RAISING MINORITY ACADEMIC ACHIEVEMENT

A Compendium of Education Programs and Practices

American Youth Policy Forum

The American Youth Policy Forum (AYPF) is a non-profit professional development organization based in Washington, DC. AYPF provides nonpartisan learning opportunities for individuals working on youth policy issues at the national, state and local levels. Participants in our learning activities include Government employees – Congressional staff, policymakers and Executive Branch aides; officers of professional and national associations; Washington-based state office staff; researchers and evaluators; education and public affairs media.

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Since 1993, the America Youth Policy Forum (AYPF) has studied and highlighted strategies and reforms that provide youth with high quality education and preparation for fulfilling careers. Part of AYPF's mission is to publicize best practices in the education and youth development fields to help policymakers and practitioners make informed decisions. As a non-partisan professional development organization, AYPF explores many options supported by a variety of philosophical underpinnings. Central to our approach is our focus on whether positive outcomes are achieved by young people. Our focus has not been explicitly on "high performing schools," "high performing programs" or "high performing administrators and staff" but on high performing *young people*. We consider schools, programs, administrators and staff to be high performing when they have positive effects on young people.

Understanding this focus of AYPF's work on high performing youth provides an important guide to using this volume. AYPF has spent five years collecting empirical *evidence* of youth *outcomes* and compiling them into readable volumes. This report continues our commitment to placing sound research and evaluation at the service of policymakers and practitioners as they wrestle with some of America's most enduring challenges—achieving true equality of educational opportunity and equity in educational outcomes.

In 1997, AYPF published its first compendium of summaries of evaluations of programs and practices that were found to be successful in propelling youth to rewarding careers and postsecondary education, reducing risky or illegal behaviors, and providing opportunities to youth who had dropped out of school or were leaving the juvenile justice system. That report, called *Some Things DO Make a Difference for Youth: A Compendium of Successful Youth Practice and Programs*, was so well received that AYPF produced a second volume, *More Things That DO Make a Difference for Youth* in 1999. In this era of increased national attention to academic achievement, many of the profiled programs in these two volumes were able to document *academic achievement* gains, as well as other positive outcomes.

Funding from the William T. Grant Foundation allowed for a re-analysis to determine exactly what the evaluations in the previous compendia could tell us about outcomes related to academic performance. This analysis is published in *Raising Academic Achievement: A Study of 20 Successful Programs* (2000)—programs with both the strongest achievement gains and the strongest evaluations. Five of the 20 programs directly addressed the question of minority student success. In particular, Alliance for Achievement (no longer in operation) and Gateway to Higher Education (currently expanding) illustrated (1) the long way minority students still have to go to eliminate the academic achievement gap, because despite their intellect and initiative, they are underepresented in higher level courses, SAT test-taking, college enrollment, and other avenues to higher achievement; and (2) how much these programs helped increase the numbers of minority students at higher and higher levels of achievement.

Again with William T. Grant Foundation support, a much longer journey was begun to find evaluations of educational programs that are working to raise the academic achievement of minority students. On this journey there were a few surprises, including that many well-known programs we had hoped to document had no evaluations. Often, we found evidence of success from other, less well-known programs. We learned of the width of the academic achievement gap between African American, Latino and Native American youth and their white and Asian peers, yet were encouraged by the many programs that recognized the gap and were working hard to increase academic achievement for their young people.

Since beginning this volume, we have witnessed an escalating concern about the "minority achievement gap." Some have even called it *the* education issue of the new millennium in policy circles and the media. We hope that this volume can help provide

guidance on what works for minority youth to reach higher levels of academic achievement.

A Few Words about our Focus on Academic Achievement

This report focuses only on *academic achievement*, not on the broader range of indicators of the first two compendia, such as employment and earnings data and reductions in risky behavior. In our compendia, the focus is on "hard data" primarily to "prove" the effectiveness of these programs, especially to those who are skeptical of softer measures. This decision coupled with the presentation of brief summaries of each evaluation, means that much rich information about other outcomes for youth may have been omitted.

In the first two compendia, information was provided on a range of *strategies* used by successful programs. The report, *Raising Academic Achievement*, narrowed the focus to what the program evaluations had to say about one set of outcomes. The current volume narrows the focus further to *academic* outcomes for *minority* students. Yet, within this academic achievement category, the focus is deep, seeking outcomes along an optimal pathway of academic achievement we wish all young people could take.

It is our hope that all young people will—

- *attend school, arrive on time, go to all classes*
- *read at grade level or above*
- *do well in the sciences, mathematics and technology*
- *persist to high school graduation*
- *be appropriately identified and served for any special needs*
- *obtain good grades (C or higher)*
- *have access to and do well in academically challenging courses*
- *have opportunities to apply their knowledge while in school (through work-based learning or service-learning)*
- *follow a coherent course sequence leading to postsecondary education*
- *take standardized and college entrance exams (e.g. Stanford 9, California Achievement Test, SAT, ACT, Achievement, and Advanced Placement tests) and obtain competitive scores*
- *make thoughtful guided decisions about college attendance and financing*
- *enroll in college*
- *have no need for remedial education in college*
- *sustain academic achievement and good grades in college*
- *sustain financial aid (reapply as needed)*
- *sustain college enrollment*
- *graduate from college*
- *and successfully pursue graduate/professional school degrees or fulfilling work in their chosen career.*

Information was sought for each level of educational achievement along this pathway. Information was also sought in the youth development literature about youth that are not in school, but there was little data on academic achievement to be found here. There was however, a great deal of writing on the topics of minority over-representation in special education, misidentification for special education, under-representation in gifted and talented programs, Advanced Placement, Honors and other advanced classes, and over-representation in the juvenile justice and adult penal systems. The research being conducted on these areas of concern is of great importance to the issue of minority academic achievement. However, summarizing the research on these topics was far beyond the scope of this report.

Additionally, within the pool of evaluations that met our rigorous criteria, there were few that provided detailed descriptions of the programs evaluated and the strategies used. So, while it is possible to identify strategies believed to be effective, practitioners wishing to implement these strategies or seeking to influence other types of youth achievement should use the contact information provided in each of the program summaries.

Raising Minority Academic Achievement: A Compendium of Educational Programs and Practices reports on a 22-month effort to identify, summarize and analyze evaluations of school and youth programs that show gains for minority youth across a broad range of academic achievement indicators, from early childhood through advanced postsecondary study.

The purpose of this report is to inform policymaking and funding decisions by providing easy-to-read, accessible, concrete, research-proven evidence of academic achievement gains for minority youth and information on successful program strategies. The report also aims to provide information that researchers, practitioners (school administrators, youth program directors, teachers, counselors, youth workers), families, community members and young people can use to evaluate, design, implement and advocate practices shown to be effective in raising minority academic achievement.

An exhaustive search of journals, research databases, and other sources yielded over 200 documents pertaining to education programs. To be included in the report, these documents had to use sound methodology and have measurable academic achievement data on racial or ethnic minorities. Those documents that met the criteria for inclusion were summarized in three to five pages and subjected to a review process that resulted in 38 being chosen for final inclusion:

Abecedarian Program – Chapel Hill, NC
Advancement **V**ia **I**ndividual **D**etermination (AVID) – nationwide
Alaska Onward to Excellence & Alaska Rural Systemic Initiative – AK
Boys & Girls Clubs of America – CA, FL, NY, OH, TX
Calvert – Baltimore, MD
Career Academies – nationwide
Chapel Hill-Carrboro City Schools – NC
Chicago Arts Partnership in Education – Chicago, IL
Chicanos in Higher Education – nationwide
Child-Parent Centers – Chicago, IL
City Schools – nationwide
Class Size: Project SAGE – WI
Class Size: Project STAR – TN
Class Size Reduction – CA
Compact for Faculty Diversity – nationwide
Dare to Dream – FL, IN, MN, TX
Emerging Scholars Program – nationwide
Equity 2000 – CA, MD, RI, TN, TX
Gateway to Higher Education – New York, NY
GE Fund College Bound – in 12 states
Head Start & African American Children – nationwide
Head Start & Latino Children – nationwide
High School Puente – CA
High Schools That Work – in 23 states
High/Scope Perry Preschool – Ypsilanti, MI
Historically Black Colleges and Universities – in 20 states
I Have a Dream – Chicago, IL
KIPP Academies – Houston, TX & Bronx, New York
Project GRAD – CA, GA, NJ, OH, TN
Puerto Rico Louis Stokes Alliance for Minority Participation – PR
Sacramento START – Sacramento, CA
Sponsor-A-Scholar – Philadelphia, PA
Success for All – nationwide
Texas District-Wide Initiatives – TX
Tribal Colleges – in 10 states
Upward Bound – nationwide
Urban Elementary Schools – GA, IL, MA, MD, MI, TX, WI
Vouchers – DC, NY, OH

- ***Early Childhood***—Evaluation findings were particularly strong and positive at the early childhood level. When compared to control groups, minority children who attend early childhood development programs are more likely to remain in school, complete more years of education, and require less special education.

- ***Elementary Through Middle School***—The elementary through middle school evaluations were almost exclusively focused on test scores. In most cases, improvements were incremental and even where minority academic achievement increased, the disparities in achievement between minority and white youth were highly apparent. Texas is probably the only state where achievement gaps between minorities and white students are being halved or cut even more. However, Texas students are measured on passing rates on only a minimum competency test. The question of whether higher levels of achievement are eventually reached remains unanswered.

- ***District or State Initiatives/K-12***—The report reviews several district or state initiatives, including class size reduction and voucher studies. Additionally, reforms in Texas, North Carolina and Alaska are reviewed. These evaluations tend to focus more on increased attention to accountability than on specific strategies used to increase minority academic achievement.

- ***High School/Transition***—Because they focus on more than test scores, the high school/ transition programs offer a better perspective of what is actually happening with their minority students. Among the positive findings from these programs were one or more of the following: increased high school graduation, more high school credits earned, higher GPAs earned or maintained, more college prep and Advanced Placement courses taken, increased enrollment in higher level mathematics and science classes, more college entrance exam-taking and higher scores, less need for remediation in college, higher levels of college enrollment at two- and four-year colleges, higher levels of college retention and graduation, and continuation in science-related majors or professions. Success is a relative word for most programs. Students may be entering college at a higher rate but their GPAs may be similar to peers in regular classrooms, or more students may be enrolling in academically challenging courses but also failing these courses in higher numbers. Evaluations of *Upward Bound*, *Sponsor-A-Scholar* and *Career Academies* show that improvements were most significant for those with higher risk of school failure and/or lower initial expectations, especially as they stayed in the program longer and participated more intensely. However, selective programs, such as *Gateway for Higher Education* and *High School Puente*, also indicate that high achieving students can perform at still higher levels when challenged.

- ***Postsecondary***—Fewer quality evaluations were available at the postsecondary level with data disaggregated by race or ethnicity. The postsecondary programs included in the report show African American, Latino and Native American youth succeeding in demanding careers and postsecondary education. However, their numbers are still quite small.

The school initiatives and youth programs included in this report provide concrete examples of efforts to increase achievement for minority youth. However, no "magic bullet" was found, that is, no one strategy was found to guarantee program success. Rather, it is recommended that practitioners implement a **comprehensive set** of the following strategies and continuously evaluate their effects. The ten most frequent strategies identified in this report are listed below from most to least frequently cited in the program evaluations.

- ***Program quality.*** Quality of implementation, leadership and accountability are three essential components of effective strategies that help ensure high program standards.

- ***Academically demanding curriculum.*** All early childhood programs included in this report provide preschool-aged children with challenging educational activities that are also developmentally appropriate. Concern with challenging curricula was equally apparent in K-12 programs.

- ***Professional development.*** Many of the evaluations report professional development activities including staff orientation, summer sessions, ongoing training during the school year and/or when changes in curriculum or school structure are implemented. Programs that rely on tutors or mentors offer them training and supervision.

- ***Family involvement.*** Approximately 40% of the evaluations report activities geared toward improving communication with families, or increasing family involvement with the programs. Although such efforts are concentrated on initiatives for young children, at least two high school programs also include activities to promote greater involvement of families.

- ***Reduced student-to-teacher ratios.*** Many programs showing academic gains for minority students include a range of strategies to reduce student-to-teacher ratios, including smaller classes, small learning communities, teacher aides, team teaching, tutoring, mentoring and other ancillary supports.

- ***Individualized supports.*** For students who are struggling academically, individualized support may be the difference between falling behind and moving ahead. Many programs utilize community members, college students, employers and other groups as tutors and mentors to address the academic needs of specific students, or offer support, feedback and encouragement.

- ***Extended learning time.*** Several programs use longer school hours, extra school days, Saturday and summer courses to provide students with more learning time.

- ***Community involvement.*** Several programs involve communities, both individuals living close to the program and the larger community such as employers, museums and artists. Community participation takes many forms, from reinforcing cultural traditions and knowledge, to advocating for improved academic achievement of minority students, to offering work-based learning opportunities for students.

- ***Long-term (multiple-year) supports for youth.*** Several programs encourage long-term, stable relationships between participants and knowledgeable adults, from two to five years in most cases.

- ***Scholarships and/or financial support.*** Several K-12 programs offer financial help to students who demonstrate high academic performance.

Based on AYPF's reflections on the reported evaluations, following are actions policymakers, practitioners, researchers, parents and community members can take to improve minority academic achievement.

- ***National leaders should continue to build consensus around acceptable achievement gains*** and require that these gains be shown for all student groups. National attention should focus on achievement differences among the states and ways to eliminate these differences.

- ***States should create benchmarks for improving academic achievement for all student groups*** and provide resources for school districts to attain those benchmarks.

- ***States and school districts should support and maintain high quality leadership*** and ensure the adequate implementation of programs to enhance minority academic achievement.

- ***School districts and schools should expect high achievement from all students*** and provide academically demanding curricula that are meaningful and available across schools and grade levels to bring all students to higher levels of knowledge and achievement.

- ***States and localities should develop a multi-layered "check" of achievement*** using a variety of test measures, such as NAEP, state-mandated tests, Stanford-9 or ITBS; and also use indicators that provide a broad perspective about students, such as classroom-based assessments, attendance, behavior (disciplinary incidents), course enrollment and passing rates, types of courses completed and graduation rates, among other measures.

- ***School districts and schools should provide professional development and support*** to ensure that teachers (and other involved adults, as appropriate) have a deep understanding of curriculum, are familiar with innovative instructional methods, and have knowledge and interpersonal competence with cultures other than their own.

- ***Schools should provide students, families and communities with specific information on what constitutes high academic standards*** and support their expectations for excellence in the educational system.

- ***Families, youth advocates and communities should hold schools accountable*** for high levels of achievement for all students, reinforce academic skills learned both at home and at school, and ensure that every child has an advocate outside of the school system or program.

- ***Reduced student-to-teacher ratios.*** A range of strategies should be employed by schools and programs to provide more personal teaching and learning environments to foster higher levels of academic achievement. These strategies may include smaller classes, small learning communities, teacher's aides, team teaching, tutoring, mentoring and ancillary supports.

- ***Extended learning time.*** To accelerate and reinforce student learning, programs should encourage or require additional time and opportunities (such as longer days, weekends and summer courses).

- ***Long-term supports.*** Programs should encourage student participation over an extended time (two years or more) to create and sustain stable relationships between participants and knowledgeable adults, and to help youth make successful transitions as they progress up the educational ladder.

- ***Scholarships and/or financial support.*** Programs should provide financial support to youth as needed to motivate participation and persistence in quality educational experiences. Programs should also provide continual guidance to youth and monitor the impact of the funds on student achievement, retention and graduation.

- ***National leaders, states and school districts should prevent minority students from falling behind*** by expanding early childhood programs and providing continuous guidance and supports through the elementary and high school years.

- ***National leaders, states and school districts should boost efforts to increase minority students' entry into and graduation from postsecondary education.***

The introduction to Section II, in which the Evaluation Summaries are presented, describes the obstacles and discoveries along the way to selecting the 38 evaluations included in this report. Observations garnered from the work of creating this report include the following:

- Finding useful evaluations of educational programs is a difficult task, particularly when criteria for assessing quality are used.
- The most useful research is based on simple but methodologically sound design and provides information that is clear and easy to understand.
- Without rigorous research, program practitioners may be perpetuating failing or mediocre interventions whose long-term consequences are costly to young people and society.
- Disaggregating data for analysis is essential to highlight areas that require improvement, as well as areas of proven success. Programs that claim overall success without disaggregating their data may be helping one group of students while masking the low achievement of other groups.
- Evaluations frequently "spin" results into "success" or hide less than successful results, rather than present a thoughtful and balanced analysis of what worked and what did not.

