awareness project to reduce the dropout rate among eighth graders; 2) a non-traditional student program, supported by the Cleveland Foundation and the Jane D. White Fund, to help adults seek post-secondary education; 3) a corporate mentor program to provide encouragement for college students to persist to graduation. Mentors include attorneys, corporate managers and alumni of the CSP program who are currently active in various professions in Cleveland.

CSP administers scholarship funds, under contractual agreement, for several companies and organizations. Two major corporations for which CSP administers scholarships include the American

Greetings Company and TRW - a major diversified corporation with international headquarters in Greater Cleveland.

In operation for more than 20 years, the CSP Program offers a comprehensive support program, including financial aid as well as human resources, to disadvantaged students.

Scholarships-In-Escrow, Cleveland, Ohio

In the Cleveland, Ohio School System, half of the students entering seventh grade do not graduate and over 60 percent come from families on public assistance. The Scholarships-In-Escrow (SIE) program was designed to address the challenges of urban education by influencing academic performance and encouraging student preparation for and pursuit of higher education.

SIE is one of four operating partners of the Cleveland Initiative for Education. Other partners include School-to-Work (which offers job opportunities for non-college bound Cleveland Public School graduates), the Cleveland Education Partners (which fosters partnerships between local businesses and schools throughout the district), and the Cleveland Education Fund (which provides funding for special teaching projects in the Cleveland Public Schools).

The specific goals of the program are:

1. To increase the number of Cleveland public school graduates pursuing post-secondary education by using financial incentives and personal intervention.
2. To influence underachieving Cleveland public school students by using financial incentives and personal intervention programs to motivate them to stay in school and persist to graduation.
3. To open access for Cleveland public school students to a wider range of post-secondary institution options by forging linkages with a diverse network of public and private four-year colleges.

Through SIE, every student in grades seven through twelve can earn $40 for each 'A' grade, $20 for each 'B' grade and $10 for a 'C' grade in core academic subjects (English, math, social studies and foreign languages). A $10.00 bonus per grade can be earned by students enrolled in Major Work/Honors classes. The funds are held in escrow for use in post-secondary education when the student graduates from Cleveland public schools. SIE funds can be used only at Pell Grant or Ohio Instructional Grant-approved two and four-year colleges.

Having completed its fourth year of operation, the program is evaluated as successful as evidenced by the following:

1. Since SIE began in the 1987-88 school year, average SIE funds earned by 7th to 12th graders for good grades in core academic subjects are up 12 percent in 1990-91. The average number of 'A', 'B', and 'C' grades has increased nine percent over the same period.

2. As of August 1991, SIE had paid $469,300 in earned funds for 2,199 Cleveland public school graduates to pursue post-secondary education.

3. SIE is encouraging underachieving students to improve their grades and graduate. Of 1,524 target students, 98 percent were promoted to the next grade, compared with 77 percent for the entire district. Ninety-six percent of target seniors graduated.

With support of the Ohio General Assembly, SIE has 29 specially trained advocates who serve every comprehensive high school and middle school in the district and match individual student needs to a wide range of available community services.

SIE has also implemented a Mentoring Program that has matched 50 students to adult mentors from the business, academic and general communities.

In a statement of personal reaction to the program, Faith Bryant, an eleventh grade student at a Cleveland high school who is a participant in the SIE program notes "It is good to know that money is being put away for you . . . . I had always dreamed of being successful, but now I know I have a way to do it" (Time Magazine, 1992, p. 46).

Access: Tidewater Scholarship Foundation, Norfolk, Virginia

The Access program, modeled after the Cleveland Scholarship Program, is designed to assist high school seniors in getting into two-year or four-year colleges, and or technical/vocational schools. The Virginia program began with programs in five Norfolk public schools in 1988 and has since expanded to Portsmouth, Virginia.

The major program components include:

1. Instruction and assistance to seniors and their parents in understanding and completing federal, state, and institutional financial aid forms as well as applications for colleges and technical/vocational schools;

2. Provision of application fees, test fees, and housing deposits in cases where need is determined and waivers cannot be obtained; and

3. Provision of "last dollar" awards to students who lack adequate funds to cover their postsecondary educational costs.

The Access program offers the services of a Financial Aid Advisor in the high schools to provide individualized consultation to students and parents.

The program was initiated in academic year 1988-89, during which time Access advisors worked with 656 students. Records indicate that 509 students are enrolled in college with 307 of these students completely packaged, and 276 students able to meet their financial requirements without the necessity of an Access "last dollar" award.

The program is funded by ten corporate and individual donors.

Woodville Scholarships-In-Escrow Program: Greater Richmond Community Foundation, Richmond, Virginia

The Greater Richmond Community Foundation sponsors the Woodville Scholarships-In-Escrow Program which is similar to the Cleveland-based Scholarships-In-Escrow Program.

All students enrolled on or after January 1, 1992 in the fourth grade at Woodville Model Elementary School are eligible to participate in this program. While the student is enrolled in elementary or middle school, students can earn $15 for each 'A' grade in reading and math, $10 for each 'B' grade in reading or math, $10 for perfect attendance, and $10 for most improved Woodville student. While in high school, students can earn $25 for each 'A' grade in English, math or science, $15 for each 'B' grade in English, math or science, $5 for each 'C' grade in English, math or science, and $25 for perfect attendance.

The scholarship funds will be held in trust for each student's educational expenses after graduation from a local public or private high school. A student may receive scholarship assistance to attend any nonprofit educational institution in the country which is eligible to receive student aid grants under the Pell Grants Program or under the Virginia Instructional Grants Program.

After graduation from Woodville Elementary School, at the completion of each academic year, students must submit an academic transcript to the Greater Richmond Foundation.

* * * * *

In summary, a review of the literature related to increasing the academic pool of minority students for higher education indicates that efforts to address this issue must be multi-faceted and comprehensive. Of primary concern is the need to address the achievement levels of minority students in the classroom and in the context of the home and community. More research is needed to determine the effectiveness of academic programs aimed at improving achievement levels of at-risk children in middle and high schools. Programs proven to be effective on all levels should be adequately funded and widely replicated in schools when children in poverty and/or at-risk of failure demonstrate that the greatest need for such programs exists.

Federal, state and local initiatives need to be developed to provide a stronger knowledge base for improving achievement of at-risk students. Further, educational policies which have a negative impact on minority student achievement (e.g. tracking, retention, lack of access to courses which prepare students for college entry) should be eliminated where reasonable alternatives are not available. No plan to address Black student achievement should ignore the impact of the guidance counselor on the preparation of minority students for college. Specialized training to include sensitivity to diversity is imperative. Adequate funding of schools and programs is a major concern. Excellence, whether in terms of school resources or community programs, requires real dollar commitments and does not come cheaply.

Collaborative partnerships between schools, business and industry and higher education can provide financial and human resources to help at-risk students stay in school, help guide and direct them toward college careers, and provide sorely needed financial support.

Increasing the academic pool of minority students for higher education can only be realized through a strong commitment on the part of educators on all levels, policy makers as well as parents and the community.

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PART TWO: BUSINESS/SCHOOL PARTNERSHIPS TO ENHANCE DEVELOPMENT OF AT RISK STUDENTS

The corporate sector and other segments of the community have become increasingly aware that they have a vested interest in the schools and an important role to play in improving them. Inadequate education today results in an unprepared labor force tomorrow and society will pay the cost of the life-time dependency of those who do not succeed in school.

Through successful business/school partnerships, new coalitions must be established which involve not only the individuals in the corporate sector but community organizations that have a significant record of improving the local quality of life for its citizenry. Currently, a number of successful business/school partnerships offer programs to meet the needs of students. Such programs range from a direct link between business and the school volunteer programs to adopt-a-school programs in which businesses give employee time to the school system. The keys to ensuring success of such programs include mutual trust and respect, commitment from high level managers, school leaders and university administrators, and a legitimacy that is developed in stated policy (including objective measures for evaluation and standards of performance) (Purcell, Alden and Nagle, 1984).

Following is a summary of business/school partnerships currently being implemented on the national and state levels for high school, middle school and elementary school students. This section of the report is divided into three parts:

1. Business/School partnerships on the national and state levels for high school, middle school and elementary school students. References indicate the sources for the 46 programs described in this portion of the report; the contact persons are also named, however, during the summer months when the research was done for when this project, many of these individuals were unavailable for verification of these entries. Data were entered based on written documentation on the respective programs.

2. Characteristics of business/school partnerships that are effective in helping disadvantaged students; and

3. Benchmark business/school partnerships which includes a brief narrative on nine model programs.

Business/School Partnerships
National Level

HIGH SCHOOL PROGRAMS

Name of Program Site, Location	Population Served (Grade, age, #)	Goals of Program	Key Components	Staffing Requirements	Costs	Evidence of Success
[1]ACCESS (Action Center for Education Services and Scholarships), Boston Chamber of Commerce (2000 businesses and Social Service Agencies, Boston, MA Contact: Joseph Cronin, President, MA Higher Educational Assistance Corp., The Institute for Educational Leadership, Inc. (202) 822-8405	High School Students	1. College entrance and retention. 2. Access to good jobs if graduate from college.	1. Arrange scholarships from universities. 2. Key business executives from Private Industry Council work with students. 3. School volunteers of Boston advise school students on financial aid. 4. ACCESS staff will help set up job interviews post-college graduation.	1. Business executives. 2. Financial aid counselors. 3. Special ACCESS staff. 4. Fund raisers.	$5.5 million over 8 years raised through business pledges and Foundation endowments.	As of 1990: The number of Boston public school graduates attending college rose from 50% to 60%. High School attendance rose 6.5% over 5 years.
[2]American Express Academies: The Academy of Finance; The Academy of Travel and Tourism; The Academy of Public Service. Contact: National Academy Foundation, 235 Park Avenue South, 7th Floor, New York, NY 10003 (212) 420-8400	More than 3000 students are enrolled in Academies of Finance in 17 cities; almost 1000 students are enrolled in Academics of Travel and Tourism in 4 cities and almost 200 students are enrolled in Academics of Public Service. 62% of these are minority students.	1. College entrance. 2. High school graduation. 3. Career training and advising.	1. Each student is offered a paid, on-the-job summer internship with a business to gain practical experience and apply classroom learning. 2. Two year program with special curriculum designed by educators and industry experts. 3. Mentoring experiences with industry professionals. 4. Special graduation ceremony, scholarships, career and college counseling, and enhanced opportunities for employment after college graduation.	1. Academy training for public school teachers to instruct students is provided by American Express.	No information available.	89% of graduates of the Academy of Finance have gone on to a four-year college, most majoring in finance, economics or accounting. An additional 6% went on to a two-year college. 82% of these graduates reported the program prepared them for college and 90% that the program prepared them for employment. Virtually 100% of the Travel and Tourism students graduate from high school and more than 90% go on to college. Over 50% return to the industry after graduation from college.