Based on the experience with this and the previous compendia, recommendations for improving educational research in the area of program evaluation include:

- ***A large-scale, national and comprehensive educational research agenda should be developed*** to (a) determine which strategies and policies have resulted in the most benefit, for whom, and at what cost, (b) provide guidance to evaluators on what type of research would be most useful to policymakers and practitioners and (c) provide guidance to practitioners on how to initiate and use program evaluation.
- ***Public and private funding sources should require and support high quality program evaluations*** and utilize findings to improve policy and practice.
- ***Data should be disaggregated by race, ethnicity, limited English proficiency, disability status, gender and poverty level and be made publicly accessible*** to researchers, educators, policymakers, families and the public at large.
- ***Researchers should look into a range of achievement indicators*** including, numbers of students enrolled and dropping out, attendance, test scores, GPAs, graduation, suspensions, expulsions, and special education referrals. They should also translate their findings into language that is accessible to policymakers, practitioners, educators, families and students, so that research findings can be translated into more effective education policies and practices.

At almost every educational level, schools and community-based programs across the country are reporting good news about the academic achievement of the minority students they are serving. Although gaps overall are still large, and most reported achievement gains are small, these programs have proven there is every possibility of succeeding in raising achievement for all. Implementing the recommendations above could help the nation move beyond a feeling of helplessness regarding achievement gaps by providing specific information on program design and strategies about "what works" to enhance academic achievement. The larger challenge is creating the ***national will*** to set in place mechanisms that will eliminate differences in academic achievement among students correlated with race or ethnicity.

Raising Minority Academic Achievement: A Compendium of Education Programs and Practices is the culmination of a 22-month effort to identify, summarize and analyze evaluations of school and youth programs that show gains for minority youth across a broad range of academic achievement indicators from early childhood through advanced postsecondary study.

The purpose of this report is to inform policymaking and funding decisions by providing easy-to-read, accessible, concrete, and research-proven evidence of academic achievement gains for minority youth, and information on successful program strategies. The report also aims to provide information that researchers, practitioners (school administrators, youth program directors, teachers, counselors, youth workers), families, community members and young people can use to evaluate, design, implement and advocate practices effective in raising minority academic achievement.

This report is divided into two major sections. Section I contains four chapters. Chapter 1 provides background and summary data on minority academic achievement and, as the title suggests, raises the question, is there—*Achievement for All?* Chapter 2, *Measuring Academic Achievement*, introduces the 38 education initiatives summarized in Section II, and describes the measures and levels of academic achievement for minority youth reported by evaluators. Chapter 3, *The Search for the "Magic Bullet,"* describes the most prevalent strategies used by programs in which minority youth made significant academic achievement gains. Chapter 4, *Moving Forward*, provides recommendations based on the report's findings.

Section II contains the 38 three- to five-page summaries of program evaluations and studies in alphabetical order. The summaries are preceded by an introduction, *A Journey Through Educational Research,* which reflects on the difficulty of finding evaluations meeting the criteria for inclusion and makes several observations regarding educational research. The *Glossary* defines research terms used in the report.

Following is a detailed description of the process by which AYPF chose the 38 educational initiatives that appear in this report.

1. Acceptance Criteria

At the outset of this project, a search was set in motion to collect evaluations of programs and initiatives aimed at improving the academic achievement of minority youth. Before initiating the search, the editorial team established the following criteria to guide the acceptance of documents:

- *Population* – The evaluations had to contain data on racial or ethnic minorities as defined in the adjacent box.

In this report, the term "minority" is used to identify racial/ethnic groups in the United States other than whites of European origin. The report uses the U.S. Census terminology for "minorities" including African Americans, Asians/Pacific Islanders, and Native Americans/ Eskimos, but adopts the broader category "Latinos" rather than "Hispanics." In addition, Asians/Pacific Islanders has been shortened to "Asians" and Native American/ Eskimos to "Native Americans" except in the summary of the *Alaska Rural Systemic Reform* program. The terms African American and Latino are used in this report even when evaluators used the terms Black or Hispanic. Although an effort was made to cover all groups, more information was found on African American and Latino youth than on other minority populations.

- *Measurements* – The studies had to include measurable (quantitative) data related to academic achievement of minorities. Preferably, they would present a set of measures including: school attendance; grades; credits completed; test scores on state mandated tests and/or national achievement tests (such as SAT, ACT, Achievement Tests and Advanced Placement Tests); high school graduation, college access, retention, and receipt of undergraduate and graduate degrees.

- *Methodology* – Since expected findings were quantitative, the evaluations should adhere to accepted standards for quantitative research. Therefore, the following requisites were delineated: (a) research design – experimental or quasi-experimental, pre- and post-treatment, and longitudinal studies; (b) research period – the study should cover at least one school year; (c) researcher – preferably independent, that is, not directly associated with the program's funding source or implementing organization to avoid bias; (d) sample – randomized sampling procedures, control and comparison groups should be matched to the treatment group by demographics and level of academic achievement; and (e) the data should be analyzed statistically with levels of significance not to exceed 5% (for discussion about the methodology used in the evaluations, see *Section II, Introduction*).

- *Period* – Preferably, programs and initiatives should be current. For this reason, the search was limited to evaluations conducted within the past five years, with two exceptions: ongoing longitudinal studies, such as the *Abecedarian* report, and studies that are still frequently cited in discussions of initiatives, such as the *Tennessee STAR* research.

- *Scope* – In a departure from previous AYPF compendia dedicated solely to successful programs and practices, we decided to include studies of large, well-known programs and relevant federal initiatives that fit these criteria, even if they had mixed or negative findings. Another group of acceptable studies were qualitative research that provided a voice to minorities on the factors that they saw as influencing their academic success.

2. Search Strategies

The search for evaluations included the following sources:

- Large databases, including the Educational Resources Information Center (ERIC) and library collections.

- Internet search of over 50 associations and research centers dedicated to education and minorities.

- Direct contact with program coordinators, policymakers, funding officers, and researchers.

- Distribution of flyers requesting evaluations during forums, conferences and similar events.

- A request for evaluations posted at the AYPF web site (http://www.aypf.org).

The search also relied on the expertise of the project's Advisory Board to indicate relevant reports and researchers who specialized in this field.

3. The Review Process

The written summaries passed through a review process divided into four steps:

- *Internal review* – The editorial team reviewed all summaries, making comments, and suggesting changes or documents to be eliminated.

- *External review* – The summaries approved in this first review were then sent to an external reviewer to assess once more the quality of the research, propose

improvements, and suggest further elimination of weaker documents. At this stage, members of the Advisory Board also had the opportunity to read the summaries and make comments and suggestions.

- *Researchers' review* – After another round of editing, the summaries were provided to all the program evaluators and directors to review for accuracy.
- *Final review* – The AYPF directors and the editorial team read the summaries once more for final editing and approval.

Of the more than 200 documents reviewed, 38 made the final cut. Although this report is a collaborative effort, it should be reiterated that the final decision on which summaries to include and the opinions expressed in the report are the sole responsibility of AYPF.

Schooling is a top concern of many Americans, including the subject of presidential and legislative debates. No matter how wide ranging the issue, the overriding question is: "How can we raise academic achievement?"

This question has been approached with increasing gusto since the 1983 *A Nation at Risk*[1] report decried "mediocrity" in education and has intensified after results from the Third International Mathematics and Science Study (TIMSS) showed U.S. students trailing students from other developed nations. The reaction has been a heightened interest in testing student achievement and a flurry of education reforms, many of which have not been subjected to strict analysis and rigorous evaluation.

We know from a number of indicators that progress is being made in advancing academic achievement in American schools. In 2000, *Do You Know the Good News about American Education?* reported positive information about our public schools, including decreases in high school dropout rates; increases in the number of students taking more challenging courses; improvements in mathematics and science achievement; increased SAT and ACT test scores; more students taking Advanced Placement classes; more students going on to higher education; and more Americans completing four-year college degrees.[2]

However, there is evidence that these gains are not evenly distributed across populations of students. Are higher average indicators hiding pockets of low performance or large gaps in achievement? While this question is relevant to many categories of students (e.g. across gender, socio-economic status and disability status) the focus of this publication is on racial and ethnic minorities.

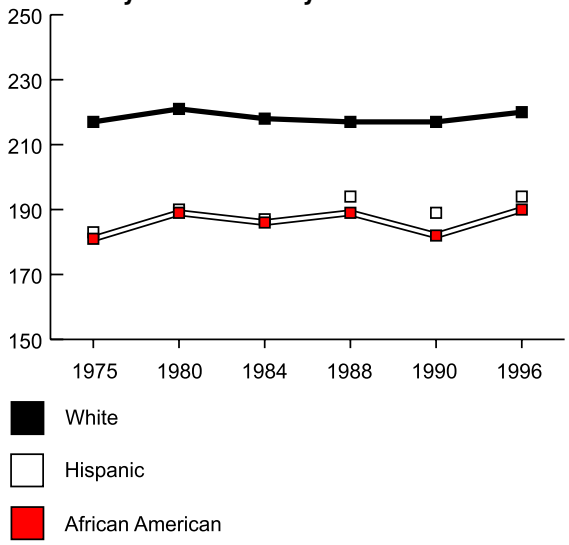
In effect, *A Nation at Risk* set the bar of high achievement—"Our goal must be to develop the talents of all to their fullest." It also provided the caveat: "that a public commitment to excellence and educational reform must [not] be made at the expense of a strong public commitment to the equitable treatment of our diverse population." Finally, it honed in on the repercussions of failure to include all young people in these elevated expectations. The concern with excellence was maintained in the educational legislation that followed, including the *Goals 2000: Educate American Act,* the *Improving America's Schools Act* and others. States have also enacted legislation requiring high standards for all students and more accountability for public schools.

The question is, are we keeping the promise?—a promise echoed over and again in challenges to "leave no child behind" and reflected in the collective voice of many education leaders that minority academic achievement may be the most important educational and social issue of the century.[3]

Despite the encouraging statistics on educational achievement for young people in the aggregate, there is no denying that, for the majority of African American, Latino and Native American youth in the United States, the educational system is not fulfilling its promise. In fact, when data is disaggregated by race or ethnicity, disparities appear. Assessments of kindergarteners already show that African American and Latino children are over-represented in the lowest quartiles of achievement tests.[4]

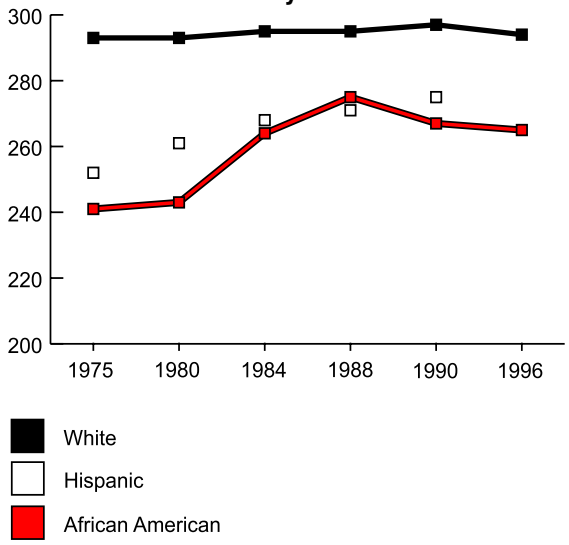
As minority children move through their school years, the differences persist. For the past 30 years, minorities (except for Asians) have scored consistently lower than whites on all National Assessment of Educational Progress (NAEP) tests.[5] For instance, the average 1975 NAEP reading scores for 9-year-old African American and Latino students were about 30 points lower than the average scores for white students. After some improvement in the early 1980s, the gap in 1996 increased again, as shown in Figure 1. For 17-year-old students, the 1980s represented a period of

Fig. 1 - Average NAEP reading scores of 9-year-old students by race/ethnicity: 1975-1996



Source: Adapted from U.S. Department of Education, National Center for Education Statistics, The Condition of Education 2001, *NCES 2001–072, Washington, DC: U.S.*

Fig. 2 - Average NAEP reading scores of 17-year-old students by race/ethnicity: 1975-1996



Source: Adapted from U.S. Department of Education, National Center for Education Statistics, The Condition of Education 2001, *NCES 2001–072, Washington, DC: U.S.*

improvement, with gaps in average scores being reduced by 40 points for African Americans and more than 20 points for Latinos, but again falling, although less sharply, in the 1990s (Figure 2).

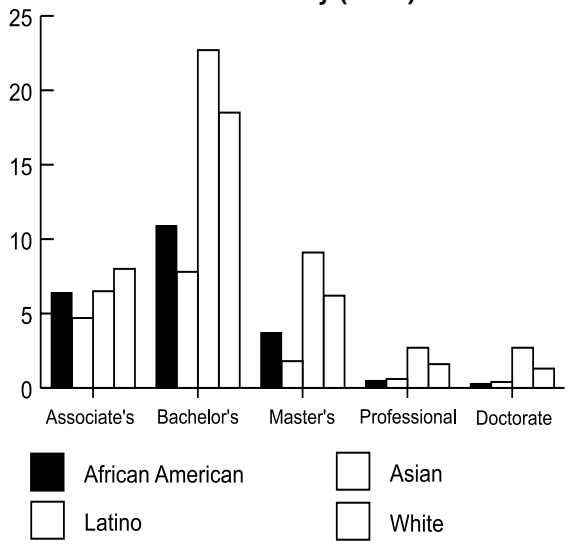
It is true though that more Americans are graduating from high school now than 30 years ago, and the graduation gap between white and minority students has narrowed significantly. In 1971, 82% of whites in their mid-twenties had graduated from high school compared to 59% of African Americans and 48% of Latinos. In 1999, white and African American high school graduation rates were much closer at 93% and 89%, respectively. However, the Latino high school graduation rate still lags far behind both white and African American high school graduation rates at 62%.[6]

Similarly, SAT scores reveal an increase in minority academic achievement in recent years, yet a gap remains. The gap is largest for African American students, whose mean scores on the math and verbal sections of the SAT are approximately 100 points lower than the mean score of white students. Latino and Native American students have less of a gap, between 45 and 75 points lower than the mean score of white students. Asian students outscore white students by 35 points on the math test, but have a mean that is about 30 points lower on the verbal test.[7]

Although college access for minority students has increased in the past 30 years, an achievement gap still remains. Between 1971 and 1999, the percentage of white high school graduates who completed a bachelor's degree or higher increased 13%, from 23.1% to 36.1%. In this same period, the increase was only 5% for African Americans, from 11.5% to 16.9%, and 4% for Latinos, from 10.5% to 14.4%.[8] As Figure 3 indicates, in 1999 whites were twice as likely to obtain a bachelor's degree than their African American and Latino peers. Asians out-performed all other subgroups in the completion of postsecondary degrees, except for the associate's degree.

In summary, minority youth have showed steady gains in many academic indicators in the past decades, but they still have a long way to go to reach parity with their white peers. Explanations about the reasons for this discrepancy are many and agreements are few. On average, minorities are

Fig. 3 - Percentage of population 25 years and older with postsecondary education by race-ethnicity (1999)



Source: U.S. Census Bureau. Current Population Survey, March 1999. Educational Attainment in the U.S., *table 10. Online at www.census.gov/population/socdemo/education/p.20-528/tab10.pdf*

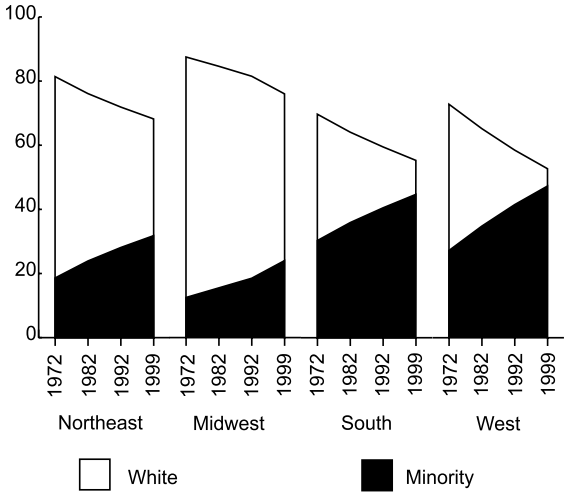
starting from much lower baselines, at least in part a reflection of long years of segregation and discrimination. Inequalities in income, school resources, and the quality of teachers have also been frequently cited. A discussion on the many theories about the academic achievement gap is beyond the scope of this report. However, as this publication shows, when programs and policies emphasize academic achievement and provide quality supports, minority youth rise to the occasion.

Although non-Latino whites constitute more than 70% of the total U.S. population,[9] the term "minority" disguises the fact that the proportion of non-white students in America's public schools is rising and already represents the majority of students in many localities. As Figure 4 indicates, between 1972 and 1998, the proportion of minority students in public schools increased from 22% to 38%. For Latinos, the proportion more than doubled from 6% to 15%. Enrollment varies according to regions and in the West and South minorities already constitute 47% and 45% of the student population. The increase in the proportion of "minority" youth means that the prosperity of the nation will be increasingly dependent on the knowledge and contributions of minority young people.

From speculations about our nation's poor performance on international tests of knowledge to a real lack of skilled workers, it is increasingly apparent that every American counts. As the United States turns overseas to recruit more and more workers for highly skilled job openings, we abandon our own undereducated youth at our own peril.

Moreover, failure to deliver on the educational promise only alienates young people from schools and other social institutions. For example, as Kati Haycock, Director of Education Trust comments, "Many young people are totally undone by the gaps between high school and college. They do everything their high schools tell them to do to get a diploma. But when they show up at even the local

Fig. 4 - Percentage of public school students enrolled in grades K-12 who are minorities by region. October 1972-1999.



Source: U.S. Department of Education, National Center for Education Statistics. The Condition of Education 2001, *Indicator 3, page 8, Tables 3-2, pp. 112-113. Washington, D.C. 2001.*

community college, they do not have the knowledge and skills necessary to begin credit-bearing courses."[10]

Over-represented among the poor, minority youth are often in schools with the fewest resources, the least qualified teachers, and the least challenging curricula. Low-level achievement leads to less prestigious employment, lower wages, and poorer housing conditions served by the poorest schools. This cycle, well known to many minority families, further contributes to a feeling that school has little promise for change.

New research is more hopeful that decreasing the educational gap between racial and ethnic minorities and white Americans will reduce economic gaps as well. In 1972, Christopher Jencks argued that reducing educational inequalities in America would not reduce economic inequalities. However, in 1998, the findings of Jencks and Meredith Phillips suggest that due to the progress America has made on other social reforms, particularly in the workplace, the effect of increasing minority academic achievement on earnings and other measures of social equality would be more substantial than in 1972. On the topic of the academic achievement of African Americans, they found that "the test score gap between blacks and whites turned out to play a much larger role in explaining racial disparities in educational attainment and income than many had realized." If "racial equality is America's goal," the authors write, "reducing the black-white test score gap would probably do more to promote this goal than any other strategy . . ."[11] Other minorities would similarly benefit from reductions in the achievement gap.

The focus on standards and accountability in educational reform has led to efforts to disaggregate data and share the results widely. Without this attention to detail, the public would know less about the width of the minority academic achievement gap. According to a report from North Carolina, "the facts about the 'educational condition' of minority children have been known by education leaders for years. Despite having the facts, there has been a reluctance to tell parents, policymakers and the public the truth about how schools are doing in educating students of color." [12]

Exposing the gap may force school districts to eliminate it. Daniel Domenech, Superintendent of Fairfax County Public Schools, VA, has stated that an advantage of Virginia's Standards of Learning (SOL's) has been to pinpoint disparities between schools within his district and to help him advocate for resources targeted to the areas of greatest educational need.[13] Also, the trend towards collecting, disaggregating and sharing data has given a new empowering tool to youth, parents and community members in demanding better school experiences and outcomes. For the first time, it is apparent *exactly* how much minority children are denied.

While some states have collected enrollment data by race/ethnicity for years, most are just beginning to grapple with the extent to which educational inequities remain. Texas was the first to report achievement data publicly and require that schools show achievement gains not only for the student population as a whole but also for each subgroup. In addition, 2000 was the first year in which the federal Title I compensatory education programs, designed to address the special needs of children in high poverty schools, required all states to collect and publicly report disaggregated achievement data by race and ethnicity.[14] Individual Title I school administrators and teachers will be held accountable for ensuring that each racial/ethnic group as well as the school as a whole is making significant educational progress against some external standard (usually a standardized test based on state standards of learning).

As school districts continue to disaggregate and make public their achievement data, a complex picture of educational differences is emerging, wealthy well-resourced suburban communities have been "shocked" to discover that even in their comfortable middle and upper-middle class communities, with a measure of economic equality and high achievement on average for their youth, goals of academic achievement for *all* have not

been met. For instance, a suburban New York school district, with a reputation for diversity and tolerance, has recently released statistics disaggregated by race. The data led parents, African American and white, to accuse the school district of systemic segregation including steering African American students away from honors courses and into special education, disciplining them at disproportionate rates, and allowing their test scores to lag far behind those of whites for a decade.[15]

Much of the discussion on raising the academic achievement of minority students focuses on reducing the "achievement gap" between white and Asian students, on one hand, and African American, Latino and Native American students, on the other. For non-Asian minority students, a policy that focuses solely on closing the achievement gap has several pitfalls:

First, gaps may close because the performance of higher achievers falls, and equity is achieved through the lowest common denominator.

Second, gaps may stay the same because the performance of *all* groups increases. Or, gaps may also increase, because even though all groups perform better, the program has a stronger impact on high achieving groups. For example, the *GE Fund College Bound* program was successful at raising the college enrollment of all students, but white students experienced *greater* gains. Though this was a positive outcome, it actually increased the college enrollment gap between white and African American participants.

Third, focusing on reducing the gap in one state may obscure pronounced academic achievement differences between states. For instance, using 2000 NAEP data, reducing the 25 point gap between Latino and white students in California would increase Latino scores to 227, only 3 points above Latino scores in Texas, yet still 19 points below white scores in Texas (see Table). Therefore, policymakers should work to decrease minority academic achievement gaps, while also setting high academic achievement goals for all youth.

Average scores of students in selected states at the 4th grade 2000 NAEP mathematics assessment

Race/Ethnicity	TX	CA
White	243	227
African American	220	191
Latino	224	202
Asian/Pacific Isl.	246	226
Average	233	214

Note: A ten point difference in the test corresponds roughly to one year of learning.

Source: National Center for Education Statistics, The Nation's Report Card. 2000 Mathematics Assessment, Grade 4 Public School Students. Percentage of Students and Average Mathematics Scale Score by Race/Ethnicity. *Available at http://nces.ed.gov/nationsreportcard/naepdata/.*

Fourth, gaps may appear to close because the focus has only been on the students still in school, with no regard for the youth who drop out of the system. Some educators are concerned that the use of "high stakes" tests as a graduation requirement may encourage less prepared youth to drop out of school, thereby removing them from the test-taking population.

Finally, the idea of raising academic achievement recognizes the need for changes, but says little about the overall quality of the education provided. The challenge is to define "quality" education and determine the benchmarks against which students' performance will be evaluated. This discussion merits continued national attention but is beyond the scope of this report.

This chapter addresses the question of "what is happening in programs and initiatives that aim to improve the achievement of minority youth?" We discuss the findings of the 38 evaluations chosen for this report, taking a journey through the school experience of minority youth, from early childhood to postsecondary education. The report relies on measures and indicators imposed by states, school districts or researchers. Their findings are based on different populations and varying program objectives and strategies. Recognizing these limitations, no attempt is made to create a common denominator to define "success" or to compare programs among themselves.

This report includes five summaries of four early childhood programs. *The Abecedarian Project* and *High/Scope Perry Preschool* were experimental preschools funded in the 1960s and 1970s to serve low-income, African American children. Both are no longer in operation, although the High/Scope curriculum is used in preschools around the country. *Child Parent Centers (CPC)* is an ongoing Title I-funded program with multiple sites in high-poverty Chicago neighborhoods that are not served by Head Start. *Head Start* is a federal program established in 1964 as part of the federal government's "War on Poverty." It provides matching funds to localities for comprehensive programs that offer low-income children, ages 3 to 5, with supports and stimuli to improve their chances of academic success.

All summaries describe longitudinal studies of participants. The evaluations of the A*becedarian Project, High/Scope* and *CPC* compare program participants to matched control groups, following the two groups through more than 20 years. The small sample sizes (except for *CPC* with a sample size of 1500), determined in part by the longitudinal nature of the studies, leave the conclusions open to questions. While it is difficult to identify precisely what factors influence an individual's behavior over 20 years, the duration of these evaluations offers a rare view of the potential impact of early interventions on participants' lives. The two *Head Start* evaluations review ten years of national databases. The 1995 evaluation compares the impact of the program for African American and white children, and the 1999 evaluation compares Latino and white children.

Findings are quite similar in all five early childhood evaluations. When compared to control groups, children who attended childhood development programs are more likely to remain in school, complete more years of education, and are less likely to attend special education. Attending *Abecedarian*, for instance, cut in half the likelihood of participants receiving special education. Lower grade retention rates are cited in *CPC* and *Head Start*. The 1995 *Head Start* evaluation refers to a nearly 50% reduction in the likelihood that a program participant will repeat a grade in elementary school. Participation in *Head Start* was found to cut between one-quarter and one-third of the Latino-white score gap on the vocabulary, math and reading sections of the Peabody tests.

This improved schooling may partially explain the positive social and work outcomes for program participants. *High/Scope* and *CPC* evaluations report a decline in arrests for youth who attended early childhood programs, while *High/Scope* and *Abecedarian* report that participants, now in their twenties, have more skilled, better paid jobs. (*CPC* reports that men benefit more than women.) According to the *CPC* evaluation, longer attendance produces stronger results.

In contrast to long-term gains reported in the *High/Scope* and *Abecedarian* studies, the 1995 *Head Start* evaluation found a decline in the academic gains of African American children after leaving the program. The benefits gained from *Head Start* were gradually lost and, by age ten, African American participants retained no gains, while white participants still retained an overall gain of five percentage points. The evaluators hypothesize that differences in the two sub-groups of children explain the loss of gains, since African American children in *Head Start* are more likely to be poor, live in poorer neighborhoods and attend schools with fewer resources than their white peers.

Critics contend that evaluations of early childhood programs have biased samples, since parents who take time and effort to enroll their children in these programs are already more involved than parents of children outside the programs. This may be true, although it is a leap to imagine that all children who are not in early childhood programs have uninvolved or uninterested parents. Many reasons affect a parent's decision not to use an early childhood program, from lack of programs near their neighborhoods to cultural tradition. As the 1999 *Head Start* evaluation found, Puerto Rican children who remained home did better in school than those who went to Head Start or other preschools. Remaining home in this case was not an indication of inadequate parental motivation or involvement with the child. True randomized control-treatment groups bypass this discussion, but such groups are difficult to define in real life. It is also true that early childhood programs can only do so much for an individual's life and that many other factors will contribute to one's success or failure 20 years later.

Even with such caveats, the evaluations of early childhood programs show a strong pattern: such programs increase the chances for low-income children, including minority children, to do well in school and in life. In education, as in the health care field, investing in prevention is a cost-effective strategy. However, as no health care system can rely solely on preventive care, no education system can be satisfied without good K-12 schools to maintain and expand the educational gains of the early years.

The majority of evaluations focused on the early elementary years, with only a few presenting data for grades six to eight. After-school programs were included in the search for evaluations, but for most of them, academic achievement was only a minor focus of a broader social mission, mainly to offer children a safe and supportive environment. Two after-school programs had evaluations with enough data on academic achievement and strong enough methodology to justify their inclusion in this report: *Boys and Girls Clubs of America* (B&GCA) and *Sacramento START.*

B&GCA is a private, not-for-profit organization with clubs nationwide. The evaluation focused on an academic enrichment program offered to school-aged children who live in public housing projects. The program showed statistically significant increases on a variety of measures for program participants. During the 18-month evaluation, participants' school attendance rates nearly doubled and their average grades increased from three to six points in different subject areas, while the comparison groups showed a decline in both measures in the same period. *Sacramento START* is an after-school enrichment program for elementary school children in low-income neighborhoods financed by the City of Sacramento, CA. The evaluation used school district data and matched comparison groups. It showed some improvements for all students, with striking improvements in test scores for students who had started the program with the lowest grades.

Among the school programs included in this category, *Calvert* is a traditional, highly structured elementary school program transplanted from a predominantly white, middle-class private school into an all-African American low-income public school in Baltimore City. The evaluation uses a pre/post-treatment design with three cohorts. Before its

implementation, no first grade in the public school had scored above the second quartile on the Maryland state tests. Three years later, the percentage of students scoring above the second quartile was 42%. For third graders, only 6% had scored in the third quartile before the program; one year later, 38% of the students had reached this quartile. The program's 97% attendance rate was among the highest in the city.

The *Chicago Arts Partnership in Education (CAPE)* proposes an innovative approach to learning that involves arts in all subjects, taught by teams of teachers and artists. The program targets low-income K-12 schools with large numbers of African American and Latino students. The evaluators found a 50% increase in sixth grade scores on the Iowa Test of Basic Skills (ITBS) and nearly a two-year increase in the reading level of ninth graders, as measured by the Test of Achievement and Proficiency (TAP) for *CAPE* students between 1992-1998.

KIPP Academies are charter schools that serve low-income African American and Latino students from grades five to nine. The academies offer a curriculum that focuses on "high standards" and college preparation. Within two years, the passing rates on the Texas Assessment of Academic Skills (TAAS) for *KIPP* students in Houston, TX, increased from 33% in mathematics and 63% in reading to approximately 100%. The *KIPP Academy* in the Bronx, New York, has been frequently rated the highest performing middle school in the area in terms of average attendance, reading and mathematics.

Success for All is a reading program that has become one of the largest elementary education initiatives in the country. It uses small reading groups based on skill level rather than age, one-on-one tutoring, and a structured school day. Of the many evaluations of *Success for All*, this report includes a recent review of the TAAS database. *Project GRAD* is a comprehensive K-12 school-wide reform that uses a mix of strategies, including *Success for All* and others. The evaluation focuses on Texas schools and compares test scores for *Project GRAD* students with students in matched schools. *Urban Elementary Schools* reports on nine schools across the country that are increasing the scores or passing rates of minority students on different tests, including the TAAS.

All three evaluations show increases in the percentage of students passing the TAAS. *Success for All* students show higher rates of improvement in comparison to students statewide, and a three-fourths reduction (from 25% to 6%) in the TAAS score gap between African American and white students from 1995 to 1998 (statewide, the gap was reduced from 25% to 14%). *Project GRAD* doubled the TAAS passing rates, particularly in math. In addition, it reduced disciplinary referrals by 74%. *Urban Elementary Schools* describes a school in San Antonio (Baskin Elementary) that eliminated the gap in passing rates for African Americans and Latinos within four years. Another school in Houston (Lora B. Peck Elementary) raised passing rates for Latino students on the writing section of TAAS from zero to 90% in the same period.

Unlike the early childhood programs that follow students to the next level of schooling, the elementary through middle school evaluations appear more compartmentalized, providing information only within the elementary through middle school boundaries. The school adopting the *Calvert Program* is showing incremental improvements in the Maryland state test, although scores are still below the state's satisfactory levels in all grades and subjects.[16] No research on *Success for All* was found that follows students beyond elementary school grades. Therefore, it cannot be determined whether improvement in these test scores is reflected in better performance at the high school level.

In most cases, improvements appear quite modest while the disparities in achievement are striking. Texas is probably the only place where achievement gaps between minorities and white students are halved or cut even deeper, but these students are being measured on passing rates on a *minimum* competency test.