[3]American River College, Los Rios Community College District in California, Mathematics, Engineering, and Science Achievement/Minority Engineering Program (MESA/MEP). Contact; Beth S. Lee, MESA/MEP at American River College, Sacramento, CA (916) 484-8261	High school seniors.	1. Bridge the transitional gap between high school program (MESA) and college MEP.	1. Scholarships, awards and honors. 2. Leadership development efforts. 3. Recruitment of Black, Hispanic and Native American students. 4. Enrichment programs such as tours to universities and resume workshops. 5. Support services.	1. College faculty.	No information available.	No information available.
[4]ASPIRE (Advise, Support, Prepare, Inform, Respect and Encourage. Sponsored by Proctor & Gamble, Cincinnati, OH. Contact: P.S. Long, Proctor & Gamble Fund, PO Box 599, Cincinnati, OH 45201-0599 (513) 983-5765	Potential dropouts in the ninth grade at Woodward High School, 85% minorities.	1. High school graduation. 2. College entrance or career readiness. 3. Higher grades. 4. Fewer discipline problems. 5. Increase attendance. 6. Reduce grade retention. 7. Increase self-esteem.	1. Mentoring. 2. Identification of dropouts. 3. Teachers and administrators raised expectations for mentored students. 4. Counseling made more available. 5. Parental support. 6. Tutoring when necessary. 7. Quarterly evaluations. 8. Career counseling. 9. Work habits training.	1. Program coordinator. 2. Proctor & Gamble employees.	Salary of program coordinator.	**Results of 1989-90:** 1. Attendance of mentored students was 88.8% v. 84.3% for non-mentored students. 2. Mean grade point average for mentored students was 2.11 v. 1.62 for non-mentored students. 3. Dropout rates for mentored students was 2.3% v. 10.8% for non-mentored students. 4. Discipline referrals for mentored students was 10.3% v. 25.7% for non-mentored students.
[5]Bellarmine Community College Partnership with Pleasure Ridge High School, Louisville, KT. Sponsored by Capital Holding Corporation. Contact: Carol Bradley, Consultant, Education Relations, Capital Holding Corporation, Louisville, KT.	Approximately 100 high school seniors per year are in the program.	1. To have educated, local workforce pool from which to recruit. 2. College entrance and majors of accounting and finance.	1. Capital Holding Corporation invites the students each year to work in such departments as finance, investment, corporate law, accounting, and human relations. 2. CH Corp. helps Bellarmine recruit the high school seniors and encourages them to earn college degrees in the above areas of study.	1. Capital Holding employees.	No information available.	1. More than 40 Bellarmine alumni are employed at CH Corporation. Many are in administrative positions. 2. The company no longer has to recruit from Eastern colleges to fulfill its needs. 3. Earned Governor's Award as best School/ Business partnership in state in 1991. 4. Winner of the Optimas Award.

[6]Burger King Academies, in 18 communities in 11 states. (None in Virginia). Contact: Richard Fallon Burger King Corporation PO Box 520783 GMF Miami, Florida 33153	Targets students at-risk of dropping out. 1700 6th through 12th graders enrolled at present.	1. Stay in school and graduate from high school. 2. Improve self-esteem. 3. Master basic skills. 4. Encourage social and economic independence. 5. Encourage college entrance.	1. Provides individualized and supportive environment. 2. Employment skills, on-the-job training and internships with local business and organizations. 3. No more than 20 students per class. 4. Local community organizations provide specialized counseling and social services. 5. Mentoring from Burger King employees. 6. Three students from each academy receive scholarships to attend their college of choice.	1. Volunteers from Burger King. 2. Teachers. 3. Social service providers.	$1 million to $5 million per year.	In 1991, 121 students graduated from the six academies with 12th grade programs. 2. Florida Dept. of Education's "Commissioner's Business Recognition Award". 3. Women Executives in PR Foundation's Award for Social Responsibility. 4. Bellring Award. 5. San Antonio, TX Academy has a 95% retention rate, and 15% on the honor roll. 6. In 1991, all 20 members of Inglewood senior class graduated and applied for college.
[7]Career Beginnings Program, Indianapolis, IN A college-business initiative. Sponsored by the John D. and Catherine T. MacArthur Foundation, the Gannett Foundation, The Commonwealth Fund and several other foundations. Contact: Butler University 4600 Sunset Avenue, Jordan Hall, Rm. 85, Indianapolis, IN 46208 (317) 283-9398	High school juniors from low-income families. In 1986, The Indianapolis program served 104 students from nine area high schools; 91 were Black. Started in 10 U.S. cities. Expected to serve 100 juniors each year.	1. Graduate from high school. 2. High quality employment. 3. College or some other post-secondary education.	1. Six-week paid summer jobs. 2. Mentoring from business/professional groups. Will help with summer job and a part-time job during the year. 3. Weekly workshops on job skills and college applications. 4. During senior year, the participating college will offer mentor and student support services.	1. College staff. 2. Business mentors.	$100,000 grant to each site for development and 2 year operation.	No information available.

[8]Communities in Schools Houston, TX Contact: Margo Kader, Communities in Schools, 1100 Milum, Suite 35404, Houston, TX 3540, Houston, TX 77002 (713) 654-1515, ext. 17	High school and elementary school students at risk of dropping out; 12 project sites. In 1988-89, programs served 808 elementary students and 1,300 secondary students.	1. Reconnect at-risk students with people who can meet their needs for education, counseling and employment. 2. Graduation from high school. 3. Improve attendance. 4. Enhance personal, educational and social development. 5. Develop successful employment attitudes and skills. 6. Increase parental involvement. 7. Reinforce positive social behavior and decrease negative interactions.	1. Working relationships between the public and private sectors in governing and funding school projects. 2. Use of schools and alternative education sites as locations for the integrated delivery of human services. 3. Repositioning of staff from already existing human service agencies and volunteer organizations to avoid the need for major infusions of new funds. 4. Assistance to these personnel in developing accountable, personalized interdisciplinary teams that focus their energy and expertise on small groups of students.	1. Program manager. 2. One-half to one full-time social worker. 3. 24 graduate student interns in social work. 4. Over 400 volunteers.	Salaries of program manager and social worker.	1. Over 95% of program participants remain in school. 2. Nearly 93% of those demonstrating behavioral problems, pre-delinquent, and delinquent behavior have stayed out of serious trouble. 3. Over 49% of those students failing Math and nearly 60% failing English prior to their participation have raised their grades to passing level. 4. School absences have declined over 35%. 5. Nearly 70% of participating students have been promoted to the next grade level or have graduated.
[9]Fannie Mae (Federal National Mortgage Association), Partnership with Woodson Senior High School, Washington, D.C. Futures 500 Club, Incentive Scholarship Program Contact: Lonnie Edmonson, Manager, Incentive Scholarship Program, Fannie Mae, 3900 Wisconsin Avenue, NW, Washington, DC 20016-2899 (202) 752-7850	Program serves any high school student that earns A's and B's in any semester. As of 1992, 264 high school students had been inducted into the program.	1. Pride in self and school. 2. Increase number of students earning high grades. 3. Increase number of students pursuing post-high school education. 4. Increase variety and stature of post-high school education students choose. 5. Increase amount of scholarships earned. 6. Increase # completing college.	1. A pledge of $1 million over ten years. 2. Employee involvement as mentors to students who qualify. This includes time off from work to counsel on careers and scholarships, as well as establish bonds with the student. 3. Workshops on subjects such as financial aid, colleges, computers and writing. 4. Student can earn $500 per semester of A's and B's for post-high school education. 5. Funding for academic enrichment.	1. Employees get 10 hours per week to mentor. 2. Full-time administrative staff includes a teacher-counselor at Woodson and a program manager-counselor hired by Fannie Mae.	1. $500 per student per semester up to $4000. 2. Salaries of full-time administrative staff.	In the first two years, Futures 500 grew 400% (33 students to 132 students earning A's and B's). As of 1991, Total number of graduates of the program: 139; Number of these attending: 119 Total amount of scholarship credits earned by graduates: $358,878.

[10]FEMME (Females in Engineering Methods, Motivation, Experience), Newark, NJ Partnership between higher education institutions, philanthropic foundations and private industry (Revlon and NJ Bell). Contact: The Center for Pre-College Programs, New Jersey Institute of Technology, 323 High St., Newark, NJ 07102 (201) 645-5063	High school students between their freshman and sophomore years. 25 girls, 50% minority.	1. Entry of young women in careers in math, science, engineering and computer science. 2. Dissipation of typical apprehension about these subjects.	1. Four week summer program. 2. Hands-on math and science with lab experiences and use of math, deduction, logic and mechanical reasoning. 3. Field trips to industrial and scientific sites. 4. Meet with scientists and engineers. 5. Career counseling. 6. Parent involvement.	1. College faculty. 2. Industry members.	In 1984: $30 per student per day. Activities free for participants.	1. Students and parents perceive that expectations for program were fulfilled. (Evaluation form). 2. Evaluations show that participants take four or more years of high school math and science. 3. 75% of the 1981 ninth grade group who entered college in 1984 were math and science majors.
[11]Ford Academy of Manufacturing Sciences, Novi, MI; Dearborn, MI; Berea, OH. Contact: Larry Bruno (313) 845-3052	11th and 12th graders who have successfully completed algebra and have good reading skills.	1. Increase student awareness of career opportunities in a wide variety of manufacturing environments. 2. Offer opportunities to learn science, math, technology, and communication skills in real life contexts. 3. Encourage college entrance.	1. Accredited courses in manufacturing systems and processes, quantitative literacy, computer technology and science and math operations. 2. Focus on problem solving, teamwork, communication, and critical thinking skills. 3. Courses taught by science, math and business teachers in the participating schools who are trained by persons in industry. 4. Internship opportunities.	1. Public school teachers.	$1 million over five years plus education and training expertise. Schools interested will absorb costs for program implementation.	No information available.

[12]Junior Achievement, in 14,000 schools across the country. Contact: Junior Achievement of Richmond, Inc. 185 East Belt Blvd. (804) 232-4070	More than 1,000,000 students in elementary, middle and high schools. 1 in 5 New York students.	1. Workplace training. 2. College entrance. 3. Open up new opportunities and experiences to the students.	1. Positive business role models who encourage and teach math, science and reading. 2. Volunteers take students to workplaces. 3. Teach about "real life". Student activities include figuring out the costs of living by oneself with and without a high school degree. 4. "Business Basics" are taught to elementary grades as an overview of business organization, management, production and marketing. Junior high students get "Project Business" about supply and demand, corporate finance and the global economy. High schoolers take "Applied Economics" --a comprehensive economics course.	1. Volunteers from businesses.	In 1988: Costs were $50 million in cash and $10 million in services and products. These costs include all program sites.	Anecdotal: Attendance up 20% when volunteers teach. Employers who later hire Junior Achievement students attest to stronger academic skills. Objective outcome-based testing began at the end of 1990.
[13]Louisiana State Youth Opportunities Unlimited (LSYOU). An alternative school. Contact: Ms. Baptiste (504) 388-1751 Louisiana State University	Serves potential high school dropouts. 100 students in treatment group in this study and 100 students in control group.	1. Students with newly acquired skills will be able to return to regular school environments and demonstrate reduced alienation and more school success. 2. Group participation and cooperative team work. 3. Raise self-esteem, increase positive recognition, and establish high goals in students. 4. Supportive leadership. 5. Increase coping skills. 6. Increase math and	1. Summer program based on participative management style. 2. Inservice training in Quest for Living Skills (affective/social skills) for teaching staff and 3 day workshop for all staff. 3. Ratio of 1:13 plus tutor/aide in every class. 4. Curriculum with credits earned for "regular" school. 5. Half day working with professor on LSU campus. 6. Team meetings daily on individual students. 7. Dorm group with	1. Headmaster. 2. Nine teachers. 3. Eight tutors. 4. Two counselors. 5. Sixteen peer counselors. 6. One recreation director.	$3600 per student for 8 week summer program. This price includes room and board on campus at LSU.	1. Significant difference between control and treatment groups on: a. reading scores; b. math computations; c. math applications; d. career maturity; e. intentions to drop out

[14]Mid-America Consortium for Engineering and Science Achievement (MACESA), Kansas, Missouri and Nebraska. A partnership between high schools, universities and industry. Contact: Office of the Dean of Engineering, 144 Durland Hall,Kansas State University Manhattan, KN 66506 (913) 532-5949	High school juniors and seniors who are Black, Hispanic or Native American.	1. Increase the number of minorities entering and completing college programs in science, math and engineering.	1. Provide educational opportunities for Black, Hispanic and Native American students. 2. Enrichment activities. 3. College prep classes by a math or science teacher who is MACESA advisor at the high school. 4. Academic counseling. 5. Tutoring/study groups. 6. College and career counseling and tours. 7. Field trips. 8. Summer stays at universities. 9. Role models/speakers. 10. Graduates given priority consideration for engineering scholarships.	1. MACESA advisor who is a high school teacher.	MACESA established by 3 year grant from the National Consortium for Minority Engineers. Additional funding through corporate sponsors and participating universities.	No information found.
[15]Middle College High School, on the campus of LaGuardia Community College in New York City, NY Contact: Bobette Beinhacker (718) 349-4005	High School students. School has maximum enrollment of 500 students. Designed to meet the needs of at-risk students.	1. Contact with college atmosphere, facilities and classes to dispel myths of college as an unreachable goal. 2. School membership with climate of belonging. 3. Increase self-esteem. 4. Academic engagement and improvement. 5. College entrance.	1. Collaborative structure between high school and college. High school or community college campus. Students take college classes for credit, have ID, and have access to college facilities and activities. 2. High school teachers motivated by teaching college classes. 3. Open communication. 4. Part of a "family", each having 17 students, a guidance counselor and a family worker. 5. Counseling received 3 times per week. 6. Parent support group. 7. Hopeful and positive atmosphere.	1. Public school teachers. 2. College professors (teach some high school courses and work with students and high school teachers). 3. Counselors.	No information available.	1. In 1985 (the last year for which comparative data are available) 83% of the students graduated from Middle College compared to 50% citywide in New York. 2. In 1989, 75% of the graduates went on to college.

[16]The Minorities Program, Madison, Wisconsin Contact: The Minorities Program, College of Engineering, Room 23, General Engineering Building, University of Wisconsin-Madison, Madison, Wisconsin 53706 (608) 262-7764	40 minority high school students and recent high school graduates.	1. Explore career opportunities in engineering. 2. Prepare for college entrance.	1. Eight week summer program. 2. Math, science and engineering departments of University of Wisconsin-Madison offer classes in computer science, communications and study skills. 3. Individualized course selections based on standardized test results. 4. Hands-on laboratory experiences. 5. Interaction with engineering faculty and industry representatives. 6. Field trips.	1. University faculty.	No information found.	1. Students return to high schools able to take more advanced courses. 2. Most improved grade point average. 3. Most improved class rank. 4. Students learn what is expected of them in college.
[17]New Orleans Project, New Orleans, LA Contact: The Patrick F. Taylor Foundation, P.O. Box 53009, New Orleans, LA 70153-3009 (504) 593-8400	Taylor and 17 businesses launched New Orleans project which is aimed at any high school student in New Orleans who qualifies for program.	1. College entrance and attendance.	1. Involves 17 New Orleans businesses to show students the community supports them. 2. $1000 annual stipend to any New Orleans high school student entering college from a family living below the poverty level.	No staffing requirements.	$1000 per qualified student per year.	As of October, 1991, 400 New Orleans students had received money for college.
[18]NUPRIME (Northeastern University Progress in Minority Engineering Program), Boston, MA. Supported by the University and Sippican Industries, Inc. Contact: College of Engineering, Northeastern University, Boston, MA 02115 (617) 437-5904	High school students and college students.	1. Increase the number of qualified minority high school students preparing for careers in the engineering profession. 2. To increase the number of minority students enrolling in Northeastern's College of Engineering.	1. Scholarship funds to students participating in engineering, computer science or engineering technology programs. 2. Parents committee recruits students and arranges transportation for classes and special events. They plan field trips, social and cultural experiences. 3. Remedial work for students who earn "c" or less math averages. 4. Enrichment courses in algebra, geometry, pre-calculus, and physics.	1. Sippican coordinator. 2. Northeastern University faculty. 3. Parents Committee.	No information found.	1. Approximately 30 minority engineering students graduate from college each year. 2. Retention rate is equal to the retention rate for the entire NU Engineering College.

[19]The Orr School Network, Chicago, IL. Partnership between Continental Bank and Orr Community Academy High School. Contact: Nancy H. Brandt, Manager of Educational Programs, Continental Bank.	Elementary, middle and high schools in inner-city area in Network.	1. Decrease dropout rates from 60%. 2. Increase student achievement. 3. College entrance. 4. Connect schools with each other and resources of community and city.	1. Monthly planning meetings with bank, principal of Orr High School and 12 elementary school principals in area. 2. Network replaces isolation of schools and communication agencies. 3. Volunteer service by Continental Bank employees. 4. Several specific programs--see below.	1. Principals. 2. Continental Bank representatives.	No major expenses for Network.	1. Escalating numbers of teachers and volunteers involved.
[20]The Orr School Network's Career Beginnings, Chicago, IL. Contact: Nancy H. Brandt, Manager of Educational Programs, Continental Bank 231 LaSalle St., Chicago, IL 60697 (312) 974-5193	Juniors and Seniors in high schools in the Network.	1. Transition from high school to work or college.	1. Mentors for each student in program. 2. Academic enrichment on college campuses. 3. Summer employment. 4. Work readiness skills. 5. Individual case management.	1. Columbia college staff.	No information available.	Evaluation has not begun yet.
[21]The Orr School Network's College Tours Program, Chicago, IL. Contact: Nancy H. Brandt, Manager of Educational Programs, Continental Bank, 231 LaSalle St., Chicago, IL 60697 (312) 974-5193	Ninth and Tenth graders at schools in The Orr School Network.	1. Motivate students to prepare for college careers.	1. Have relationships with small colleges and public universities who are supportive of minority and disadvantaged students. 2. Day and weekend tours or colleges. 3. Mentoring. 4. Tutoring. 5. Enrichment. 6. SATs/ACTs help.	1. Chicago Youth Center's staff. 2. Various college volunteers.	No major expenses.	No information available.

[22]The Orr School Network's Lighthouse Academic Program, Chicago, IL. Contact: Nancy H. Brandt, Manager of Educational Programs, Continental Bank 231 LaSalle St., Chicago, IL 60697 (312) 974-5193	250 high school students enrolled in January, 1992. (One-half from day program, and one-half returning drop outs).	1. High school graduation. 2. Academic achievement and motivation. 3. Self-esteem improvement.	1. Afternoon and evening programs. 2. Individualized instruction for credit in basic subjects. 3. Job readiness counseling. 4. Tutoring.	1. Regular high school teachers. 2. Counselor. 3. Program director. 4. Clerk. 5. Security monitors. 6. Engineer/Custodian.	"Incremental" costs due to program being part of regular high school program.	1. Six students graduated in January, 1992. 2. 21 graduated in June, 1992. 3. The majority of the students stayed enrolled. Only 16 (out of over 250) dropped out. In first semester of school year 1991-1992. 4. Mean improvement in reading was one year. 5. Mean improvement in Math was 9 months. 6. Students attending and fulfilling all requirements in program--213.
[23]The Pepsi School Challenge, two sites: Dallas and Detroit Contact: Dr. Gauforth Pepsi School Challenge, Citizen's Scholarship Foundation of America, PO Box 297, St. Peter, MN 58082 (507) 931-1682	High School students.	1. Reduce drop out rates. 2. Increase of 25% over current graduation rates. 3. Provide students with support for college.	1. $250 per student per semester, up to $2000 for use at accredited education program. 2. Student must maintain a "C" average or above, meet state mandated attendance standards and have no formal record of a mood-altering substance. 3. Mentor teachers who receive up to $1000 grant money to use for continuing education, classroom enhancement, the mentoring relationship or for personal income. 4. Pepsi employees as mentors and tutors. 5. Citizen's Scholarship Foundation of America will correspond with students and their families, enroll students, update records, distribute funds, and report on program activity.	1. Program administrator. 2. Up to 50 mentor teachers at each school. 3. Pepsi employees. 4. Citizen's Scholarship Foundation of America workers.	1. $1000 per mentor teacher. 2. $4000 available to each school to pay the costs of administering the program. 3. $250 per student per semester successfully completed, up to $2000 per student.	Pilot programs are being closely monitored and evaluated. No impact data could be found.

[24]PLAN (Program for Learning According to Needs). A large urban high school with 1700 students, mostly Hispanic. No contact available.	In 1990, 58 Hispanic high school students, 23 sophomores, 19 juniors, and 16 seniors. (Voluntary program).	1. Improve self-esteem and self-image by redefining image as (a) Hispanic, (b) as learners, and (c) as communicators.	1. Basic skills Courses: Reading, writing and public speaking. To increase communication and efficacy in college. 2. Also attended regular classes. 3. Sensitivity to and acceptance of ethnicity and encouragement and conviction that success is possible (Teacher/director key position in this goal).	1. Teacher/Director of program. 2 English as a Second Language teacher.	1. Salary of full time program director.	Qualitative study. Students' statements demonstrate many aspects of the stated goals reached. More students are graduating and at least 65% of the program's students are going to college.
Project Discovery Serves six states (VA, IL, MO, MT, WA, IN); 40 school districts in VA. Contact: Betty O. Pullen, Director, 420 Church Ave., SW, P.O. Box 1048, Roanoke, VA 24005 (703) 343-7805	4th - 12th grade students; first generation college income qualified. Served over 2,500 students in 1992	1. College access. 2. Dropout prevention.	1. Specialized curricula. 2. Curricula enrichment, such as college campus visits. 3. Community and parental involvement. 4. Self-esteem building. 5. Career counseling. 6. Disseminated through community action agencies that provide specialized counseling and social services. 7. Partnership between schools, colleges and community groups.	$400 per student/year.	$400 coordinator	1. In 1992, 81% of graduating seniors enrolled in post secondary education; Over 99% of students are in school or have graduated.
[25]Recruitment into Engineering of High Ability Minority Students (REHAMS), Louisiana State University, Baton Rouge, LA. Co-sponsored by LSU College of Engineering and the EXXON Educational Foundation. Contact: College of Engineering, LSU, Baton Rouge, LA 70803 (504) 388-5731	Minority high school students who have completed the junior year in high school and show evidence of high achievement.	1. Expand minority students' knowledge of engineering fields. 2. Make engineering look more accessible and interesting to minority students. 3. College entrance in math, science and engineering fields.	1. Four week summer residential, pre-college program with introduction to 8 different engineering fields by faculty at LSU. 2. Coursework in math, computer usage, oral and written communication. 3. Analytical thinking skills. 4. Assignments that require engineering principles for completion. 5. Field trips to area industries. 6. Guidance and career counseling. 7. Performance is evaluated and top students may be selected to participate in REHAMS 2 or be awarded one of the scholarships to LSU.	1. Senior engineering faculty member as director of program. 2. Residence hall counselors.	Expenses for room, board, books, materials, health insurance, and transportation for field trips provided.	No information found.