As the report indicates, many schools are working hard to improve achievement indicators for all students and not only a privileged few. The schools that are improving their students' academic performance are starting from extremely low levels and through incremental gains are approaching a point closer to the middle. How these programs affect minority students who are already beyond the middle point is not clear. This observation is not a criticism of those schools or their districts and states. On the contrary, these schools deserve kudos and support for making a concerted effort to raise the achievement of their students. Moving the students from unsatisfactory levels to basic is a good start. However, the ultimate objective must be to bring all students, including minority students to much higher levels of knowledge.

Among the large initiatives covered in this report are three statewide projects on reduced class sizes (*Project STAR* in Tennessee, *Project SAGE* in Wisconsin and *Class Size Reduction* in California); the evaluation of three citywide experiments with vouchers (*Voucher Schools*); a statewide initiative for Eskimo and Native American students in *Alaska Onward to Excellence/Alaska Rural Systemic Initiative;* a review of the statewide accountability reform in Texas, focusing on four school districts (*Texas School Reform*); a compilation of data on 48 urban public school systems nationwide (*City Schools*); and a district wide initiative to improve the academic achievement of African American students in North Carolina (*Chapel Hill-Carrboro City Schools*).

Project STAR was a groundbreaking study on the impact of reduced class size on academic achievement, mandated by the Tennessee legislature in 1985. The evaluation involved 7,500 children in grades 1 to 3 and compared children taught in classes of 17 students per teacher with children in larger classes with and without a teacher's aide. Evaluators found that students in small classes did better than both control groups on all tests. The effect size of small classes on African American students was double that of white students. A follow-up study of *Project STAR* followed participants from grades 4 through 6 and reported ongoing, albeit small gains (effect sizes of 0.2 or less) for students who were taught in small classes. (See *Glossary* for an explanation of "effect size.")

A decade later, Wisconsin implemented the *SAGE* project, a pilot study involving more than 3,000 kindergartners and first graders statewide. In addition to using a control group in regular classrooms (30 students), the evaluation also compared different strategies to reduce student-to-teacher ratio, small classes being one of them. As with the *Project STAR*, evaluators found increases in test scores for all students, particularly African American students in the first year of the project. In the second year though, the score gap between African American and white students had increased again. Different from *Project STAR*, the *SAGE* evaluation found that score gains were not limited to small classes. Other strategies that reduced student-to-teacher ratio, such as team teaching or floating teachers, were equally effective.

Unlike Wisconsin and Tennessee, California decided to forgo a pilot program; instead, launching a massive, statewide *Class Size Reduction (CSR)* initiative that affected approximately 1.8 million students by its third school year of implementation in 1998-99. The state funded the initiative on a per pupil basis only after small classes had been implemented. Therefore, in the first years of implementation, schools that did not have the facilities to create small classes—often high-poverty schools with large populations of minority students—received an average of $100 less per student than wealthier, predominantly white schools. When these schools did create new classrooms, they often did so at the expense of existing facilities used for special education, child-care, music, art, computers and libraries. After three years, the evaluators noted small (but statistically significant) achievement gains, with no differential impact for minorities.

School Vouchers analyzes three privately funded experiments to test the impact of vouchers on students in urban school districts with high percentages of minority youth (Dayton, OH, New York City and Washington, D.C.). The vouchers, awarded by a lottery system, covered only part of the private school tuition with the recipients' families paying for the remaining tuition costs. African Americans constituted about 70% of the approximately 3000 students who received vouchers in the three experiments. Using the California Achievement Test (CAT) as the measure of student performance, the evaluators found a reduction for voucher recipients of approximately one-third of the test score gap between African American and white students. There was no positive or negative effect of statistical significance for any other ethnic group in the study. When controlling for family background, the overall difference between voucher and non-voucher students was not significant in Dayton and New York City,[17] but was significant at the .01 level in D.C.

The *Alaska Onward to Excellence/Alaska Rural Systemic Initiative* began a decade ago through a partnership between public schools, universities, and Eskimo and Native American communities in rural Alaska. Most participant districts involve small fishing villages with difficult access. The project incorporated the cultural traditions of the native population with an academically demanding curriculum. One of the evaluations compares the scores of students in a single project district on a number of standardized tests (ITBS, CAT, ACT) to scores statewide, where white students are the majority. A ten-year trend analysis verified a steady increase in all standardized test scores for participating students. In the ACT test, for instance, the district experienced an increase in the number of seniors taking the test and a reduction of about 14% in the score gap between local seniors and the state average. The percentage of project students attending college rose from 10% in 1988-89 to 50% in 1996-97.

Texas requires that a specific percentage of students in each school pass the state assessment in reading, writing and mathematics skills. Schools that do not attain this percentage risk losing their state accreditation. As part of the state reform, an emphasis has been given to monitoring the performance of minority students. The *Texas School Reform* summary covers four school districts with diverse populations. TAAS passing rates increased for all students in the four districts, but the increase for African Americans and Latinos was steeper. For instance, in the Aldine district, with 83% minority students, between 1994 and 1999, passing rates for African Americans almost doubled (from 36% to 73%) and the rate for Latinos increased by 63% (from 49% to 80%). In the same period, white students' passing rates increased by 29%, from 68% to 88%. Similar findings are shown for the other districts. Evaluators did not highlight strategies developed by the districts, emphasizing the role of the state accountability system as the catalyst for change.

The *City Schools* compilation cites a number of urban school districts in Texas and elsewhere that have improved academic indicators for minority students. These indicators range from moving students up to basic levels of performance (such as passing the TAAS), to earning higher-level diplomas, to reading at or above grade level. El Paso cut by half the gap in TAAS passing rates between African American and white students and Fort Worth reduced the passing rate gap between Latino and white students by 42%. The El Paso school did not adopt any special policy, while the Fort Worth school adopted a series of strategies with emphasis on professional development and support. Memphis schools doubled the number of African American students earning honors diplomas after the district eliminated lower level courses in the curricula. Boston schools increased the percentage of African American students scoring at the basic levels in the Stanford-9 tests after raising academic standards became a priority for the district in every subject and every grade. Charlotte schools also increased the percentage of African American students reading at or above grade level after the district adopted achievement goals to reduce disparities in academic achievement.

Recognizing that their African American students were lagging academically, *Chapel Hill-Carrboro City Schools (CHCCS)* formed a "Blue Ribbon Panel" to analyze the problem and propose recommendations. Composed of school administrators, teachers, parents, and students, the panel presented a multifaceted plan that incorporated nationally known programs like Reading Recovery and AVID, and homegrown solutions like "Sister-to-Sister" (a mentoring program that pairs minority women in the nearby medical school with African American female high school students). The results for the African American students were mixed, with large increases in the mathematics scores, but lower increases, and even some decreases, in the writing assessments. After one year, the academic gap between African American and white students was still noteworthy. For instance, 93% of the white tenth graders achieved proficient reading scores on the state test, compared to only 43% of their African American peers. However, the reform promoted a four-fold increase in the percentage of African American students in Gifted and Talented programs (from 2% to 8%).

As was found in the previous category, the data indicate that minority students start from a position of serious academic disadvantage and must walk a long path before they can reach basic levels of competency. The accountability movement has pushed these differences to the front stage. The condition of public schools, particularly funding differentials that lead to large class sizes, low teacher pay, lack of support or unprepared teachers may explain some of the large gaps between students at the high end (generally white middle class) and the low end (generally low-income minority) of the achievement spectrum.

It is also possible that even at very early ages, society creates stereotypes about students who can succeed and those who cannot, and future interactions in school will be based upon these stereotypes. As indicated in *Chicanos in Higher Education,* which reports on interviews with 50 Mexican American professionals with MD, PhD or JD degrees, poor minority students do not fit the idealized image of the successful, college-bound student. Teachers and counselors often tell these students that they cannot succeed and should not take challenging courses or apply to challenging schools. It took a highly focused and publicized reform for Chapel Hill teachers to find a "new group" of African American students able to attend Gifted and Talented classes, when these students had probably been ready for such a program for many years. Teacher preparatory schools should seriously examine their role in helping teachers to overcome such stereotyping behavior.

The fact that schools across the country are raising the scores of students, including minority students, on different tests is commendable. It brings the hope that someday achievement gaps based on race or ethnicity will be only a memory. However, in fairness to the children, a note of caution must be sounded. By relying solely on test scores, these evaluations and reports miss other indicators that provide important information on academic achievement, including: dropout, expulsion and retention rates; referral to special education; and curriculum changes that may be occurring due to an emphasis on tests, such as the elimination of "non-testable" subjects (like music and art), or an emphasis on "testable" subjects at the expense of broader content. Moreover, since no follow-up of graduates is included (except for the Alaska reform), nothing is known about what happens with students from these districts or states after they leave K-12 schools. Texas, for instance, despite its success with TAAS, ranks 34th among 50 states and the District of Columbia for the percentage of graduates who go immediately on to two- or four-year colleges, and 45th on the percentage of graduates who enroll in college within four years of graduation.[18] The debate on how to measure student achievement and the type of education that the country needs are essential components of the discussion on improving the academic achievement of minority youth.

This category reflects a mix of whole school programs and add-on interventions that propose to facilitate college access for students under-represented in postsecondary institutions, that is, low-income, minority students and students with "average" academic performance. Three are four-year, school-based programs geared toward students with a grade point average of C or better and who are motivated to pursue postsecondary education. All three programs have large proportions (80% or more) of minority students and require students to enroll in academically demanding courses.

AVID is a nationwide program that targets C-average students who would be the first in their families to attend college. *AVID* offers one-on-one tutoring by college students, workshop classes on study skills and other supports. *High School Puente* aims to increase Latino participation in higher education by raising student skills and aspirations through critical thinking and writing assignments, college counseling and mentoring. *Gateway to Higher Education* is a New York City program with an emphasis on careers in science, medicine, and technology serving 95% minority students. To enter *Gateway*, students must score at least at the 50th percentile on New York City's math and reading tests, have regular attendance, and GPA's of 80 or better (on a 100-point scale). Summer and Saturday enrichment programs, tutoring and internships are some of *Gateway*'s strategies.

Three other evaluations describe high school programs with a college focus but do not mention selection criteria: *Dare to Dream*, *Equity 2000* and *GE Fund College Bound*. *Dare to Dream* includes projects that propose a greater role for school counselors in keeping postsecondary options open for all students, including those who are considered at high-risk for school failure. The schools involved in the project were located in poor neighborhoods, with large proportions of minority students, and low levels of academic achievement. *Equity 2000* is a whole school reform that requires all students to take advanced mathematics courses while in high school. The program provides extra support to students through voluntary Saturday math academies and summer math programs. Minorities make up 72% of *Equity 2000* participants. Like *Equity 2000*, the *GE Fund College Bound* provides block grants to schools and communities to institute programs that increase college access. Unlike *Equity 2000*, however, the *GE Fund College Bound* allows for greater flexibility in the strategies used by the grantee schools.

Career Academies is the only representative in this report of high school programs dedicated to preparing students for fulfilling careers that are not necessarily dependent on a college degree. *Career Academies* are schools-within-schools that offer students an integrated academic and occupational curriculum and work-based learning experiences. More than 50% of the students in the *Academies* studied were Latinos and 84% had GPAs of 2.1 and above.

The evaluation of *I Have a Dream (IHAD)* includes two Chicago programs, one predominantly Latino and another 100% African American. *IHAD* connects low-income, inner city public school sixth graders with wealthy sponsors who provide mentorship and supports to help the youth pursue postsecondary education. The program offers long-term relationships from sixth grade until high school graduation, or even longer. Like *IHAD*, Philadelphia's *Sponsor-A-Scholar* program provides academic supports to economically or academically disadvantaged high school students with B or C average grades who want to attend college. In this evaluation, 93% of participants were minorities of whom 76% were African American. The program matches these youth with trained mentors who accompany them from ninth grade through the freshman college year. Both *IHAD* and *Sponsor-A-Scholar* offer financial help to participants to defray tuition costs.

Upward Bound operates parallel to the regular four-year high school, with students participating in after-school and Saturday classes often on college campuses. *Upward Bound* is the oldest of a set of

TRIO initiatives established by the Higher Education Act of 1965. TRIO programs aim at helping low-income and first generation college students enter and successfully complete postsecondary education. This national evaluation covers 67 sites with approximately 1,500 participants. Nationwide, half of the *Upward Bound* participants are African American, 22% are Latino and 21% white.

Unlike the elementary school program evaluations, and despite the increasing numbers of high schools requiring standardized tests for graduation, the high school evaluations had little emphasis on test scores.[19] The broader range of academic achievement measures examined offers a better perspective of what is actually happening with students. Most documents include data on high school graduation and credits taken. A few have data on college entrance tests, such as the SAT and AP, and dropout rates. Follow-up is mostly limited to college enrollment, but *GE Fund College Bound* has data on college retention and *Gateway for Higher Education* collects college graduation information.

All three programs that indicate some type of selection criteria for admission show good results, suggesting that a large group of C average students are ready to move up the academic ladder if provided adequate supports. *AVID* students maintain an average GPA of 2.94 and a 95% college enrollment rate. African American, Asian and Latino *AVID* students have disproportionately high enrollment rates in the California State and the University of California systems. *High School Puente* students, in relation to a matched comparison group, were more likely to take college entrance tests (SAT, ACT), complete more high school credits, and attend college, particularly four-year colleges, although no statistical differences were found in dropout rates and grade point average (GPA). The lack of difference in grades may reflect the fact that Puente students attend more academically demanding courses than the control group. African American students in *Gateway* are more likely to take chemistry and physics in high school than African American high school graduates nationwide. They are also more likely to have higher SAT scores. A 1996 survey with 330 *Gateway* alumni revealed that 74% had graduated or would graduate from four-year colleges or universities within five years and 59% had remained in a science-related major or profession.

The majority of programs featured in this report did not include cost data, but cost information was available for these three programs. The annual cost per student for *Gateway* in 1997 was $1,600 above the mean per pupil expenditure in New York City. The state's annual per pupil expenditure for *High School Puente* was $480, but training costs were partially subsidized by the University of California. The average cost of *AVID* for schools and districts in Year One per student per year outside of California is $540 (about $3 per day). By year three, the cost drops, on average, to under a dollar per student per day. In California, where *AVID* is a state-supported program with 11 regional centers, the average cost of *AVID* for schools and districts is about $180 per student per year.

Of the programs that do not indicate admission criteria, most *Dare to Dream* high schools doubled the enrollment of African American and/or Latino students in Advanced Placement and college preparatory courses (the report did not publish passing rates). Districts adopting the *Equity 2000* program also showed increased enrollment of minority students in college gateway courses. However, passing rates in these courses did not increase accordingly. The number of students taking college entrance exams (SAT, ACT) increased in all *GE Fund College Bound* schools after five years, but the program had little impact on test scores, high school graduation rates, or dropout rates. When compared to a national database, *GE Fund* students, particularly Latino students, had higher college enrollment and retention rates. The evaluation of *Career Academies* found statistically significant improvements for students who had entered the program with high risk of school failure but not for those in the middle and low risk categories (see the summary's methodology for an explanation of the risk categories).

Evaluators of *I Have a Dream* used a matched group of students taken from other sixth grade classes in the same schools as *IHAD* participants. Participants were twice as likely to graduate from high school and three times more likely to enroll in college than the comparison group. The *Sponsor-A-Scholar* evaluation examines a sample of high school graduates from 1993 through 1997. The sample was divided into matched sub-groups of program participants and non-participants and compared in terms of GPAs and college enrollment one year and two years after high school graduation. In general, program students had statistically significant higher GPA and enrollment rates than non-participants. Gains were higher for students who started the programs with lower grades, stayed in the program longer, and met more frequently with their mentors.

For *Upward Bound*, program participants were compared to a matched control group. Differences between the two groups were not statistically significant for average GPA and enrollment in postsecondary institutions (including vocational/ technical schools). Latino and white participants earned two more high school credits than peers in the control group while African Americans earned more Advanced Placement credits. Results were correlated to time in the program and expectation about attending college at the onset of the program. The longer the student remained in the program and the lower the initial expectation, the stronger the results. However, more than 55% of the participants left the program before high school graduation, a finding evaluators attributed to students' needs for paid employment competing with Upward Bound's after-school and Saturday classes.