[26]Student/Sponsor Partnership, New York City, NY Contact: Student/Sponsor Partnership, Inc. 24 E. 38th St. New York, N.Y. 10001 (212) 545-0341	High school students. 104 students had gone through the program as of October, 1991.	1. Give students a solid education that prepares them for college or employment. 2. Increase number of students graduating from high school.	1. Sponsor will pay tuition to a religious school (Catholic or Lutheran) for four years for a poor black or Hispanic student. (These schools show evidence of lower drop out rates). 2. Mentor will spend time academically or socially with the student.	No staffing responsibilities: sponsor gives time and money.	Approximately $2300 per year per student. (Tuition rate).	75% of the 104 students graduated from high school. 91% of those went on to college.
[27]Wegmans Work Scholarship Connection, Rochester, NY Contact: Allen Johnson, Wegmans Work Scholarship Connection, Rochester City School District Office, Rochester, NY 14650	Potential high school dropouts. 14 and 15 year olds. Began 1987: 94 students have enrolled	1. Complete high schools. 2. College entrance. 3. Work experience.	1. Students signs contract with Wegmans. 2. Store provides part-time job at supermarkets. 3. Transportation on weekends to and from work. 4. Pre-employment follow-up workshops to help the student understand school to work connection. 5. Mentor at job site. 6. Tutoring. 7. Student must maintain good attendance record at work and school. 8. Cannot possess, sell, or use illegal drugs or alcoholic beverages. 9. Students who successfully complete education and program will receive full tuition scholarship (up to $5000 per year) to enroll in an accredited institution. 10. Will be able to keep Wegmans job during college.	1. Program director. 2. Two full time staff. 3. Two part time staff. 4. Mentor volunteers. 5. Paid tutors.	1. Staff salaries. 2. Tutoring salaries when needed.	Anecdotal: Claims by teachers and students that students feel more connected and improve at school and home.

MIDDLE SCHOOL PROGRAMS

Name of Program Site, Location	Population Served (Grade, age, #)	Goals of Program	Key Components	Staffing Requirements	Costs	Evidence of Success
[28]Delgado Community College, New Orleans, LA. Math, Science and Technology Summer Youth Enrichment Program for the Orleans Parish School System. Contact: (504) 483-4114	Minority Junior High School students with above average math and science abilities.	1. Enhance problem-solving and analytical skills. 2. Expose students to real-life science, math and technology through field trips and speakers. 3. Offer hands-on computer experience. 4. Help students evaluate their career options.	1. Three week mini courses. 2. Introduction to the basics in computers, robotics, electrical systems, radio communications, and biomedical technology.	1. Community College faculty.	1. Faculty payment.	Anecdotal: Interviews with students confirmed that math and science interest had been stimulated.
[29]"I Have A Dream" Foundation, New York City, New York Contact: I Have A Dream Foundation, 330 Seventh Ave., 20th Floor, New York, N.Y. 10001 (212) 736-1730	130 sponsors in 31 cities and 22 states have committed $40 million to 9,000 "Dreamers". 6th grade classes of "dreamers" are chosen and followed through to the twelfth grade and beyond.	1. Retention. 2. College entrance. 3. Positive relationship with an adult (mentor). 4. Education in social skills/issues.	1. Coordinate social and academic services. 2. Promise to pay state college tuition. 3. Small groups invited to the business to be with senior role model. 4. Mentors involved in "dreamers" lives. 5. Establishment of "educational village": volunteer agencies, businesses, colleges, parents, municipal agencies, community organizations & sponsors. 6. Tutoring and basic academic skills training.	1. Project Coordinator. 2. Education Director. 3. Coordinator of Activities.	$300,000 for one class, paid for by sponsor.	Anecodotal: Original class of 61 students (Eugene Lang, the founder, was the sponsor) now has 34 enrolled at least part time in college--10 of those completed sophomore year on time; 9 others graduated from high school or received a G.E.D.; 10 are "lost" or pregnant; 4 men are fathers and 1 student is in prison.
[30]Taylor's Kids, New Orleans, LA. Contact: The Patrick F. Taylor Foundation P.O. Box 53009 New Orleans, LA 70153-3009 (504) 593-8400	First adopted class in 1988: 183 7th and 8th graders.	1. College entrance and attendance.	1. Will provide college tuition, books, living expenses and $1000 per year to any student in original class who graduates with a "B" average or above.	No staffing responsibilities.	Tuition and expenses per student who qualifies.	26 of original class are high school seniors on track to college.

ELEMENTARY SCHOOL PROGRAMS

Name of Program Site, Location	Population Served (Grade, age, #)	Goals of Program	Key Components	Staffing Requirements	Costs	Evidence of Success
[31]Chevron Accelerated Schools Program. Pilot schools: 1. Daniel Webster Elementary, San Francisco, CA. 2. Herbert Hoover Elementary, Redwood City, CA. Contact: Chevron Accelerated Schools Program, Chevron Corporation, 575 Market St., #828 San Francisco, CA 94015 (415) 894-4903	Elementary through 6th grade.	1. Help at-risk students catch up with peers by the 6th grade.	1. Focus on whole school: a. Unity of Purpose--with parents, teachers and students agreeing on common goals. b. Empowerment--give parents, teachers and administrators power to make decisions. c. Build on Strengths--Use all resources that students, parents, school staff and the community can bring. 2. Curriculum is heavily language-based. Early introduction to writing and reading. 3. Parental involvement. 4. Extended day. 5. Steering committee to coordinate planning. 6. Elimination of tracking.	1. Teachers. 2. Facilitators from Stanford University to train principal and teachers.	$1.45 million over 3 years. Then the school district will be responsible for costs.	1. Review 2 years after pilot found teachers and staff had established positive learning climate and students were very involved. 2. In 1989-90, Daniel Webster school had the largest language gain and the 2nd largest math gain in all 72 San Francisco elementary schools. 3. Herbert Hoover improved math achievement scores from the 10th percentile to the 27th percentile. 4. Herbert Hoover had parent involvement increase immensely. First parent night (1987-88) brought 17 parents while the last parent night (1990-91) brought 450 parents.
[32]Comer School Development Program. Originally in two New Haven, CT, schools. Contact: School Development Program, Yale University's Child Study Center, Yale University, New Haven, CT (203) 432-9882	1. Martin Luther King, Jr. School; 300 K-4 students. 2. Katharine Brennan School; more than 350 students, K-5. 99% black and poor. NOTE: Program is a framework and thus has been installed in many elementary, junior high and high schools since these first two schools.	1. Lower student absenteeism and tardiness. 2. Raise academic achievement. 3. Increase graduation (continuing) rates. 4. Create a climate of belonging. 5. Increase students' self-motivation. 6. Increase students' self-efficacy and esteem. 7. Develop positive adult-child relationships. 8. Develop caring and respect for peers. 9. Ethnic affirmation. 10. Increase school spirit and involvement. 11. Teach mainstream values and skills for job training and competency.	1. 3 teams to increase involvement of members of school and community: Planning, Mental Health, and Parent Program. 2. Supportive, considerate social relationships that characterize a "climate of belonging." Objectives include: "no-fault" policy, decisions by consensus with closure, increased communication with homes (especially minorities). 3. Order/safety in school. Shift from discipline to reward system. 4. Cooperative learning. 5. Social skills learning. 6. Based on child development concepts.	1. Coordinator to facilitate implementation at school level. 2. Training of teachers and principals. 3. Social worker. 4. Psychologist. 5. Special education teacher.	Costs fluctuate depending on area. Expenses will include salary for coordinator and training fees of teachers and principals.	From 1968 to 1980, these schools' academic performance, once near the bottom of the 33 citywide schools, had surpassed the national average and truancy and discipline problems had declined markedly. In 1984, the fourth grade in both schools ranked 3rd and 4th on Iowa Test of Basic Skills. Self-esteem and self-motivation are believed to have increased. NOTE: Other schools, high school and middle, show similar improvement with this program.

[33]Fordham's Stay-in-School Partnership Project. Fordham University's Graduate School of Education and Social Services partnered with minority public school district, New York City, NY Contact: Division of Curriculum & Teaching, Graduate School of Education, Fordham University at Lincoln Center, 113 W. 60th St., New York, N.Y. 10023	3 Elementary schools involved. 60 children, grades 1-4 and parents participated in study. 24% Black and 66% Hispanic.	1. Reduce absenteeism. 2. Increase academic achievement. 3. Prevent dropout. 4. Increase self-esteem. 5. Increase parent involvement.	1. Comprehensive set of services from social service staff and educational personnel. 2. Teachers/administrators receive training. 3. Connection to graduate school gives access to tutors, liaisons, ethnic study opportunities and mental health workers.	1. Counselors. 2. Teachers. 3. Principals.	Relatively low due to large use of graduate students. No specific information available.	1. Absenteeism, in two years, went from an average of 38 to 28 days. 2. Using the Kaufman K-TEA brief form, no significant effects were found in relating & math. 3. Significant correlation between student self-esteem and academic achievement. (Coopersmith Self-esteem Inventory) 4. Parental involvement increased. 5. Only 1 student referred to special education.
[34]Kodak's 21st Century Learning Challenge, Rochester, NY. A ten year commitment to Rochester City School District. Contact: Office of Educational Initiatives, Eastman Kodak Company, 343 State Rd., Rochester, N.Y. 14650-0517 (716) 724-2785	All grade levels, K-12, in Rochester's 19 schools.	1. Give positive learning experiences to students to stimulate interest in learning and school. 2. Encourage graduation. 3. Encourage college entrance.	1. Work with 1500 Kodak employees who are engineers, scientists and technicians on real life science. 2. Mentoring. 3. Teach classes at Kodak for use of lab and visit to workplace. 4. Early childhood programs. 5. Teacher training (shadowing) by Kodak so all grade and type of teacher feels comfortable with math and science. 6. Choose top students and give them scholarships.	1. Employees to teach and mentor.	Approximately $1 million dollars per year for training and materials.	1. At Rochester School #2, standardized science test scores have risen as much as 25 points. 2. Anecdotal: students show more interest and excitement about subjects.

[35]Margaret H. Cone Center, Dallas, TX. Sponsored by Texas Instruments and Head Start. Contact; Minerva Moreno, Texas Instruments Foundation, 7839 Churchill Way, PO Box 650311, Dallas, TX 75265 (214) 917-4505	Approximately 90 four year olds.	1. Expand enrollment to all four year olds. 2. Early education and intervention. 3. Comprehensive child and family services.	1. Program offers education, health, nutrition, social services and parental involvement and education. 2. Augment teacher and administrator salaries. 3. Hired additional personnel. 4. Based on child development concepts with the parent as the prime educator. 5. Classroom activities stimulate intellectual curiosity, develop logical thought processes and support cognitive growth. 6. Given breakfast, lunch and snack which equal 80% of nutritional needs. 7. Social workers secure emergency assistance, food clothing and counseling for child and family if necessary. 8. Full day and year round program. 9. Dental/medical services. 10. Home visits.	1. Staff nurse practitioner. 2. Two staff social workers. 3. Employment counselor for parents. 4. Early childhood Development Specialist as Assistant Director to Center. 5. Teachers.	$288,000 grant from Texas Instruments to move beyond normal costs of program ($3,800,000 for 11 schools). $5,737 per child per year.	Ongoing evaluation. Centers similar to this show seven times less likely to repeat a grade than a child without program or in other program. Program shows increased parental involvement. Benefit to Cost Ratio is 7:1.
[36]Project Seed, Inc., Berkeley, CA Contact: 2336-A McKinley Avenue, Berkeley, CA 94703 (415) 644-3422	Elementary school students.	1. To increase the number of minority disadvantaged youth majoring in and attaining careers in math and related fields. 2. Raise academic achievement. 3. Improve self-esteem.	1. University math faculty to supplement daily math classes, not replace them. 2. Socratic group discovery techniques in which children discover answers through questions asked by Seed Mathematician. 3. Topics from high school math to reinforce students' computation skills and prepare them for college prep courses. 4. Enables regular teacher to enhance knowledge of math and develop new teaching practices.	1. Seed mathematicians from major universities and research corporations.	No information found.	In Butler et al., it is said that major evaluations of program "demonstrate enormous success. The program is cost effective, and requires no expensive materials or gadgets." (Butler et al., p. 85)

Business/School Partnerships
State of Virginia

Name of Program Site, Location	Population Served (Grade, Age #)	Goals of Program	Key Components	Staffing Requirements	Costs	Evidence of Success
Better Information Project, Richmond, Virginia Contact: Dr. Cora Salzberg, Director Better Information Project, State Council of Higher Education for Virginia James Monroe Building 101 N. 14th Street Richmond, Virginia (804) 225-2137	Elementary, secondary school students and their parents, guidance counselors, and pre-collegiate agencies.	1. The project is intended to reach out to students, their parents, and school personnel to introduce them to Virginia colleges and universities. 2. In addition, the project provides current information about financial aid, admissions requirements and procedures, and encourages students to prepare for college academically and financially.	Information is shared with students and parents in special meetings and through print media. Basic information is shared on the following topics: 1. College admission requirements and procedures. 2. Parental initiatives. 3. Parent/child commitment. 4. Subjects and classes that students should take in high school to prepare them for college admissions. 5. Strategies for parents to help children succeed in school. 6. Provide information about financial aid.	1. Project Director	$ -0-	1. More than 500,000 publications have been distributed to over 300,000 parents, students and school personnel. Six hundred rising ninth and tenth graders have participated in three week summer campus programs. 2. In 1992-94, the project will be evaluated by an outside agency to determine the program's successes and shortcomings and to make recommendations for change. 3. Co-sponsored five summer pre-college programs with VA colleges to provide academic enrichment, counseling, and to help other-race students to understand that college is within their reach.

[37] CHROME (Cooperating Hampton Roads Organizations for Minorities in Engineering) Norfolk, VA Contact: Judy Shay, Executive Director CHROME P.O. Box 1394 Norfolk, VA 23501-1394 (804) 683-2931	Upper elementary school students, middle school students and high school students. Over 700 students served in 1990-91 (90% minority).	1. To provide a system of support for students. 2. To encourage engineering, math or science as a career. 3. College entrance.	1. Put clubs in schools and communities. 2. Students exposed to career opportunities. 3. Role models from business, industry, government or colleges. 4. Encouraged to take math and science classes that involve fun, hands-on experiences. 5. Provide peer support. 6. Led by team of sponsors who include math teacher, a science teacher, a guidance counselor, and a language arts teacher who are trained and given learning resources. 7. Volunteer members of CHROME will arrange speakers, field trips or mentors. 8. Resource library. 9. College summer programs, scholarships, and internships. 10. Workshops, meetings, engineering olympics, science fairs and picnics.	1. Teachers 2. Mentors 3. Speakers 4. CHROME staff.	Supported by group of colleges and businesses such as Ford Motor, Virginia Power, C & P and Amoco. Approximately $56,000 used in 1990-91 school year.	1. 100% of CHROME high school seniors in 1991 graduated with 96% enrolled in college for Fall. 2. Over 150 CHROME students are at college in Virginia. 3. Majority of students are majoring in math, science and engineering.

[38] The Kenan Project at Virginia Union University, Richmond, VA Contact: Claudia Johnson, Director, Kenan Project 1500 N. Lombardy Street., Richmond, VA 23220 (804) 256-5863	Ninth and tenth graders from John Marshall and George Wythe High Schools. Approximately 350 minority students in Richmond area have been involved since 1987.	1. Prepare students for college entrance. 2. Improve self-concept. 3. Improve independence and preparation for college life. 4. Improve academic standards. 5. Encourage parental support and involvement in program.	1. Pre-college summer enrichment institute. 2. High school instruction by Master Teachers. 3. Enrollment in high school Advanced Studies College Preparatory Curriculum. 4. Tutorial program. 5. Mentoring. 6. Cultural enrichment. 7. Seminars on self-awareness and parent orientation. 8. Study skills training. 9. Workshops on stress and coping, time management and library skills development. 10. College campus-based activities.	1. Two full-time: Director and Executive Secretary. 2. 12 Masters Teachers (six within each participating school). 3. 2 Kenan Coordinators (one within each participaing school). 4. College Masters Teachers. 5. One social worker.	$90,000 per year.	1. In 1990, 36 Kenan seniors graduated from program and 97% of graduates enrolled in college. 2. In 1991, 39 Kenan seniors graduated from program and 90% were college bound, many with scholarships. 3. In 1991, all Kenan seniors applied for college admission. At time of publication, 93% had been accepted to college. 4. 1990 SAT results show Kenan Project seniors earned nearly 75 points more than Richmond Public School seniors who were not in the Kenan program.
[39] Project Discovery within the Richmond Community Action Program (RCAP), Richmond, VA Contact: Ms. Lillie Sanders, Coordinator, Project Discovery, 900 St. James Street, Richmond, VA 23260 (804) 788-0050, Ext. 51 Also contact: Betty O. Pullen, National Director, 420 Church Avenue, S. W., P. O. Box 1048 Roanoke, VA 24005 (703) 343-7805	Sophomores and Juniors in the Richmond City Schools who qualify. Usually the first in their families to go to college. Since 1986, more than 400 high school students have been involved in Richmond and Petersburg High Schools.	1. Help students and their families learn about college and overcome myth that college is unreachable. 2. Help students set goals for post-high school. 3. Prepare students for further education. 4. Help students choose a college.	1. Campus visits. 2. Workshops on financial aid, choosing a college, college life, course selection and admission requirements, applications and interviewing, study skills and test taking, and goal setting. 3. Use of computers to work on matching up colleges and students' interests. Use Virginia Information Education Work (VIEW). 4. Celebratory banquet for students and parents who complete the program. 5. Field trips. 6. Cultural enrichment. 7. Fee waivers for tests such as SAT and ACT.	1. RCAP staff to coordinate program. 2. College contacts for campus visits.	RCAP staff salaries and office space.	1. In 1989, 70% of Project Discovery seniors in VA enrolled in college. 2. Since 1979, program has served over 5000 people. 3. Recent study by UVA shows the project students to have more serious attitudes about college, and more confidence in ability to find resources for college education. Parents report their children are more interested in school.

[40] Project YES (Youth Experiencing Success), Virginia. Contact: Dr. Donald Compton, Virginia Department of Education, Division of Research and Evaluation, James Monroe Building, 14th and Main, Richmond, VA	102 of the state's school divisions received Project YES funding -- Elementary, middle and high schools.	1. Improve self-esteem. 2. Increase parental involvement. 3. Increase community involvement. 4. Decrease school suspension. 5. Dropout reentry. 6. Academic achievement. 7. Increase attendance.	1. Money given to 77% of Virginia school divisions to enhance their dropout prevention efforts. 2. Each school must plan its own dropout prevention program with the following guidelines: a. Need specific goals for the dropout prevention program. b. Provide identification of potential dropouts to parents, teachers, counselors, and school administrators. c. Access to assessment services for students. d. Provide external services per need. e. Programs must begin, to some extent, in middle school years. f. Provide evidence that the funding will provide benefits at school building level. g. Local agencies, resources must match 2/3 of funding.	Regular school staff or any additional staff the school chooses to hire. Decision up to the schools.	A total of $10,361,539 was allocated to 102 school divisions for the 1991-1992 school year.	Evaluation has just begun, with only tentative six-month results available. Quantitative data not available. Through interviews with principals, counselor and YES coordinators at several sites, it appears YES programs have had a positive effect on reduction of drop out rates. Attendance rates, grades and good behavior have increased.

MIDDLE SCHOOL PROGRAMS

Name of Program Site, Location	Population Served (Grade, age, #)	Goals of Program	Key Components	Staffing Requirements	Costs	Evidence of Success
[41] Community of Caring School Program. Several school sites. One based in Richmond, VA. Sponsored in part by James River Corporation. Contact: Frazier Whitehead, (804) 643-4415.	Middle school students.	1. Help students understand and adopt important values -- caring, trust, respect for self and others, responsibility and family. 2. Help adolescents become responsible adults. 3. Increase self-esteem and self-confidence. 4. Learn self-discipline. 5. Learn to communicate effectively. 6. Develop decision-making skills. 7. Build positive and productive non-sexual relationships. 8. Learn the importance of education. 9. Practice problem-solving. 10. Prevent early teen sexuality and pregnancy. 11. Combat substance abuse and school drop out.	1. Creation of a caring environment. 2. Welcoming of family participation. 3. Awareness of faculty and staff of the pressures of adolescence. 4. Participation of students in training sessions, shared activities and open discussion of problems.	1. Training of middle school teachers. 2. Community of Caring staff will provide training. Richmond program has one part-time staff member.	$ 35,000 budget per year in Richmond.	1. One Community of Caring school went from having 18 pregnancies in their student body down to only 1 pregnancy in the following two years after the adoption of the program. Dropouts and suspensions decreased significantly and morale of students and teacher improved.