Overall, programs that provide extra attention and supports to high school students, particularly those who average C or better, are succeeding in moving them to postsecondary education. The majority of the evaluations do not describe what happens when the students get to the next level. However, a few do: *GE Fund College Bound* students have higher college retention rates; a small group of *Gateway* students show high college graduation rates; and *Upward Bound* students are less likely to need remedial classes while in college.

Despite the intensive search for evaluations of postsecondary programs that serve minority students and disaggregated the data, few studies were found and most of them were not evaluations, but descriptive reports. At the beginning of the search, we contacted a large number of organizations that provide college scholarships for minority youth. None had evaluations. We received suggestions and indications about "great studies" being done in one state or another, only to find that these studies would not meet the acceptance criteria for rigorous evaluations disaggregated by race or ethnicity. The landscape of evaluations of postsecondary interventions for minority students with disaggregated data is as arid as the programs are numerous.[20]

The six postsecondary reports are examples of the variety of programs that are being implemented at the postsecondary level to help minority students break the barrier of the K-12 years and enter higher education. Three summaries describe programs that support minority students at different points along the journey through college and graduate school: the *Emerging Scholars Program (ESP)* helps undergraduates to remain in college; the *Puerto Rico Louis Stokes Alliance for Minority Participation (PR-LSAMP)* offers support for women and minorities pursuing graduate degrees; and *Compact for Faculty Diversity* provides a bridge for minority students as they complete their doctorates and enter college or university teaching positions. While *Compact* does not emphasize a particular specialization or field, both *ESP* and *PR-LSAMP* focus on the fields of mathematics, sciences and engineering, where minorities have been traditionally under-represented. Two studies focusing on *Historically Black Colleges and Universities* and *Tribal Colleges* offer descriptive data on the role of these institutions in the lives of African Americans and Native Americans. *Chicanos in Higher Education* is an example of a number of qualitative studies that provide a voice to minority individuals and shed

some light on factors that influence their professional success**.**

The *Emerging Scholars Program* (*ESP*) was initially developed at the University of California, in the 1970s, to improve the retention and success of minority students who enter mathematics-related majors. Currently operating under several different names in over 100 universities across the country, the basic *ESP* model utilizes extended discussion seminars and small study groups to help students succeed in the calculus course sequence at the beginning of their majors. With additional professor and peer support, these students form small learning communities that work as teams. Evaluations in Texas and Wisconsin revealed that *ESP* students were two to five times more likely to get As and Bs in calculus than their peers outside the program. A study at the California Polytechnic Institute showed that only 15% of *ESP* students had changed majors or left college within three years, compared with 52% of the students in a control group. They were also more likely to complete their mathematics requirement one academic quarter earlier than the control group.

The *Puerto Rico Louis Stokes Alliance for Minority Participation (PR-LSAMP),* funded by the National Science Foundation and the federal government, has a dual goal: to foster the involvement of women and minorities in the fields of mathematics, science, and engineering; and to promote innovative teaching strategies that improve students' performance in those fields. According to the report, of all bachelor's degrees in science, math and engineering earned by Latinos in the U.S. in 1997, 25% went to *PR-LSAMP* students. From 1993 to 1998, *PR-LSAMP* students earned 11% of engineering PhDs and 17% of natural science PhDs received by Latinos nationwide.

Compact for Faculty Diversity is a consortium of regional education organizations and universities that provides financial support and a peer network for minority graduate students. The *Compact*'s annual Institute for Teaching and Mentoring brings together minority graduate students and professors from across the country to discuss possibilities and pitfalls in the world of higher education. Of the 435 scholars served by the program, 92% had completed or were continuing their degrees. Of the *Compact* alumni who had earned a PhD, 70% were in tenure-track faculty positions and 18% were in post-doctoral positions. As with the *ESP* model, *Compact* promotes a small supportive community of peers and professionals that guides the graduate students into careers in higher education.

Historically minority-serving institutions continue to play a crucial role in minority higher education, and this report includes studies of *Historically Black Colleges and Universities (HBCUs)* and *Tribal Colleges*.[21] The study of *HBCUs* shows that *HBCUs* graduate more African American students than other institutions. In the mid-1990s, 21% of all African American undergraduates attended *HBCUs*, but 28% of African American graduates got their degrees from *HBCUs* and 33% of the African American college students taking the Graduate Record Examination came from *HBCUs*.

Tribal Colleges' original purpose was to facilitate access to higher education for Native Americans living on reservations and to provide educational opportunities without forcing assimilation into mainstream white culture. Today, there are 33 *Tribal Colleges* serving more than 10,000 Native American students. *Tribal Colleges* have an important role in diversifying faculty composition. Compared to other institutions of higher education that employ on average less than 1% Native American faculty and staff, 30% of the faculty and 70% of the staff at *Tribal Colleges* are Native Americans.

Chicanos in Higher Education reports on interviews with 50 Mexican American professionals with MD, PhD or JD degrees. All came from low-income, immigrant families, composed mostly of farm workers and other unskilled laborers. Most began school with Spanish as their primary language, yet all completed a doctoral-level education from the country's most prestigious institutions. The interviewees stressed the importance of supportive parents and a family environment that was conducive to learning. At

least half cited the presence of a caring adult outside the family who functioned as a mentor, encouraging and prodding them toward academic success. Though most of them eventually got into college preparatory programs in high school, they had to fight a system that insisted on tracking them into less demanding curricula. Latino recruitment programs, scholarships for high-achieving scholars, stipends for low-income students, and a lot of hard work complete the list of factors that, according to the interviewees, contributed to their success.

All the selected evaluations of early childhood programs included follow-up, and some of them for substantial time periods. They also provided a variety of data to indicate that these programs are attaining their objectives of providing low-income children, including minority children, with more resources to succeed in later years. The evaluations of K-8 programs and district or statewide school initiatives have a limited focus on test scores. They tell us that many schools and states are raising the scores of minority students on different tests or are raising their passing rates in these tests. What this represents for the children's future is not clear. However, it must be emphasized that, *at least* the programs and initiatives are raising these children's scores and passing rates. Doing nothing would be much worse. Rather than being a criticism of the existing data, this comment represents a longing for more data.

The evaluations of the high school programs diversify their measures. Although little is said about students' test scores, the information indicates that minority students in those programs are, in general, graduating from high school and going to college in greater numbers. The summaries on postsecondary education end this chapter with a message of hope, showing minorities who are succeeding in demanding careers, such as those related to sciences, mathematics and technology, and attaining faculty positions in universities. This message cannot be missed, because, as the summary on *Chicanos in Higher Education* suggests, many of those successful youth start their school years in the "high risk" category. On the whole, the summaries in this report highlight the fact that no student should be discounted as a lost cause. The opportunities and supports necessary to achieve success at the highest levels of our educational system must be available to all.

What makes programs successful? What do they offer so that young people challenge themselves and succeed? These questions are at the core of this report as they were in AYPF's two previous compendia and of a more recent AYPF report, *Raising Academic Achievement: A Study of 20 Successful Programs*.[22] That report identified five overarching strategies shared by programs that raised academic achievement:

- *High standards* for participants, programs and staff, including strategies that ensured the quality of implementation, and demanded high performance from youth and staff alike.

- *Personalized attention*, that is, strategies that enable the staff to know the program participants as individuals, with unique needs, strengths and weaknesses.

- *Innovative structures* where the needs of the students, rather than tradition or bureaucracy, guide the teaching/learning process.

- *Experiential learning,* bridging school and society.

- *Long-term support* that gave youth time to create trust and develop stable relationships and supports.

For this report, the same analytical process was used. A matrix was created with the program components and "contributing factors" as cited in the evaluations and program literature. Through a process of coding, the differences and similarities among components were highlighted and/or aggregated into categories, until a group of ten strategies remained that were shared by nine or more of the programs. In contrast to the previous reports that focused solely on "successful" programs, this report includes programs that have both positive and negative findings. We include all evaluations in the analysis, regardless of findings, in an attempt to understand whether good results can be attributed to specific components, to a specific mix of components, or to some other variable that merits further investigation. In the case of reports describing different programs, the shared strategies cited in the documents were also included.

The overarching strategies found in *Raising Academic Achievement* are again reflected in this report except for "Experiential Learning," which is cited only once in connection with the *Career Academies* summary. "High Standards" is represented here by the three most frequent components: program quality, academically demanding curricula and professional development. "Personalized Attention" is discussed in two contexts: school strategies to reduce the student-to-teacher ratio and strategies to provide youth with extra, individualized supports. The two remaining overarching strategies, "Innovative Structures" and "Long-term Supports," are also represented.

This chapter discusses the strategies used by programs whose evaluations we have summarized. However, a few words of caution must be shared. First, ***no "magic bullet" was found, that is, no one strategy is common to all programs that have good findings.*** Second, the sample is limited to 38 reports, several of which have less than stellar evaluations. Therefore, ***these findings should be considered as guidelines for further inquiry rather than prescriptions for success***.

The ten most frequent strategies identified in this report are listed below from most to least frequently cited in the program evaluations:

- Program quality
- Academically demanding curriculum
- Professional development
- Family involvement
- Reduced student-to-teacher ratios
- Individualized supports
- Extended learning time
- Community involvement
- Long-term supports for youth
- Scholarships and/or financial support

"High standards" is a catch phrase in today's education policy debates. Virtually all programs affirm their commitment to "high standards" without defining the concept. AYPF's perspective is that high standards must include a concern with the quality of the program and its staff before demands are made from participants. Quality of implementation, leadership and accountability are three essential strategies that help ensure high program standards.

The quality of implementation is demonstrated through careful planning and timely and efficient resources that are targeted to specific goals. For a school to receive certification as an *AVID* center, it must fulfill a series of requisites, including training for the site administrator, program coordinator, teachers and tutors; identification of resources for implementation and sustainability; selection of students; and integration between the program and the regular school day. When the *Calvert Program* was introduced at the Woodson School, a full-time coordinator was hired to oversee implementation of the program and its daily operations. *GE Fund College Bound* stresses the substantial size and long-term support of its GE Fund grants—at least $250,000 for five years—as giving adequate time and resources to plan and implement the reforms necessary to improve school-wide academic achievement. Evaluators note that one reason that *Class Size Reduction* in California may not have shown minority academic achievement gains was that the program did not include timely and sufficient resources for successful implementation in high-poverty, predominantly-minority schools.

Leadership is essential to ensure program quality and sustainability. As charter school principals, the directors of *KIPP Academies* have complete control over budget and personnel decisions, thus allowing them to be better leaders at the school level. *KIPP* principals lead by example. In addition to being administrators, they are teachers who do not hesitate to step out of their offices and into the classroom to do the nitty gritty work of education. With the help of Gap, Inc., they have also started a fellowship program that will train a corps of educational leaders to found their own charter schools across the country serving disadvantaged youth. *Gateway for Higher Education* has had the same co-directors since its founding in 1986 and, according to the evaluators, this continuity has contributed to the program's strong sense of purpose. *Dare to Dream* and the *Alaska Onward to Excellence/Alaska Rural Systemic Initiative* are based on the concept of shared leadership. In the projects described in *Dare to Dream,* school administrators, teachers, school staff, outside expert teams and students work together to find solutions for existing problems or to propose new options. The Alaska project relies on a sense of shared ownership between program staff and community. *GE Fund College Bound* describes some of their program efforts as being enhanced by strong leadership exhibited by the schools and their GE partners, while others were hampered by frequent leadership turnover or weak support from principals and school administrators.

Public school "accountability" is a growing concern of local, state and federal governments. Tests, particularly state-developed tests and school report cards, are tools commonly used to provide stakeholders with feedback about the performance of their schools and students. In many states, schools that do not attain some pre-established benchmark on the state tests are threatened with sanctions. The accountability movement has been

particularly well documented in Texas. The Texas Assessment of Academic Skills (TAAS) is a criterion-referenced test administered annually that measures student achievement in reading and math (for grades 3-8 and 12), in writing (for grades 4, 8, and 12), and in science and social studies (grade 8). Texas students must pass the TAAS to graduate from high school. The evaluations of programs using TAAS data show schools increasing the percentage of minority students passing the TAAS by 40% or more, while in many other states, test score improvements for minorities are incremental. Yet successful school programs in Texas are quite varied. In fact, the evaluation of four school districts (*Texas District Wide Initiatives*) attributes their success to the politically-imposed accountability system rather than to specific strategies.

It appears that the political climate favoring accountability has positive facets that must be considered. As states begin to require all children to perform, even those labeled "at risk," educators must pay attention to all children, defining clear expectations for all, and find ways to help those who are failing to achieve academically. It is important to observe that accountability should not be confused with high standards, since many states, including Texas, still rely on minimum competency tests. How to fairly and equitably use the advantages of accountability for minority academic achievement gains is still an open question.

All early childhood programs included in this report provide pre-school aged children with challenging educational activities that are also developmentally appropriate. *Abecedarian's* curriculum includes arts, language, and literacy, in addition to fine motor skills development. The *Child-Parent Center* curricula emphasize language and mathematics through a variety of learning experiences. *Head Start* programs have incorporated academic activities with their full-service mission. *High/Scope Perry Preschool* offers a well-structured curriculum with emphasis on language, literacy, music and mathematics.

Concern with challenging curricula was equally apparent in K-12 programs. The *Calvert Program* emphasizes reading comprehension and required weekly compositions even for first graders. Since Memphis City Schools (described in the *City Schools* report) eliminated lower level courses in high schools, the percentage of African Americans graduating with an honors diploma doubled. The *Alaska Onward to Excellence/Alaska Rural Systemic Initiative* is based on a dual commitment to equity and excellence. Eskimo and Native American children from rural villages are taking college-entrance tests and going to college in higher numbers since the introduction of the program. All *Gateway for Higher Education* students are expected to complete a minimum of three Advanced Placement courses.

However, the requirement to attend academically demanding courses must be accompanied by appropriate supports. The low algebra passing rates for students in *Equity 2000* may have been due to the limited supports for students enrolled in algebra and lack of support relating to other types of high school coursework or college attendance. The persistent gap between minority and white students in *High Schools That Work*, which eliminates general education and sets high standards for all, indicates a need for additional supports geared toward these students.

To maintain the quality of any program, it is not enough to create mechanisms for quality control. Staff must be prepared to respond to the challenge. *Gateway*, which creates a school-within-a-school for academically talented students, carefully selects its teachers based on their background, experience, and dedication. For other programs, particularly those with less ability to select staff, professional development and training is an important program component.

AVID and *High/Scope* require staff training before implementation. *Success for All* provides a three-day summer training session and continued on-site

staff training during the year. *Project GRAD* offers training and ongoing support for teachers to reduce turnover. According to the evaluator, as the facilitators operate outside the teachers' assessment process, teachers feel comfortable asking for help with classroom problems. The schools described in *Urban Elementary Schools* introduce professional development activities at the time when changes in curriculum or school structure are implemented. Programs that rely on tutors or mentors, such as *High School Puente*, *I Have a Dream* and *Sponsor-A-Scholar,* offer them training and supervision. At the *Boys and Girls Clubs of America*, trained staff provides support to volunteers.

However, as the *CAPE* evaluators observed, offering professional development does not necessarily ensure that teachers will profit from it. *CAPE* offered extensive professional development to teachers and artists, including nearly a dozen workshops throughout the year. Yet, most participants attended no more than three workshops due to lack of time.

Approximately 40% of the selected evaluations report activities geared toward improving communication with families, or increasing family involvement with the programs. Although such efforts are concentrated on initiatives for young children, at least two high school programs also include activities to promote greater involvement of families.

Early childhood programs focus on helping parents provide adequate support for their child's development. Therefore, these programs offer a range of activities that include family education, advocacy and support. Information on childhood development, health and nutrition is provided in all the programs, either through workshops or home visits. In *High/Scope,* families and staff met monthly to discuss developmental issues. Program staff also made weekly home visits to families, meeting with the child and the family to model classroom activities. *Abecedarian* and *Head Start* used home visits with the objective of information and support and involve families on advisory boards and committees with planning and managerial functions.

The two after-school programs in this report, *Boys & Girls Clubs of America* and *Sacramento START,* include families in their activities, generally as volunteers, although *START* hires participants' families to staff the program. Among the K-12 programs, *AVID*, *Alaska Onward to Excellence/ Alaska Rural Systemic Initiative*, *Calvert Program*, *Chapel Hill-Carrboro City Schools, High School Puente* and *Project GRAD* have family involvement components. Of these, *AVID* and *High School Puente* are exclusively for high school-aged youth, and *Calvert* is an elementary school program. The remaining initiatives serve K-12 students.

AVID emphasizes communication between families and the program, offers workshops on the college application process, and includes families on its advisory board. Local families and community members are also part of advisory boards in the schools involved with the Alaska reforms that encompass grades K to 12. Another K-12 initiative in the *Chapel Hill-Carrboro City Schools* includes families as volunteers and members of the Blue Ribbon panel that designed the reform. Teachers and administrators are encouraged to set up meetings in families' homes or workplaces to facilitate participation. In addition, the schools offer assistance for students who are parents with a Young Parent Institute and the Adolescent Parenting Program that provide monthly support groups and infant health education. *Project GRAD* implements a comprehensive family outreach program that includes activities to recruit students and their parents. During its community-wide Walk for Success, alumni, teachers, staff, mentors, university volunteers, and community leaders go door to door to over 1,600 families per year to raise awareness of the program. *Project GRAD* also has Parent Universities to improve parental literacy and involvement. In addition, alongside teachers, principals and other community members, *Project GRAD* families participate in decision-making committees that manage the project's feeder schools (elementary and junior high schools).

Many selected programs that show academic gains for minority students include strategies to reduce student-to-teacher ratios. Tennessee's *Project STAR* and Wisconsin's *SAGE* are statewide experiments with reduced class sizes for grades one through three. *STAR* used classes with 17 students per teacher and *SAGE's* classes averaged 15 students per teacher, compared with traditional classes of 20 to 25 students. Participants in the small classes, particularly African Americans, had higher average test scores than students in the larger classes. *STAR* did not find gains when two teachers or a teacher and teacher's aide were in the classroom, but *SAGE* found similar gains in strategies that reduced student-to-teacher ratio by increasing the number of teachers in regular classrooms, including team teaching and floating teachers. In California, as described in *Class Size Reduction,* classes were reduced from 30 to 20 students or less. Different from *STAR* and *SAGE*, two carefully designed and implemented reforms that began as pilots, the Californian project was imposed statewide and, particularly in those in low-income areas, the class reduction occurred at the expense of other resources, such as music instruction and school libraries.

Rather than reducing the number of children per classroom, *Child-Parent Center*s increase the number of staff, placing two teachers for each classroom of 17 toddlers or 25 kindergarteners. The *Chicago Arts Partnership in Education* uses the co-teaching system, with a teacher and an artist working together to integrate arts into the academic curriculum. *Career Academies* are schools-within-schools that provide self-contained environments within larger institutions where students have closer interaction with staff. *KIPP Academies* are small charter schools with no more than 300 to 400 students. *High School Puente* selects about 30 students per cohort. *Success for All* uses small reading groups divided by literacy level, rather than age; this program is also a component of *Project GRAD*. The *Urban Elementary Schools* report indicates that some schools also reduced the number of students per class.

Cost is an issue in projects that demand expansion in buildings and/or personnel, but only one of the studies *(Child-Parent Centers)* included a cost benefit analysis. It is important to observe that other programs such as those described in *Texas District Wide Initiatives* and *City Schools* that show significant academic gains, particularly for minority students, do not report the use of smaller classes or small learning environments.

For students who are struggling academically, individualized support may be the difference between falling behind and moving ahead. In addition to the involvement of the students' families, many programs utilize community members, college students, employers and other groups as tutors and mentors to address the academic needs of specific students, or offer support, feedback and encouragement. Tutors or mentors can also function as role models, guiding the youth through difficult transitions and into a college and/or career path.

Tutors and mentors are found at all levels of the educational ladder. For instance, *Success for All*, a program for elementary school children, uses trained tutors to help students in need. Minority students from the University of North Carolina provide tutoring for elementary, middle, and high school youth at *Chapel Hill-Carrboro City Schools*. Their "Sister to Sister" program pairs African American females in medical school with ninth grade "sisters" for support and role modeling. At the undergraduate level, *Emerging Scholars* pairs a teaching assistant with one to two undergraduate students to tutor calculus. *Compact for Faculty Diversity* organizes an annual institute where university and college professors share their experiences with PhD candidates and mentor them through the process of moving from graduate students to faculty members.

The use of tutors and mentors is frequent among high school programs as well. *AVID* uses college students to provide one-on-one tutoring to C-

average high school students who dream of entering college. Employers are actively involved in *Career Academies*, sitting on boards, helping with curriculum planning, and also mentoring students in work-based experiences. *Gateway to Higher Education* offers after-school tutoring programs. At *High School Puente,* "peer partners" help the students to transition from middle to high school. In addition, adult mentors work with the students throughout high school. A Community Mentor Liaison (CML) is dedicated to recruiting, training and matching the mentors with the students. GE employees tutor students at *GE Fund College Bound* schools, offering homework assistance and other supports. Tutors are also procured among community volunteers. *I Have a Dream, Sponsor-A-Scholar* and *Upward Bound* all use mentors. The mentors in *I Have a Dream* and *Sponsor-A-Scholar* are intensely involved with the students, monitoring their academic performance, providing opportunities for recreational activities, and internships, and offering financial support through college.

Using tutors and mentors is a less expensive strategy to reduce the student-to-adult ratio than using certified teachers, but it is also a riskier strategy. Unqualified, untrained and unsupervised tutors or mentors can sometimes do more harm than good.

Some programs use longer school hours, extra school days, Saturdays and summer courses to provide students with more learning time. For preschool aged children, any formal instruction time may be considered extra time, and that is offered by all early childhood programs in this report. *Abecedarian* functioned 8 hours a day, 5 days a week for 50 weeks. *Child-Parent Center* preschool programs are offered for 3 hours in the morning or in the afternoon, and kindergarten programs are either half day or full day. *High/Scope Perry Preschool* had 12 ½ hours of instruction per week.

Boys and Girls Clubs of America (B&GCA) and *Sacramento START* are after-school programs that provide low-income, mostly minority children with extra educational supports. *B&GCAs* are open 5 to 6 days a week, 6 to 7 hours a day. In addition to recreational and social activities, some clubs offer an educational program that includes homework support, structured discussions on educational topics, 1 to 2 hours a week of writing, 4 to 5 hours per week of reading, and additional time for educational games, such as word and math games. For middle to high school students, the clubs also offer technology training and career exploration programs. *Sacramento START* functions 9 hours a week and also includes homework assistance, literacy training and other educational activities. The program staff maintains ongoing communication with the schools to align curricula and learning goals for their participants. Children in both programs show academic gains.

Among the school programs that offer extra-time, *Gateway* functions for 11months a year and *Project GRAD* offers after-school programs. *Emerging Scholar*s and *Equity 2000* have Saturday and summer activities, although attendance is voluntary in *Equity 2000*. The activities in *I Have a Dream, Sponsor-A-Scholar* and *Upward Bound* are all an added value to the regular school day. The *KIPP* motto is that "there are no shortcuts," and the time commitment of students and teachers exemplifies this philosophy. Students attend class from 7:30 AM until 5:00 PM Monday through Thursday and until 4:00 PM on Fridays. They spend four hours at the school on most Saturdays and attend additional courses four weeks every summer.

Alaska Onward to Excellence/Alaska Rural Systemic Initiative and *Chapel Hill-Carrboro City Schools (CHCCS)* highlight the power of communities to promote and support school changes. The Alaska reform was guided by community members upset with the state of their schools. Community participation is essential to the program, reinforcing cultural traditions and knowledge that are interwoven with the more traditional curricula. In North Carolina, community representatives sat on the Blue Ribbon panel that proposed the *CHCCS* strategies to improve the

academic achievement of African American students in the school district.

CAPE represents an innovative way to involve artists and community organizations in schools to enhance education through arts. *Career Academies* involve the business community in planning and supporting the program, in addition to offering work-based opportunities for the students. Some of the *Urban Elementary Schools* also report business involvement, while *Gateway* has partnerships with museums and research centers to provide students with educational and internship opportunities.

Several programs encourage long-term, stable relationships between participants and knowledgeable adults. *Abecedarian, Child-Parent Centers* and *High/Scope* are all five-year programs with long follow-up. *Abecedarian* also includes a summer program to help participants in their transition to public school. The mentor-youth relationship in *I Have a Dream* and *Sponsor-A-Scholar* remains for more than five years, and helps youth transition into postsecondary education. Evaluations of *Sponsor-A-Scholar* and *Upward Bound* found that the longer youth stay in the programs, the greater their academic gains. Since transitions are important periods in any person's life, particularly for youth who have weak social supports, it is puzzling that so few of the programs reviewed offer extra supports during transition, particularly from middle to high school.

Several K-12 programs offer financial help to students who demonstrate high academic performance. *CHCCS* offers scholarships to African American students who enroll in two- or four-year colleges. Scholarships are also provided in some *GE Fund* programs. *I Have a Dream* and *Sponsor-A-Scholar* supplement the costs of college that are not covered through other scholarships or loans. The voucher movement proposes scholarships to defray the costs of private school tuition for families whose children are in failing public schools. The summary of *School Vouchers* describes a three-city experiment. The report indicates that the scholarships did not cover the full tuition but does not explain how low-income families were able to cover the remaining costs, a requirement that may hamper the use of vouchers for families in the lowest income brackets.

Among the postsecondary programs, only *Emerging Scholars* does not report financial aid. *Chicanos in Higher Education,* which interviewed Latinos who excelled professionally, cites the importance of minority recruitment programs, scholarships for high-achieving students, and stipends for low-income students as tools to break the cycle of poverty for low-income minority students who aspire to a college education. *Compact for Faculty Diversity* works with states and graduate institutions to ensure continuity of funding and supports for minority students as they complete their doctoral degrees and enter academic life. The *Puerto Rico Louis Stokes Alliance for Minority Participation* offers stipends for low-income students who excel academically and pays travel costs of students who participate in conferences.

These evaluations highlight programs that are succeeding in improving the academic achievement of African American, Latino and Native American students. Most programs are bringing minority students at the lowest level of academic performance to the minimum required level of competency for their grades, such as those described in *Texas District Wide Initiatives*. A few, like *AVID*, are helping students already at the middle to attain higher levels of achievement, while programs like *Gateway* improve the performance of students who are close to becoming high achievers. Evaluations such as those for the *GE Fund* and *Upward Bound* reinforce the value of investing in low achieving students, proving that they can profit from supportive interventions.

What can be learned from this chapter? The first lesson is to intervene preventively, even before the child enters school, to avoid the gap between high

and low achievers. A concern with early intervention does not imply abandoning youth who are struggling academically in the remaining school years. The evaluation of *Head Start* shows a decline in academic gains as the child moves through grades, and so does the evaluation of *Project STAR*. Indeed, learning is a dynamic process that must be supported throughout the school years.

The second lesson learned is that no one approach guarantees academic success, although a few strategies carry more promise than others. Highly structured programs, such as *Calvert* or *Success for All*, have successful outcomes, but so does a creative, flexible program such as *CAPE*. Overall, the summaries suggest that demanding high performance from programs, staff and students is essential for a successful program. Most programs that show positive results implement mechanisms to ensure program quality, maintain well-trained teachers and support staff, and provide academically demanding courses.

A lesson from the less successful programs is that pushing youth who are already struggling academically into demanding courses without the necessary supports may simply create a wave of failures and frustration that will eventually drive the youth out of schools, rather than toward graduation. This finding, far from leading to the defeatist conclusion that these youth have no hope, should guide us to the question of "what needs to be done that these programs are not doing?" Strategies to support students are varied and many successful programs mix strategies to reduce the student-to-teacher ratio (such as reduced class sizes, small schools and team-teaching) with the presence of volunteers, tutors or mentors to ensure more individualized attention for all students. In addition, good programs provide high quality professional development for staff, tutors, and mentors.

Financial support is essential for low-income students who dream of pursuing postsecondary education. Programs that encourage the participation of families and community representatives increase the support network and create a culture of academic achievement around the student.

The evaluations summarized here also teach about the power of persistence. The Texas accountability system and the Alaska reforms are a decade old. Changes in education do not occur in a short period of time. Unfortunately, many reforms come and go abruptly, leaving educators without time to implement them adequately, and students without time to profit from them.

One common denominator among the selected programs is a heightened level of attention toward all students in an attempt to reach benchmarks that were established by the school, district or state. Interviews with successful Mexican American professionals *(Chicanos in Higher Educatio*n) suggest that educators tend to give up on low-income, minority students who do not fit their idealized image of the successful, college-bound student. By disaggregating their data, school districts highlight inequalities within their system, a necessary step toward correcting them. A final lesson that may be taken from these evaluations is that ***commitment to all students, more than specific strategies, appears to prevail as the main contributing factor of success.***

In this report, a detailed picture is presented of the available research on programs that have been found to improve minority academic achievement. Despite continuing achievement gaps, the youth programs and school initiatives included in this report provide concrete examples of efforts to increase achievement for minority youth.

- Evaluation findings were particularly strong and positive at the early childhood level. When compared to control groups, minority children who attend early childhood development programs are more likely to remain in school, complete more years of education, and require less special education. These evaluations show a pattern of improvement that cannot be denied. The message from this body of evidence is that early childhood programs increase the chances for minority children to do well in school and in later life. However, no education system can be satisfied with good early intervention programs without strong K-12 schools that will maintain and expand the educational gains of the early years.

- The elementary through middle school evaluations were almost exclusively focused on test scores. In most cases, improvements were incremental and even where minority academic achievement increased, the disparities in achievement between minority and white youth were highly apparent. Texas is probably the only state where achievement gaps between minorities and white students are being halved or cut even more. However, Texas students are measured on passing rates on only a *minimum* competency test. The question of whether higher levels of achievement are reached remains unanswered.

- Because they focus on more than test scores, the high school/transition programs offer a better perspective of what is actually happening with their minority students. Among the positive findings of some of these programs were one or more of the following: increased high school graduation, more high school credits earned, higher GPAs earned or maintained, more college prep and Advanced Placement courses taken, increased enrollment in higher level mathematics and science classes, more college entrance exam-taking and higher scores, less need for remediation in college, higher levels of college enrollment at two- and four-year colleges, higher levels of college retention and graduation, and continuation in science-related majors or professions.

- Fewer quality evaluations were available at the postsecondary level with data disaggregated by race or ethnicity. The postsecondary programs included in the report show African American, Latino and Native American youth succeeding in demanding careers and entering universities not just as students, but as professors as well. However, their numbers are still quite small.

Based on AYPF's reflections on the reported evaluations, following are actions policymakers, practitioners, researchers, parents and community members can take to improve minority academic achievement.

- ***National leaders should continue to build consensus around acceptable achievement gains*** and require that these gains be shown for all student groups. National attention should focus on achievement differences among the states and ways to eliminate these differences.

- ***States should create benchmarks for improving academic achievement for all student groups*** and provide resources for school districts to attain those benchmarks.

- ***States and school districts should support and maintain high quality leadership*** and ensure the adequate implementation of programs to enhance minority academic achievement.

- ***School districts and schools should expect high achievement from all students*** and provide academically demanding curricula that are meaningful and available across schools and grade levels to bring all students to higher levels of knowledge and achievement.

- ***States and localities should develop a multi-layered "check" of achievement*** using a variety of test measures, such as NAEP, state-mandated tests, Stanford-9 or ITBS; and also use indicators that provide a broad perspective about students, such as classroom-based assessments, attendance, behavior (disciplinary incidents), course enrollment and passing rates, types of courses completed and graduation rates, among other measures.

- ***School districts and schools should provide professional development and support*** to ensure that teachers (and other involved adults, as appropriate) have a deep understanding of curriculum, are familiar with innovative instructional methods, and have knowledge and interpersonal competence with cultures other than their own.

- ***Schools should provide students, families and communities with specific information on what constitutes high academic standards*** and support their expectations for excellence in the educational system.

- ***Families, youth advocates and communities should hold schools accountable*** for high levels of achievement for all students, reinforce academic skills learned both at home and at school, and ensure that every child has an advocate outside of the school system or program.