[42] Going for the Goal, Virginia Commonwealth University, Richmond, VA Contact: Sherman Curl, Program Coordinator, Going for the Goal Projects, VCU, Dept. of Psychology 808 W. Franklin Street., Box 2018, Richmond, VA 23284-2018 (804) 367-9303	Middle school students who are mainly urban and high-risk. Over 1600 Richmond City youth have been taught the program and nearly 1000 more have been reached through summer programs.	1. Promote healthy behavior among youths and their families. 2. Teach life skills rather than tell students which acitivites to avoid.	1. ACT (Adolescents Coaching Teens) -- High school leaders receive training by Going for the Goal staff. They then teach the program to middle school students and serve as concrete models for younger students. 2. Seven 45 minute workshops that are interactive and teach skills. Subjects are: Dare to Dream, Setting Goals, Making a Goal Ladder, Roadblocks to Reaching Goals, Overcoming Roadblocks, Rebounds and Rewards, and Putting your ACT together. 3. A summer program taught as part of recreational programming in Richmond. 4. Teachers Enhancing Adolescents' Competence and Hope (TEACH) where teachers are trained to reinforce skills taught by high schoolers. 5. Creating Opportunities for Preventive Education (COPE) where counselors are trained in life skills to help school transitions. 6. IBM celebration to recognize students. 7. VCU/Going for the	1. Going for the Goal staff to train high school students. 2. Project directors (3) 3. Project Coordinator 4. Project Consultant and school liaison.	Recently received grant for $165,000 to expand to other cities. Leaders' manuals cost about $12 each and student manuals cost about $6 each.	In one program evaluation: 1. Greater than 90% of the students reported learning how to set goals, enjoying making the goals positive, specific and important to them. 2. Students exposed to program were less approving of drug use by friends, ahd more positive expectations for future, felt less distress in their lives, and had higher self-esteem than those not exposed.

[43] Project BEST, Virginia Commonwealth University, Richmond, VA Contact: Dr. Diane Simon, Assistant Dean, School of Education, Virginia Commonwealth University, 1015 W. Main Street, Oliver Hall, Richmond, VA 23284 (804) 367-1308	41 At-risk minority college students; 41 at-risk minority middle school students.	1. To enhance retention of both student populations; 2. To enhance self-esteem of both student populations. 3. Through a one-to-one tutorial program, to increase academic performance of at risk middle school students. 4. To encourage affective growth through participation in a series of cultural events on-campus and in the community.	1. Tutorial program in mathematics and communication skills for middle school students. 2. Separate series of monthly workshops for both middle school and college students to enhance academic and affective skills. 3. Three-tiered mentoring program with VCU faculty mentoring VCU students; and, VCU students mentoring and tutoring middle school students.	1. Project Director. 2. Principal (Mrs. Jacqueline Cameron) and Assistant Principal (Dr. Margaret Jones) 3. Public school teachers at Binford Middle School. 4. National and local consultants for monthly workshop series.	$60,000 per year. Funded in its initial year by the State Council of Higher Education; Funded in the amount of $130,000 in 1989 by the Jessie Ball Dupont Fund for a period of three years.	1. 100% retention rate for middle school children. 2. 96% for college students. Assessment Instruments: I.A.R. Rosenburg. Recipient of Two national awards from: 1. Christa MacAuliffe Showcase for Excellence Award for excellence in strengthening relationships with local school districts; presented by the American Association for Higher Education, 1990. 2. The Presidents' Forum, American Association for Higher Education, award for exemplary work in accelerating minority student achievement, 1991.

[44] Project GOLD, (Garfield Options for Leadership Development), with support from the Garfield F. Childs Memorial Fund (Garfield) and Virginia Commonwealth University, Richmond, VA Contact: Mrs. Veronica Templeton, Co-Director and Director, GCMF; and Dr. Cathy Howard, Co-Director, Project GOLD (804) 644-9881, ext. 290	Middle school students housed in two low-income housing units in the Richmond area. All students are African-American, over 78% reside in female-headed households.	1. To succeed in providing a school-based prevention program for middle school age youth. 2. To provide opportunities for disadvantaged youth and to provide alternatives to dangerous afterschool and summer options for these youth.	1. Based on developmental model. 2. Provide 6 week summer program for 50 disadvantaged middle school age youth. Program involves creative expression, community service, job site shadowing, examining future choices and changes, and a finale for trips and activities. Program based on behavioral model with "coaches" to aid in behavior modification. 3. Establish after-school enrichment program that is developmentally and culturally appropriate. Emphasis on tutoring and diversity activities.	1. Director of Garfield. 2. Two work-study students at Garfield. 3. Graduate students at Garfield. 4. One part-time secretary. 5. Five graduate students at the middle school. 6. Teacher. 7. Program coordinator at middle-school. 8. Two undergraduate students at the middle school. 9. Collaboration with VCU Department of Psychology members.	Budget 1991-1992; $306,128.	No information available.

ELEMENTARY SCHOOL PROGRAMS

Name of Program Site, Location	Population Served (Grade, age, #)	Goals of Program	Key Components	Staffing Requirements	Costs	Evidence of Success
[45] Carver Promise Project, at G. W. Carver Elementary School (CES), Richmond, VA Contact: Kevin Best (804) 367-1260	125 third graders who are enrolled at CES as of February, 1991. Students are low income and mostly minority.	1. To bring a college education within the reach of students that might not have the means or precedent to attend. 2. Establish a model of urban educational success. 3. Identify four involved colleges as organizations committed to helping disadvantaged students. 4. Encourage undergraduate young adults to help others in society.	1. Four colleges in the Richmond area -- J. Sargeant Reynolds Community College, University of Richmond, VCU, and Virginia Union University -- promise they will each provide 10 undergraduate mentors to tutor and befriend the third-graders. Tutoring will be at least one hour each week. Mentors will see third graders one time monthly outside of school. 2. Mentors must continue for college years and the third grader will then receive another student when that one graduates so that the third grader has a mentor up through high school. 3. The colleges promise to provide sufficient financial aid to the students that graduate to attend one of the colleges (after being subject to normal admission standards). 4. Parental commitment and support.	1. Undergraduate volunteers. 2. Faculty or staff Campus Coordinator and Student Coordinator on each campus. 3. Third grade teachers and principal.	1. Financial assistance for college attendance.	No information available.

[46] Garfield F. Childs Memorial Fund, Richmond, VA. Sponsored by several corporations in Richmond area Contact: Veronica Templeton, Executive Director, GFCMF P. O. Box 26887 Richmond, VA 23261 (804) 644-9881	Serves an average of 1200 elementary school students per year. Students primarily from public housing units in Richmond.	1. To provide educational, social and cultural exposure for public housing residents. 2. Involve residents in community services. 3. Self-esteem building. 4. Cultural understanding.	1. Afterschool tutorial three days per week that includes help with homework as well as cultural enrichment. 2. Eight week summer enrichment program that serves 125 students per year. 3. Smarl Circuit Computer Center that provides basic academic tutoring, creative arts, career exposure, a mentoring program and wordprocessing. 4. Students provide chore and companion services to elderly residents in two homes for the aged. 5. Other community service is encouraged. 6. Field trips.	1. Garfield staff. 2. Elementary school staff and teachers.	Approximately $150,000 budgeted in 1990-1991.	In 1990-1991: 1. Tutorial program served a total of 120 students in grades 2-5. 2. Chore and Companion services were provided for 45 elderly residents. 3. The summer enrichment program provided 40 students with tutoring, computers, enrichment and language arts. 4. The Smart Circuit Computer Center served 400 students.

Characteristics of Business School Partnerships that are effective in helping disadvantaged students succeed

National High School Programs	Page Number		Field Trips	Small Classes	Child Development	Business Internships	Financial Incentives	Staff/Teacher Training	Self-esteem Improvement	Mentoring	Parent Involvement	Collaborative Learning	Ethnic Affirmation	Counseling	Affective/Social Skills	Tutoring	Decisions by Consensus	Extracurricular	Positive Climate	
ACCESS	56						•			•										
American Express Academics	56					•				•				•						
American River Colllege	57		•				•		•					•						
ASPIRE	57									•	•			•		•				
Bellarmine Community College Partnership	57					•														
Burger King Academics	58			•			•	•			•				•				•	
Career Beginnings Program	58					•				•										
Communities in Schools	59														•					
Fannie Mae	59		•				•			•				•	•	•				
FEMME	60	•									•			•						

Characteristics of Business/School Partnerships that are effective in helping disadvantaged students succeed.

	Page Number		Field Trips	Small Classes	Child Development	Business Internships	Financial Incentives	Staff/Teacher Training	Self-esteem Improvement	Mentoring	Parent Involvement	Collaborative Learning	Ethnic Affirmation	Counseling	Affective/Social Skills	Tutoring	Decisions by Consensus	Extracurricular	Positive Climate	
Ford Academy of Manufacturing Sciences	60					•		•												
Junior Achievement	61		•							•										
LSYOU	61			•				•	•					•						
MACESA	62		•				•						•	•		•				
Middle College High School	62					•			•		•	•	•	•			•		•	
The Minorities Program	63		•																	
New Orleans Project	63						•													
NUPREME	63		•				•				•					•				
The Orr School Network	64									•	•									
The OSN Career Beginnings	64					•			•	•				•						

Characteristics of Business/School Partnerships that are effective in helping disadvantaged students succeed.

	Page Number		Field Trips	Small Classes	Child Development	Business Internships	Financial Incentives	Staff/Teacher Training	Self-esteem Improvement	Mentoring	Parent Involvement	Collaborative Learning	Ethnic Affirmation	Counseling	Affective/Social Skills	Tutoring	Decisions by Consensus	Extracurricular	Positive Climate	
The OSN Colllege Tours Program	64		•							•			•			•				
The OSN Lighthouse Academic Program	65				•				•					•		•				
Pepsi School Challenge	65						•	•		•										
PLAN	66								•				•		•	•		•	•	
Project Discovery	66		•				•	•	•	•	•			•		•				
REHAMS	66		•				•							•						
Student/Sponsor Partnership	67						•			•										
Wegmans Work Scholarship Program	67					•	•			•										
National Middle School Programs																				
Delgado Community College	68		•											•						
I Have a Dream Foundation	68		•				•		•	•	•			•		•			•	

Characteristics of Business/School Partnerships that are efffective in helping disadvantaged students succeed.

	Page Number		Field Trips	Small Classes	Child Development	Business Internships	Financial Incentives	Staff/Teacher Training	Self-esteem Improvement	Mentoring	Parent Involvement	Collaborative Learning	Ethnic Affirmation	Counseling	Affective/Social Skills	Tutoring	Decisions by Consensus	Extracurricular	Positive Climate	
Taylor's Kids	68						•													
National Elementary School Programs																				
Chevron Accelerated Schools Program	69										•						•		•	
Comer School Development Program	69							•	•		•	•	•	•	•		•		•	
Fordham's Stay-in-School Partnership Program	70						•					•	•		•					
Kodak's 21st Century Learning Challenge	70		•		•		•	•		•										
Margaret H. Cone Center	71				•						•			•					•	
Project Seed, Inc.	71							•												
State of Virginia High School Programs																				
Bettter Information Project	72		•	•	•	•	•	•	•		•		•	•				•		
CHROME	73			•				•			•			•				•		

Characteristics of Business/School Partnerships that are effective in helping disadvantaged students succeed.

	Page Number		Field Trips	Small Classes	Child Development	Business Internships	Financial Incentives	Staff/Teacher Training	Self-esteem Improvement	Mentoring	Parent Involvement	Collaborative Learning	Ethnic Affirmation	Counseling	Affective/Social Skills	Tutoring	Decisions by Consensus	Extracurricular	Positive Climate	
Kenan Project	74								•	•	•		•		•	•				
Project Discovery	74		•				•		•	•	•		•	•	•				•	
Project YES	75								•		•			•						
State of Virginia Middle School Programs																				
Community of Caring	76							•	•		•		•	•	•				•	
Go for the Goal	77						•	•	•	•			•	•	•					
Project BEST	78		•				•	•	•	•	•		•		•	•		•	•	
Project GOLD	79		•	•	•	•		•	•	•	•		•		•	•		•		
State of Virginia Elementary Programs																				
Carver Promise	80						•			•	•					•				
Garfield Childs	81		•						•	•			•		•	•				

BENCHMARK BUSINESS/SCHOOL PARTNERSHIPS

High School Programs

- **The Fannie Mae/H.D. Woodson Senior High School Incentive Scholarship Program**

Fannie Mae is a successful program implemented by a committed company. Working from statistical data that claim American workforces in ten years will be two-thirds women and minorities, Fannie Mae seeks to prepare the local high schoolers for the challenge ahead. Not only is Fannie Mae hoping to secure skilled minority and disadvantaged students for their own industry, but the company views education as an investment in the future success of our nation as a whole.

The cash incentives Fannie Mae offers are motivational. Each student can earn up to $500 per semester toward college or other post-secondary education. But, in essence, the key to Fannie Mae's success lies in its mentoring abilities and efforts. Nearly 200 Fannie Mae employees are volunteering thousands of hours of work with the Woodson high school students with whom they have been paired. This partnership between student and employee includes academic help and enrichment activities. Furthermore, the mentors participate in career counseling and help the students secure further financial aid if necessary. Mentors are given ten hours off from work per week to be with their student's mentees. However, many employees spend a good deal more time helping the students with various activities and often become role models that are an encouraging and positive aspect of the students' lives.

Paid summer internships are available at Fannie Mae for students entering their junior or senior years. These internships involve work in many departments throughout the company with training and development classes. Fannie Mae also sponsors and teaches workshops at the company to introduce the students to business. Also, Fannie Mae staff is involved in career days and other workshops at Woodson to continue the interactional communication between high school and business.

Two full-time professionals staff the program daily. They are responsible for administrative concerns, counsel students in the program, and work with guidance staff to inform students about college and careers. They also hold workshops about the program at nearby middle schools to disseminate information and get the students striving for entrance to the program. Finally, this staff aids in the mentoring program and sets up extracurricular events, such as cultural field trips.

SOURCE: Fannie Mae Foundation. (1991). Fannie Mae/H.D. Woodson High School Incentive Scholarship Program and Futures 500 Club. (Available from Fannie Mae, 3900 Wisconsin Ave., NW, Washington, D.C. 20016-2899)

- **CHROME (Cooperating Hampton Roads Organizations for Minorities in Engineering)**

CHROME is a pre-engineering program with 10 participating school systems. It is supported by 28 businesses, colleges and government agencies. Membership dues provide the funds for the programs CHROME inspires. CHROME is governed by a board of directors, elected by the membership, who develop policies and govern the organization.

The stated mission of CHROME is to "increase the number of underrepresented minority and female students entering math, science, engineering and related technical fields." (p. 1). The programs are designed to complement regular educational programs.

CHROME utilizes a club model. The organization establishes clubs at any school that is interested. These clubs are led by a team of sponsors that includes a math teacher, science teacher, guidance counselor and language arts teacher. CHROME provides this team with training activities, learning resources, and a *Resource Directory* listing volunteer members of CHROME who will arrange for speakers, field trips, project help, and/or mentors for students. Hands-on activities in the named fields are strongly encouraged. Computer and video resources are available from the CHROME library.

Students go on field trips to work sites that enable the students to watch role models apply their knowledge in a work environment. Demonstrations and workshops are implemented by CHROME members and agencies. The club model has a built-in support network of peers, mentors and teachers. Even if the students do not continue on to college in one of the focus fields, the students enjoy the involvement and motivation CHROME clubs offer.

Thirty-three clubs are now in place in Virginia schools. In the 1990-91 school year, over 700 students participated in the CHROME clubs. Further, activities last year included CHROME's annual meeting where students were able to mingle with the business members, as well as government representatives and public school administrators. A special NASA workshop became a field trip for 25 CHROME students who qualified through an essay writing contest. There, the students received a tour of NASA research center and learned about future space stations and goals of NASA. Old Dominion sponsored a physics summer program for six Saturdays. Engineering Olympics and a Science-Technology Model Fair in Washington, D.C., were two other projects in which CHROME students were involved.

CHROME recognizes and supports student efforts in going to college. This past year, 120 seniors were accepted to college and are hoping to major in math, science or engineering. Schools included the University of Virginia, Howard University, and William & Mary. Many of these students received scholarships and awards. CHROME continues support in college with the CHROME alumni connection.

SOURCE: Cooperating Hampton Roads Organizations for Minorities in Engineering (CHROME). (September, 1990-August, 1991). Annual Report. Norfolk, VA: Author.

- **Communities in Schools (CIS)**

Communities in Schools (CIS) targets high school students who are high dropout risks. Begun in 1979, CIS is now in twelve cities and is still expanding. CIS works as a framework but each of the sites operates independently. Each site has a governing board for major decisions and planning. This board includes school, community, business and social service agency members. The name of the program describes the philosophy behind the organization. The project's philosophy is that the best way to help at-risk students is to bring the necessary helping agencies and business volunteers into the school.

A major principle of CIS is that most of the social services and other needs are already in place in the community. But, these resources are not being utilized in the schools and, in actuality, remain separate entities to which students seldom go. Students with problems are referred out to community agencies which are often large bureaucracies far from the school world of the students. Utilizing city government, school administrators and boards, businesses and volunteer groups, services are being provided in the schools.

With school teachers, these resources are forming small teams that can identify, assess and work with problems directly in the school. These members can track a student's attendance, discipline records, grades and classroom work. Counselors can deal with individual and family problems. Parents are encouraged to keep better track of their children. Substance abuse or rehabilitative counseling can be worked on at school and thus the need for referral becomes rare. The students are followed by the teams and feel more connected to the school. Help and hope do not seem so distant. Graduation becomes the goal of the team members and a realistic goal for the students.

Goals of the program include:

- Improving school attendance.
- Developing social skills, personal growth and employment skills.
- Increasing parental involvement.
- Decreasing negative social behavior or disciplinary problems.

Each site is different. Some provide afterschool care and supervision. Others provide group therapy and tutoring. Funds are supplied by the Job Training Partnership Act and state, city and county governments. Further monies are supplied by foundations and businesses.

Early intervention is stressed. Counselors and teachers are constantly aware of the warning signs and refer students when they think it is necessary. The programs appear to be working extremely well. In the Austin, Texas Independent School District, over 95% of program participants remain in school while 93% of those with behavioral problems have stayed out of serious trouble. Grades have improved and school absences have declined over 35%. Nearly 70% of the students have been promoted or graduated. This comprehensive program is a collaborative effort that focuses on the student and gets results.

SOURCE: Baizerman, M. & Compton, D. (1991, Jan.-Feb.). Services for at-risk students in schools; Would more be better and is better good enough? Children Today, pp. 7-11.

• Louisiana State Youth Opportunities Unlimited (LSYOU)

Louisiana State Youth Opportunities Unlimited (LSYOU) is a program focused on helping at-risk students graduate from high school. Based on theory supported by research, that many at-risk students have a difficult time and feel alienated with the large, formal and impersonal structure of most high schools, LSYOU is an effort to create and develop a supportive, alternative structure to keep at-risk students engaged in school and reduce the inevitable alienation these students feel. A participative management style was chosen for the base of LSYOU. This structure provides a vehicle for administrators, teachers, parents, staff and students to contribute to the decision making process at some level in the school.

Several aspects of the high school experience were personalized for LSYOU's program. First, program teachers and staff members were chosen on the basis of their participative management styles. The staff was trained in the concepts of the Quest National Center's Skills for Living program. This program includes: skills to develop self-esteem, deal constructively with feelings, develop a positive attitude; build relationships; appreciate family; establish trust, loyalty and commitment, manage finances, develop goals, and discover one's personal views.

Second, each class was no larger than 13 students. In addition to the teacher, each class had a tutor or teacher aide. This class size was helpful in providing individualized instruction as well as encouraging group participation, shared decision making, cooperative team work, supportive leadership and goal setting.

Third, students could earn credits for "regular" school classes. Academic goals included learning abstract concepts and improvement of reading, speaking and writing. Communication was emphasized as well as high standards and expectations for the students.

Fourth, all students spent a half day with an LSU professor. This project had the goal of having the student experience "real-life" and work with an accomplished professional. Fifth, each student had a team of counselors, teachers and program coordinators who met weekly to practice participative management and discuss the student.

Finally, students were encouraged to take part in extracurricular events and activities. Each student belonged to a group in the dormitory, which operated like a student government. These activities encouraged team work and involvement.

LSYOU is a summer program that has shown evidence that it helps academic skills as well as personal skills such as self-esteem, goal setting and maturity. It also has reduced the students' intentions to drop out. The participative management style seems critical to the success of the program in that the students feel a real sense of belonging to the program. Their voices are heard--by the teachers, role models and their peers. Students appear to become more engaged in the school process after the LSYOU program. The goal is, therefore, that these students will become more involved in "regular" high school and resist dropping out.

SOURCE: Gaston, S. N. (1987). LSYOU: The effects of an alternative organizational framework on students at risk for dropping out (Report No. CG-019-925). Paper presented at the Annual Meeting of the American Educational Research Association, Washington, D.C. (ERIC Document Reproduction Service No. ED 282 157)

- **Middle College High School**

Middle College High School is on the LaGuardia Community College campus. Founded to serve the needs of at-risk high school students, the goal was to provide a structure that would engage the potential dropout and help eliminate the risk of leaving school. The program seems to work. In 1985, the last year comparative data are available, 83% of Middle College students graduated compared with 50% citywide in New York City. In 1989, 75% of Middle College graduates went to college.