- ***Reduced student-to-teacher ratios.*** A range of strategies should be employed by schools and programs to provide more personal teaching and learning environments to foster higher levels of academic achievement. These strategies may include smaller classes, small learning communities, teacher's aides, team teaching, tutoring, mentoring and ancillary supports.

- ***Extended learning time.*** To accelerate and reinforce student learning, programs should encourage or require additional time and opportunities (such as longer days, weekends and summer courses).

- ***Long-term supports.*** Programs should encourage student participation over an extended time (two years or more) to create and sustain stable relationships between participants and knowledgeable adults, and to help youth make successful transitions as they progress up the educational ladder.

- ***Scholarships and/or financial support.*** Programs should provide financial support to youth as needed to motivate participation and persistence in quality educational experiences. Programs should also provide continual guidance to youth and monitor the impact of the funds on student achievement, retention and graduation.

- ***National leaders, states and school districts should prevent minority students from falling behind*** by expanding early childhood programs and providing continuous guidance and supports through the elementary and high school years.

- ***National leaders, states and school districts should boost efforts to increase minority students' entry into and graduation from postsecondary education.***

At almost every educational level, schools and community-based programs across the country are reporting good news about the academic achievement of the minority students they are serving. Although gaps overall are still large, and most reported achievement gains are small, these programs have proven there is every possibility of succeeding in raising achievement for all. Implementing the recommendations above could help the nation move beyond a feeling of helplessness regarding achievement gaps by providing specific information on program design and strategies about "what works" to enhance academic achievement. The larger challenge is creating the ***national will*** to set in place mechanisms that will eliminate differences in academic achievement among students correlated with race or ethnicity.

1. National Commission for Excellence in Education. *A Nation At-Risk: The Imperative for Educational Reform*. Washington, D.C.: U.S. Department of Education, 1983.

2. *Do You Know the Good News about American Education*, Washington, DC: Center on Education Policy and American Youth Policy Forum, 2000.

3. Benno C. Schmidt, Jr., Chairman of the Board of Directors of Edison Schools, Inc. and former President of Yale University said, "Education is the only current opportunity. The Civil Rights struggle is in the classroom. This is the most challenging of all issues." At the same conference, Robert Slavin, creator of the Success for All program, stated that the achievement gap "is one of the most important educational and social problems in the country." The Brookings Institution, Brown Center on Education Policy and Edison Schools**.** "*Closing the Gap: Promising Approaches to Reducing the Achievement Gap*." Washington, DC. February 2, 2001.

4. U.S. Department of Education, National Center for Education Statistics. *The Condition of Education 2000.* Washington, DC: U.S. Government Printing Office, 2000.

5. For a succinct explanation of the NAEP test, see *Glossary.*

6. U.S. Department of Education, op. cit, indicator 38, p. 56.

7. The College Board, *College-Bound Seniors National Report*. Washington, D.C, 2000.

8. U.S. Department of Education, op. cit., Table 38-3, p. 156.

9. U.S. Department of Commerce, U.S. Census Bureau. *Overview of Race and Hispanic Origin. Census 2000 Brief.* Washington, D.C., March 2001.

10. Quoted in the New York Times, Education Life, Section 4A, pages 37-38, Sunday, April 9, 2000. According to the Department of Education, 29% of first time freshmen were enrolled in remedial courses in 1995 (the latest data available). Kelly, Karen. "Seeking a Cure for Senior-Year Slump." *Harvard Education Letter*. Research Online. July/August 2001. http://www.edletter.org/current/.

11. Jencks, Christopher and Meredith Phillips (Eds). *The Black-White Test Score Gap*. Washington, DC: The Brookings Institution, 1998, p. 4-7.

12. *Exposing the Gap: Why Minority Students Are Being Left Behind in North Carolina's Educational System*. Raleigh, NC: North Carolina Justice and Community Development Center and the North Carolina Education and Law Project, 2000.

13. A dinner discussion with Daniel Domenech, Superintendent of Fairfax (VA)," American Youth Policy Forum, June 15, 1999 available at www.aypf.org/forumbriefs/1999/db061599.htm.

14. Section 1111(b) (3) (I) of Title I of the Elementary and Secondary Education Act of 1994 reads, "State assessments shall – Enable results to be disaggregated within each State, local educational agency, and school by gender, by each major racial and ethnic group, by English proficiency status, by migrant status, by students with disabilities as compared to nondisabled students, and by economically disadvantaged students as compared to students who are not economically disadvantaged" and suggests disaggregating data if no less than ten students are in a single group.

15. Zernike, Kate. "Racial Gap in Schools Splits a Town Proud of Diversity." *New York Times*, August 4, 2000.

16. Maryland Department of Education, Maryland School Performance Report, available at http://msp.msde.state.md.us; see Baltimore city schools, Dr. Carter Goodwin Woodson Elementary School.

17. Although the authors consider New York City differences significant at the 10% level, educational research tends to limit significance to the 95% confidence level (or 5% level of significance).

18. Jerald, Craig D. *Real Results, Remaining Challenges: The Story of Texas Education Reform*. Washington, D.C.: The Business Roundtable, 2001, p.32.

19. We speculate that there must be some lag time between the implementation of so many high school testing requirements and the use of these test scores in the evaluation of high school programs.

20. The lack of evaluations for the many postsecondary programs that target underrepresented minority students is also reported in Gándara, Patricia. *Priming the Pump: Strategies for Increasing the Achievement of Underrepresented Minority Undergraduates*. New York: The College Board. 1999.

21. Though there has been no formal evaluation conducted on Hispanic-Serving Institutions (HSIs) of higher learning, data on the 203 HSIs can be found at www.ed.gov/offices/OIIA/Hispanic/hsi/.

22. Jurich, Sonia and Steve Estes. *Raising Academic Achievement: A Study of 20 Successful Programs*. Washington, D.C.: American Youth Policy Forum, 2000.

Educational researchers would prefer to think that their trade is a precise, scientific discipline with well-defined concepts and standardized procedures leading to uncontested results. However, between the ideal and reality there is usually a wide gap. Social phenomena are generally too complex to be isolated and measured, rigorous research methods may clash with ethical concerns, and the search for objectivity may be clouded by program advocacy. Good researchers strive for a balance between what should be done (the "perfect" research) and what can be done. For those dealing with secondary sources, that is, research done by others, the negotiation between ideal and reality is even more frustrating. Jargon-laden research must be decoded into intelligible language, large amounts of work must be reviewed to select a few evaluations for inclusion, and at the end, the questions that propelled the search may remain unanswered.

The making of this report reflects all these challenges. The journey that started 18 months ago required reviews of hundreds of articles, reports, books, unpublished manuscripts, and other documents to produce the summaries included in this report. This chapter briefly describes the path traveled, its obstacles and discoveries along the way. (For a description of the report methodology, see *Overview and Research Note*)

> *The U.S. is perpetually awash in 'new' and self-proclaimed 'highly effective' programs for improving students' academic achievement . . . The evidence that most of these programs 'work' has always been modest, and evidence of generalizability of effects is, for the majority of programs, non-existent (Sam Stringfield[1]).*

Finding evaluations of any quality is a difficult task, except for federal initiatives or grantee programs that mandate such studies. Program evaluation is a time-consuming process that may take money away from direct services. For many educators and youth program practitioners, already struggling with funding shortages, the idea that some of this money will be diverted from services to support research is anathema. However, without research, program practitioners may be perpetuating failing or mediocre interventions whose long-term consequences are much costlier to the young people and society. Although common sense indicates that interventions without a proven record of success should not be replicated, the search for the "magic solution" seems to overcome common sense. A non-scientific estimate of the literature search suggests a ratio of five "how to" reports – that is, reports on how to implement a specific but often untested intervention – to one evaluation of a program or strategy.

The search process for this report was particularly challenging, more so than for the two previous AYPF compendia. Over 200 documents were collected for an initial selection of less than 50. As described in the *Research Note*, the acceptance of evaluations for the report was dependent on five criteria that included population, measurements, methodology, length of research and scope. The following paragraphs discuss some of the obstacles encountered in satisfying the criteria and how they influenced this report's outcome. For readers who are interested in research but not familiar with its basic terminology and standards, a brief explanation is provided at the end of the chapter, under the title "*Basic Principles of Educational Research*." Definitions of research terms are included in the *Glossary.*

The most important caveat about the documents reviewed was their treatment of the population. First, although the initial purpose was to include evaluations and programs for youth from all minority racial/ethnic groups, the final report includes few studies related to Native American and Asian/Pacific Island youth. The report's primary emphasis on African American and Latino youth reflects rather a lack of information on the other groups than a search process that focused on these two groups.

Second, most evaluations report on the student population as a homogeneous group, where demographics, such as race/ethnicity, appear as part of a description, but are rarely taken into account in the analysis. Few evaluations disaggregated their findings by sub-groups – ethnicity, gender, socio-economic status, English proficiency or baseline academic achievement. Disaggregating data requires more work during the data collection phase, demands a larger pool of students to provide statistically meaningful results, and risks exposing program weaknesses. However, this type of analysis is essential to highlight areas that require improvement and areas of proven success, thus offering key information for school administrators and program implementers.

The evaluations of *Chapel Hill-Carrboro City Schools* (CHCCS) and *GE Fund College Bound* are good examples of the value of disaggregating data. Results from the *CHCCS* program showed improved levels of proficiency in mathematics and reading for African American students with a reduction in the score gap between these students and their white peers. Yet the writing scores for African American students actually declined during the period of the study. The evaluation for the *GE Fund* indicated an overall increase in college enrollment rates for all participants, but more so for Latinos. However, the gap in enrollment between African Americans and whites increased. Faculty involved with the two projects can use the data to examine their strategies toward each group of students, to replicate the strategies that are boosting minority achievement and revise the strategies that are not working. Programs that claim success without disaggregating their data may be helping one group of students while the other groups continue to fail. In fairness to the student population as a whole, these programs are not achieving their objectives.

The initial criteria for acceptance of evaluations required a set of outcome measures that would provide a broad picture of the students' performance, such as test scores, number and type of credits taken, GPA, dropout and attendance rates, as well as postsecondary education or employment data. This requirement was based on the principle that relying on a single measure to assess a program may lead to incomplete, and many times, misguided conclusions. For instance, the evaluation of *Equity 2000,* a program that proposes academically challenging curricula for all high school students, shows a 30% increase in student enrollment in advanced mathematics classes. It also shows an increase of about 50% in failure rates in these same classes. While the enrollment data suggest an accomplishment, the data on passing rates indicate the need for much work before the program claims success.

Despite efforts during the search period, few evaluations reported more than two measures of achievement, the most frequent being test scores. It is inadvisable to use tests as the sole measure of student knowledge for many reasons. For instance, multiple-choice tests measure only one type of learning (memorization); some tests have been criticized as being culturally biased against minority students; some students are great test-takers while others are not; tests evaluate the student on one day out of 180 or more per school year, and on one set of specific competencies; tests do not necessarily assess the students' mastery of essential skills, such as problem solving, communicating complex ideas, using different strategies to reach a solution, or working in groups.[2] Notwithstanding the myriad problems with testing, the reality is that tests are being used across the country as a measure of school accountability and student achievement, and as gateways to advancement along the educational ladder.

Programs that raise the test scores of minority youth do increase the youths' chances of high school graduation, college admission and success in later life.

Acceptance of test scores as a valid measure of student achievement does not solve the question of whether it should be the **sole** measure. There are many methodological limitations associated with an overemphasis on test scores, such as:

- *Habituation* – Although questions change with different administrations of a test, students get used to the logic behind the test and its style. With time, scores in that specific test tend to go up due to habit, rather than actual improvement of student performance.

- *Lack of reliability* – Few of the current statewide tests are submitted to statistical analyses to assess their validity and reliability.[3]

- *Political pressure* – Tests may be weakened to address parental opposition and, in this case, increased test scores within a period of time may reflect a change in the tests (becoming easier or lowering the cut-off scores) rather than better-prepared students.

- *Teaching to the test* – Higher test scores may reflect the schools' emphasis on teaching to the test. With teachers focused on preparing the students to take the test, it is expected that scores will go up, even if the students still miss important competencies for future careers, sacrifice depth for breadth, and do not work on problem solving and critical thinking skills important for democratic citizenship and the new job market.

- *"Cheating" the system* – Higher test scores may also hide an increase in dropout rates or in the number of students identified as having limited English proficiency or in need of special education (generally, these students are exempted from statewide tests). As the students who test poorly for various reasons are pushed out of the system, the average scores of the remaining students increase. Without other measurements, such as trend data on special education enrollment, dropout rate, college attendance and retention, enrollment in remedial courses in college, or type of employment, conclusions based solely on test scores are limited.

All this being said, with the current emphasis on testing it is understandable that researchers rely on tests to evaluate the success of a program. Indeed, the vast majority of evaluations found used test scores as the sole measure (at least, the sole quantifiable measure) to assess a program's performance.

Evaluations that use scores on only one test to assess a program create a serious obstacle for comparisons across programs. For example, is a 30% increase on the Texas Assessment of Academic Skills (TAAS) a greater feat than a 10% increase on the California Achievement Test (CAT)? Evaluations using the National Assessment of Educational Progress (NAEP) can be compared, since this is a nationwide assessment (although the NAEP is not conducted yearly and scores are not reported for individual students), but few studies reviewed used NAEP data.[4] Another question that remains unanswered by a raw test score is its impact on the student's life. What does a three-point increase in a test represent for the student? Is this student now at the expected grade level? How much more does the student need to be proficient in the subject?

Translating results into grade levels or percentiles facilitates comparisons. For instance, after the *Calvert* model was implemented at the Dr. Carter Goodwin Woodson Elementary School, an all African American inner city school in Baltimore, the first grade average reading comprehension scores went up 31 points, from the 18th to the 49th percentile. This measure indicates that before *Calvert* was implemented, Woodson students were scoring on average below 82% of all students who took the Maryland test. One year into the new program, the average score of Woodson students placed them close to the middle. This information does not answer the question of how well the test

assessed what students need to know to succeed in life, but very few tests, if any, have such predictive power.[5]

Design - Methodological rigor should be a concern for any researcher, but the standards of rigorous research are not so clear in the educational field. Evaluations using control or comparison groups were rarely found in the search for this report. The majority of the documents that we found compared the program or school with existing databases at the district or state levels. As the methodological rigor weakens, the findings become less reliable or generalizable, and the research process turns into an expensive, but fruitless exercise. Researchers who deal with limited budgets must carefully choose a design that provides the required information without unjustifiable expense. Interestingly enough, despite complaints of lack of research funding, the search produced a number of evaluations with highly complex, costly but inefficient designs.

Use of indicators – To evaluate performance changes, the data collected must be compared against either a baseline performance (how the students performed before the program) or some established indicator (how the students were expected to perform). A claim that 70% of Latino students in a program graduated is meaningless without information on how many students graduated before the program, or the overall graduation rate for Latino students in that specific school district or state. An enrollment of 80% in an algebra class may seem high until we discover that algebra is a mandatory course for graduation in that school district, and the enrollment should be 100%. Numbers gain meaning only within a context. This comment should be obvious, but a number of rejected evaluations claimed the success of a program without that context.

Statistical treatment of data – In addition to including baseline data and/or contextual indicators, researchers should calculate the statistical significance of their findings. A 12% decline in the test score gap between African Americans and white students in a specific program could reflect either the positive impact of the program or normal fluctuations in test scores. Statistical tests are needed to separate random occurrences from treatment effects. If these test scores are performed, researchers must report results, including levels of significance. Again, reporting statistical significance is a basic research principle that was frequently forgotten among the documents reviewed.

Researcher bias – It is not uncommon in the educational field that a research institution or an individual researcher monopolizes the evaluation of specific programs or initiatives. In an ideal world, third parties ("outsiders") with no direct interest in the program should conduct the evaluation to ensure the impartiality of analysis. In reality, however, it is often cheaper and easier for an "insider" or advocate with the appropriate research skills to conduct an internal evaluation. Fortunately, the review conducted for this report shows that "insider" evaluations can be just as rigorous and impartial as third-party evaluations. For example, many school evaluations are conducted through school district staff. Depending on the local political climate, these studies can be quite independent, particularly when they are intended as internal tools of assessment. The *Chapel Hill-Carrboro City Schools* evaluation is an example of an impartial insider research. In contrast, a number of "outsider" evaluations were rejected because they contained blatantly biased analysis.