The major component of Middle College's program is the fact that it is on the campus of a college. This provides a concrete connection to the post-secondary educational world. In many studies, it has been found that at-risk students tend to look at college as an impossible mystery. College becomes a bigger-than-life myth for these students and their motivation drops. In Middle College's case, college is part of the everyday life of the high school. Students participate fully in the life of the college. Thus, it becomes not only a realistic picture in the students' minds but it also acts as a motivator to college entrance. The students attend college classes and see that they can pass. College credit is received that also goes toward the high school diploma. They have college IDs and access to the entire campus facilities and activities. This includes recreational facilities as well as computer labs, libraries and a writing center. The school calendars of both the college and the high school mesh as much as possible to allow true partnership. Faculty of the community college teach some classes at the high school and high school teachers can serve as adjunct professors at the college. The principal acts as a department head and is therefore involved in college planning and other meetings.

The culture of Middle College provides a sense of belonging by creating positive relationships between adolescents and adults. The students are on a first-name basis with the teachers which sets up expectations for a more equal relationship. The students wrote the Middle College Constitution and developed codes of conduct that apply to both students and teachers.

Communication is stressed. The maximum enrollment is 500 students. These are divided into 30 families with 17 students each, a guidance counselor and a family worker. These families meet three times a week at lunch and peers can discuss concerns and problems. Students who are failing are required to join a group and receive a pass/fail grade for group work. House teachers are involved in the students' daily life and remain relatively stable over the three years. A biweekly parent group has developed to discuss family issues and inform the parents about the students' progress. The parent group may include students.

These efforts seem to help the at-risk students engage in school. The structure is supportive for students as well as staff. There are greater resources available due to the proximity to LaGuardia Community College. Students are not only receiving encouragement to go on to college, but they are developing self resources that will serve them well in any setting.

SOURCE: Cullen, C. (1991). Membership and engagement at Middle College High School. Urban Education, 26(1), 83-93.

• PROJECT ASPIRE

This effort by Proctor & Gamble is a cooperative venture. ASPIRE involves students, parents, school personnel, the community, and Proctor & Gamble volunteers. Their commitment is to saving high school students in danger of dropping out or, in other ways, not receiving the high school education and life preparation they need.

ASPIRE is mainly a mentoring program. Each student involved receives one-on-one attention from a caring adult, either from Proctor & Gamble, or from the community. The mentors help the student with all parts of his/her life and education. Self-esteem and self-confidence increase through this relationship. The mentors work not only on academic support and career/college counseling, but they share their ideas, values, social skills and self-discipline. Furthermore, the students share in the mentor's work and thus are exposed to "real-life." Students are often taken out of school by the mentor, or the group coordinator, to go to an industrial plant, or to a workshop at Proctor & Gamble, or to sit in on a meeting with their mentor. This enables the student to start to think about the skills he/she may need in the future and set realistic goals in order to achieve them.

The project identified a project coordinator from the school administration. This person is a caring, committed individual ready to give every effort to change the dropout rate and low skill level. The coordinator and his team first identify students at risk of dropping out and assign them a mentor. Students who are at-risk of dropping out but are not reaching their potential are also targeted. These students become involved in a network of support, counseling and high expectations.

For the students who do not want to focus on college, for many different reasons, the program helps them select courses of study that will help launch them into a fulfilling career track. Mentors pass on career information and teach students how to research a career. Also, work habits and social skills become an objective. Mentors work on dress, manners and professional language and conduct. Students are encouraged to be involved in a job preparation program or an internship.

For the college-bound students, the mentors worry about the students becoming discouraged in the face of applications, interviews and essays. Mentors encourage these students and help take the mystery out of the college experience so it does not seem so overwhelming to the student. This includes visits to college campuses, attending college information days, helping students fill out lengthy financial aid applications, and just being available for stressful times.

In Cincinnati's Woodward High School where Project ASPIRE takes place, minorities make up 85% of the school and 30% are from low-income families. The school has enjoyed significant gains in grade point average, attendance, promotion, and decreases in dropouts and discipline problems since the program started in 1987. Quarterly evaluations of the students and the programs occur. The program coordinators and members feel this offers a check and balances system to maintain the progress they have made and continue to make.

SOURCE: Proctor & Gamble Company. (1991). Project ASPIRE: A guide for partners in education. (Available from The Proctor & Gamble Company, 1 Proctor & Gamble Plaza, Cincinnati, OH 45202).

ELEMENTARY SCHOOL PROGRAMS

- **Chevron Accelerated Schools**

The Accelerated Schools Program was developed by Dr. Henry Levin from the Center for Education Research at Stanford University. It is aimed at elementary school children who are beginning their education at-risk of failure. The theory behind the schools stems from the fact that most children who start kindergarten and are behind academically are tracked into remedial classes which may lead to a higher dropout rate later. The concept of Accelerated Schools is based on the principle that if these students are put into accelerated instruction, they will respond in a positive way and by the time they reach the sixth grade, they will have advanced to the level of their peers.

The Accelerated Schools Program is a collaborative effort. Chevron provides the funds while facilitators from Stanford guide the implementation. This program is a framework, not a single model, and thus it can be implemented anywhere with some guidelines. It also is a program that addresses the whole school, not a particular grade, curriculum or teacher method. The program is based on a common set of goals that will be the focus of everyone's energy. These goals are discussed and defined by the parents, teachers and students themselves as compared to being handed down by the administration. The goals are recommended to focus on re-engaging the at-risk children into the mainstream so their future educational experiences can be fully realized.

Parents, teachers and administrators have the ability to make important decisions for the school and home life in order to improve the education of the students. This power will hopefully break down the communication gaps and the tendency to blame one group or the other for failure. Instead, this arrangement facilitates a collaborative venture. Also, accelerated schools enjoy all of the learning resources that students, parents, school staff and communities can bring to the school.

The curriculum is heavily language focused, even in math. The students receive an early introduction to writing and reading for meaning. Parental involvement is emphasized. Parents must sign an agreement that clarifies the obligation of the parent, school staff and students. Parents also may receive training to actively assist and support their children or interact with the program in other ways.

The Accelerated Schools Program has utilized an extended day. This provides rest periods, arts, independent work period and physical activities. The extended day is also helpful for parents who work. Each accelerated school has a governing body or a steering committee composed of teachers and other staff. The principal is involved to guide the decisions and help initiate plans.

The Accelerated Schools Program has shown promise with two pilot schools in California. Chevron has funded the programs for three years, in which time, evaluations will be completed. After the three years, the goal is that the schools will assume responsibility for replication of the program.

SOURCE: Chevron Corporation. (1991). Chevron Accelerated Schools: Education packet. (Available from Chevron Corporation, 575 Market St., San Francisco, CA 94105-2856)

- **Comer School Development Program**

The Comer School Development Program is a framework or a set of principles to follow in establishing an elementary school. It is not a single program and thus, it has been implemented in many different school districts and grade levels over the years. In 1968, Dr. James P. Comer designed the program based on child development principles. It was piloted in two New Haven, Connecticut schools and within five years, the program was being disseminated more widely.

The Comer School Development Program is based on some abstract concerns that are meant to apply to the whole school. The program comes from a psychological and social background with the theory that a youngster's positive self-esteem is an immensely important prerequisite to any success in life. There are some concrete pieces that are key elements to the Comer program but underlying these recommendations is a need to personalize the program to the specific school district.

A major need is for a project coordinator who facilitates the program at the school level. Within the schools, this model calls for three structures that are at the center of the Comer program. A School Planning and Management Team develops a Comprehensive School Plan with input from the entire community. Members include teachers, staff, parents, counselors and administrators. Overall goals are articulated for improving the school climate, providing staff development, improving academic achievement and developing a community relations program. Since everyone is represented on this team, the hope is that everyone will have a bigger stake in the outcome and more effort and cooperation will be expended.

Another structure is the Mental Health Team made up of psychologists, social workers, special education teachers, counselors, and other support service staff. Beyond normal duties, this team focuses on prevention, child development and interpersonal relationships. Comer schools strive for caring, supportive social relationships within the school walls. These teams interact with each other and the students and aim at forming strong relationships among teachers, staff and students.

The third structure is the Parent Program which uses the PTA as the foundation for a more broad-based parent program. Volunteering time is encouraged of the parents and this team works to develop social events that will improve the school climate and help make the parents feel more involved and empowered.

These three teams are the central force behind the success of the Comer program. They work together with the students to establish a warm, positive climate which Comer believes fosters the self-esteem needed in a child's life. The construction of the Comer program fosters school spirit and cooperation.

The outcomes of the Comer program include teachers who feel more productive and students who feel a greater sense of self-worth and hope for the future.

SOURCE: Anson, A. R., Cook, T. D., Habib, F., Grady, M. K., Haynes, N. & Comer, J. P. (1991). The Comer School Development Program; A theoretical analysis. Urban Education, 26(1), 56-82.

- **Kodak's 21st Century Learning Challenge**

Kodak's educational programs span grades K-12. The goal of these programs in the Rochester City School District is to increase student interest in math and science to encourage retention in high school with the goal of completing college and entering a math or science related profession. Kodak's belief is that the more the children are aware of science and technologies, the most positive their attitudes and the higher their achievement and goals.

In examining Kodak's programs, one school provides a clear example of Kodak's hard work--Clara Barton School No. 2. This is a school that houses kindergarten through sixth grade but has programs that will extend through the students' high school years. Diverse programs and people have come together to make a difference in this school.

Since 1984, Kodak scientists have created and taught a year-long science curriculum that started with thirty fourth grade students and now includes 100 Kodak employees who work with 400 students. The scientists are part of, and receive support from, the National Organization of Black Chemists and Chemical Engineers. They help design the curriculum to fit with, and supply to, future endeavors in school and careers. Fifty other Kodak employees provide weekly science instruction to students in K-6. School scores on standardized tests have risen as much as 25 points since these programs began.

Over fifty Kodak employees mentor students on a one-on-one basis. The program links the student, parents, teachers and the employees who begin mentoring in the fifth and sixth grade and continue through the student's high school graduation. The mentored students visit Kodak's Research and Development or manufacturing facilities monthly to see applied science at work and to apply the knowledge they have gained in the classroom to real life problems and challenges. Mentors work with students on communication skills, quality concerns and workplace behaviors and work with students to offers continuous support outside of the school environment.

Another innovative program involves five teachers, the vice principal and a parent who spend one day a week at the Institute for Research and Reform in Education at the University of Rochester to design the 21st century goals for School #2. These plans include short-term and long-term goals for Clara Barton School. The Institute for Research and Reform in Education provides consultation and expertise in deciding the direction in which the school should head.

Kodak instructors work with the school teacher to team-teach hands-on science to the students. Both the school and Kodak feel the program is immensely satisfying and successful. Clara Barton School is just one of the Rochester schools that Kodak is helping to grow.

SOURCE: Eastman Kodak Company. (1991). New Patterns for New Partnerships. (Available from Education Initiatives, Eastman Kodak Company, 343 State Street, Rochester, N.Y. 14650)

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