> *If we do not describe the possible dystopias we shall be left only with [our] utopias. If we do not insist on bringing research findings (which may be politically inconvenient) into the public arena, we contribute to the erosion of democracy (Gipps[6]).*

It is well-known that academic journals in any science (not only education) tend to publish evaluations that show success, while studies with negative findings are politely rejected. To ensure a more balanced perspective of programs geared toward minorities, the search included manuscripts

and unpublished grant reports in addition to published articles. Yet, whether the evaluation was published or not made little difference. A tendency to spin results into success or hide less than successful results was common to the majority of the documents. *Chapel Hill- Carrboro City Schools*, *GE Fund College Bound* and *High Schools That Work* deserve commendation for the courage to show accomplishments *and* shortcomings. Without this courage, program evaluation becomes little more than statistical cheerleading. Evaluators who hide negative results or use their trade as a tool for ideological positions are doing a disservice to policymakers, who will make decisions based on questionable information. By perpetuating misinformation, these evaluators are also doing a disservice to the educational process and to the youth, victims of failed strategies disguised as success.

The first conclusion resulting from the search process is that the most useful research is based on simple but methodologically sound design and provides information that is clear and easy to understand. This type of information is essential for educators and program practitioners who need to convince skeptics, placate critics, or expand support for their programs. Less useful are methodologically unsound evaluations, or evaluations that are so complex and hard to read that, high quality or not, they provide little usable information to policymakers and practitioners.

A brief overview of the evaluations selected for this report reflects the following characteristics:

- *Range*. The selected evaluations present a mix of policy initiatives and public or private programs. Together, the summaries span the educational ladder, from early childhood to graduate education. Although some district-wide reforms address all grades from K-12, evaluations of programs or initiatives that specifically target middle school students were not found. The search, albeit quite extensive, may have missed such programs, but this finding is worrisome, since many students who drop out of school start falling behind in middle school.

- *Population*. Few programs and initiatives target specific racial/ethnic groups. The majority serve a large number of minority students for two basic reasons. First, the majority of evaluations dealt with programs and initiatives targeting Title I schools, that is, schools with large numbers of students living at or below the poverty level. Although poverty is by no means an exclusive problem of minorities, minority children and youth are over-represented among the poor. Second, some programs are located in areas where a specific minority group predominates, such as Latinos in Puerto Rico and some schools districts in California, and African Americans in Washington, DC, and Baltimore. The Population textbox in each of the evaluation summaries in Section II reports the population in each study by racial/ethnic group, income level, geographical location, and program targeted level.

- *Methodology*. The studies summarized in this compendium vary in design and methodological rigor. Nineteen out of the 38 summaries use a control or comparison group, four are longitudinal studies, nine employ the pre/post-treatment method and eleven compare their findings against district, state or national databases (some use more than one method). Four summaries are descriptive only.

- *Measures*. For K-12 programs, test scores are the most common measure of academic achievement. Most evaluations rely on one type of test, often the state-mandated test. A few studies use standardized tests adopted nationwide, such as the Iowa Test of Basic Skills (ITBS) and the Stanford-9 (SAT-9).[7] Among other indicators, high school programs frequently cite college enrollment data, while postsecondary education programs look at retention rates. Few

reports provide data on employment, including *Tribal Colleges, Compact for Diversity* and the three long-term studies of early childhood programs (*Abecedarian*, *Child Parent Centers* and *High/Scope*).[8]

This analysis discussed utopias and dystopias, the politically inconvenient but statistically significant. The hope is to contribute information that can guide educators and policymakers to better informed choices of strategies and initiatives that improve the academic achievement of minority youth; and foster a better understanding of the need for evaluation studies that look at facts, rather than dreams, and reality, rather than rhetoric. This hope is translated in the recommendations below.

- ***A large-scale, national and comprehensive educational research agenda must be developed*** to (a) determine which strategies and policies have resulted in the most benefit, for whom, and at what cost, (b) provide guidance to evaluators on what type of research would be most useful to policymakers and practitioners, and (c) provide guidance to practitioners on why quality research is needed, how to initiate it and use it.

- ***Public and private funding sources must require and support high quality program evaluations*** and utilize findings to improve policy and practice, rather than to punish programs.

- ***Data must be disaggregated by race, ethnicity, limited English proficiency, disability status, gender and poverty level and be made publicly accessible*** to researchers, educators, policymakers, families and the public at large.

- ***Researchers should look into a range of achievement indicators*** including, numbers of students enrolled and dropping out, attendance, test scores, GPAs, graduation, suspensions, expulsions, and special education referrals. They should also translate their findings into language that is accessible to policymakers, practitioners, educators, families and students, so that research findings can be translated into better education policies and practices.

The next paragraphs attempt to provide readers who are not familiar with research with some very basic tools to help them navigate the summaries and use the findings to make their own assessment about the programs. These paragraphs reflect the many discussions about research among the members of the editorial team. However, its inclusion is not without a certain hesitation since a large amount of information is necessarily omitted.

The use of *control groups* provides the most rigorous design to assess the effect of an intervention, but it also raises important ethical questions. In educational research that uses control groups, two groups of individuals are randomly selected – one group attends the program (treatment group) and the other does not (control group). When using a control group, the researcher ensures that the two groups are as similar as possible and limits the factors that may interfere with the education process. This control enables the researcher to attribute later differences between the treatment and the control groups to the program's effect with some degree of certainty (total certainty is an unattainable ideal). However, a control group supposes that the evaluators, with the consent of program directors or implementers, made a choice to provide a strategy that may help a group of needy youth while refusing it to another needy group, a difficult decision for any concerned individual. Programs that have more applicants than openings and select students through a lottery process have a natural control group in the students who do not win the lottery. The lottery is a totally random process that excludes the possibility of personal bias from admission personnel, but few programs use this system.

Evaluators can solve this problem in part by finding a *comparison group,* that is, an existing group of students similar to the treatment group who will not attend the program. For instance, students in two schools that are demographically and academically similar where one school implements the program and the other does not. A popular comparison in educational research is between students in a specific program and district wide, statewide or nationwide data. This type of comparison group is the easiest to identify, because the data already exists, but is the least reliable, since large databases include schools with different academic achievement, socio-economic background, type of personnel, and funding levels.

Control and comparison groups must be *matched* for demographics, socio-economic status, and prior academic performance to ensure that they are similar. If the groups are not matched on all these factors, the evaluators cannot infer whether the findings reflect program effect or the initial differences between the groups. A treatment group starting at a higher academic level than the comparison or control group is more likely to show higher scores even without the program. Or the converse may be true. The treatment group may have more students who are struggling academically. In this case, results may favor the control or comparison group even if the program is working. Although this explanation appears obvious, we found evaluation studies that claimed program success based on comparisons of groups that differ in their basic demographics and performance characteristics.

Research using *pre- and post-treatment data* does not have the problem of group differences, but brings up other concerns, such as differences in tests used to measure progress, natural student maturation, or interferences due to the exit and entrance of students, changes in school personnel, and other factors.

Time is an important factor in evaluations. A study conducted too early, before the strategies are fully implemented, will not show clear results. Studies where the data is collected only once do not provide information about the program's ability to promote changes on an ongoing basis. It is not unusual that a program shows positive short-term changes as a result of the attention generated during its initial implementation. If this is the case, results may decline the following year, when the novelty has passed and the attention wanes. *Longitudinal studies* provide the best information to assess the program's performance. However, longitudinal studies are both difficult to implement and expensive. In addition, as the time passes, contact with research participants becomes more difficult, the initial treatment and control group dwindle, and results from such small samples become less prone to generalization. The *Abecedarian Project, Child Parent Centers* and *High/Scope Perry Preschool* are examples of the advantages and difficulties of long-term longitudinal research.

In research, population is the generic name for what is being studied (it can be rats, as in experimental psychology research, as well as schools, students and teachers). Studies of small programs that exist in one school should include all the students as the results will be more reliable. However, for large studies, such as programs implemented in many schools or large school districts, it may become impossible to manage the study using the whole student population and the *use of samples* becomes imperative. In general, samples are randomly selected using some type of lottery, computer-generated numbers, or similar process. Researchers can also select samples to answer specific research questions. For instance, they can select only the best schools in a district to compare with the best schools in another district, or they can select only male students to analyze how a program affects males. When researchers select the sample, they should explain their selection process.

The size of the sample is important to ensure that results can be generalized to the total population. If the sample is too small, it may not be suitable for statistical tests. One of the problems with disaggregating data is that, when the total sample is divided, each sub-group must be large enough to provide statistically significant results. Terms such as large or small are relative to the initial size of the population and the type of study being conducted, including the questions asked and the type of tests required.[9]

After ensuring the quality of the comparisons, evaluators must also identify whether the results have statistical significance, that is, where results cannot be attributed solely to chance. There must be some degree of confidence that the results can be attributed to the program. In educational research, a 95% confidence level is considered good; in medical research, where life and death are at stake, 5% uncertainty may be too much. This confidence statement can be expressed in levels of significance. A difference in test scores between two groups of students that is significant at the 5% level means that only 5 out of 100 students got that test score by chance. For the other 95, the change in grade is an effect of the program. Levels of significance (p) are generally written as a mathematical expression where $p \leq 0.5$ (for a 5% significance level) or $p \leq 0.2$ (2% significance level) and so on.

Following are 38 summaries of evaluations on programs and practices that influence the academic achievement of minority youth.

1. Stringfield, Sam. "Underlying the Chaos: Factors Explaining Exemplary U.S. Elementary Schools and the Case for High-reliability Organizations." In *Restructuring and Quality Issues for Tomorrow's Schools,* edited by T. Townsend. London: Routledge, 1993.

2. For a discussion of tests as measures of academic performance, see Bracey, Gerald. *Thinking About Tests and Testing: A Short Primer in Assessment Literacy*. Washington, D.C.: American Youth Policy Forum, 1999 (available at http://www.aypf.org/BraceyRep.pdf); Natriello, Gary and Aaron Pallas. *The Development and Impact of High Stakes Testing*. Paper presented at the High Stakes K-12 Testing Conference, sponsored by The Civil Rights Project, Harvard University, Teachers College, Columbia University, and Columbia Law School, 1998 (http://www.law.harvard.edu/groups/) ; Rotberg, Iris. "Five Myths about Test Score Comparisons," *School Administrator,* 53 (1996): 30-31, 34-35.

3. Validity refers to whether the test measures what it is supposed to measure (for instance, does the test measure the knowledge in English expected from a 5th grader in Texas?). Reliability refers to whether the test results can be replicated (do Texan 5th graders well-versed in English always score within a same range every time they take the test or are the results too unpredictable?). For more explanation on this topic, see Bracey, op. cit.

4. For a discussion of comparisons between TAAS and other tests, including the NAEP, see Jerald, Craig D. (2001). *Real Results, Remaining Challenges: The Story of Texas Education Reform*. Washington, D.C.: The Business Roundtable.

5. Bracey, op. cit., has a discussion on the use of the SAT on "predicting" student performance in college.

6. Gipps, Caroline. *The Role Of Educational Research In Policy Making In The U.K*. Paper presented at the American Educational Research Association (AERA) Conference, Atlanta, Georgia, 1993, p.16.

7. For explanations about the tests used in each evaluation, the reader is referred to the *Study Methodology* section at the end of each summary. For a brief description of the tests, please refer to *Glossary*.

8. Employment data in the Early Childhood evaluations was not included in the summary but can be accessed in the full document.

9. A very accessible, easy-to-read introduction to sampling is Sudman, Seymour. *Applied Sampling*. New York: Academic Press, 1976.

"The Development of Cognitive and Academic Abilities: Growth Curves from an Early Childhood Educational Experiment" (2001) *Developmental Psychology* 37(2) 231-242. By Frances A. Campbell, Elizabeth P. Pungello, Shari Miller-Johnson, Margaret Burchinal, and Craig T. Ramey.

"Early Intervention and Mediating Processes in Cognitive Performance of Children of Low-Income African American Families" (October 1997) *Child Development* 68(5): 935-954. By Margaret R. Burchinal, Frances A. Campbell, Donna M. Bryant, Barbara H. Wasik, and Craig T. Ramey.

"Cognitive and School Outcomes for High-Risk African American Students at Middle Adolescence: Positive Effects of Early Intervention" (Winter 1995) *American Educational Research Journal* 32(4): 743-772. By Frances A. Campbell and Craig T. Ramey.

Focus

- ✓ Early Childhood
- ✓ Primary School
- Middle School
- Secondary School
- Postsecondary
- Extended Learning

Begun in 1972, the Abecedarian program was an experimental pre-school program serving the children of low-income, African American families in Chapel Hill, North Carolina. The full-day, year-round program served the children from their infancy until the age of five. The program provided free diapers, food, and transportation as well as academic, physical, and social enrichment activities. As children entered kindergarten, the program further divided the control and treatment groups, providing "school-age support" to half of each group, so evaluators could determine the different effects of pre-school and primary school interventions. The "school-age support" was provided by a Home-School Resource Teacher from the program who served as a liaison between the students' families and school officials for the first three years that the children attended public schools. Abecedarian staff also provided parents with individualized curriculum packets to help them work with their children at home on academic lessons. The experimental program ended by design in the mid-1980s in order for researchers to track the

POPULATION

At the outset of the longitudinal study, the directors selected 111 healthy infants (average age of 4.4 months), who were found to be at "high risk" because of family income and maternal education level. (The mothers were all low-income. They had on average a tenth grade education and their average age was 20.) Although ethnicity was not a selection criterion, 98% of the children were African American, because a higher percentage of poor people in the locality served were African Americans. Of the 111 infants in the original sample, 57 were randomly assigned to enroll in the Abecedarian program and the remaining 54 were assigned to the control group. The control group children experienced a range of early care including parental care and other child-care programs available in low-income communities. Half of the children in each group were chosen at random to receive additional academic support in the first 3 elementary school grades. For the 21-year follow up study, the evaluators interviewed and tested 104 of the original participants in Abecedarian.

effects of the program on cognitive ability and academic performance of participating students as they continued up the educational ladder. The basic elements of this program were replicated in the Infant Health and Development program provided for nearly 1000 low-birth-weight children at 8 sites across the nation.

The strongest effects of the Abecedarian preschool program occurred while the youth and their families were participating in the project. But the studies summarized here focus on the academic achievement effects that endured through the teen years and early twenties, more than a decade after participants had left the program.

"The [Abecedarian] outcomes show that high quality educational childcare can make a dramatic difference in the lives of young African American adults reared in poverty."

—Frances Campbell and Craig Ramey, evaluators

Relative to their peers in the control group at age 15, the program participants:

- Had a lower rate of grade retention in grades K-9 (31.2% vs. 54.5%; p=.02).
- Were less likely to need special education in grades K-9 (24.5% vs. 47.7%; p=.02).
- Had a higher adjusted mean reading score on the Woodcock-Johnson test (93.5 vs. 86.7; effect size of .45).
- Had a higher adjusted mean math score on the Woodcock-Johnson test (91.6 vs. 86.1; effect size of .37).

Relative to their peers in the control group at the age of 21, the program participants:

- Had completed more years of school (12.2 vs. 11.6; p<.05).
- Were more likely to have attended a four-year college (35.9% vs. 13.7%, p<.05).
- Were more likely to be in school (42% vs. 20%, p<.05).
- Were more likely to be engaged in skilled jobs (47% vs. 27%; p<.05),

In terms of gender, women who had been in the preschool program earned 1.2 years more education than their peers in the control group (12.6 vs. 11.3; p<.05), but the difference for men was not significant.

The Abecedarian program was designed as an experiment to determine the effect of high quality educational childcare on children from low-income families. These longitudinal studies include all of the program participants and a randomly assigned control group that did not participate in the early childhood program. The program provided half of each group with additional academic support from first through third grade in a "school-age intervention" to determine the impact of intervention timing.

- From infancy to age 5 (when public kindergarten began), children attended the program eight hours a day, five days a week, fifty weeks a year.
- At infancy, the caregiver to child ratio was 1:3. A specially designed Abecedarian infant curriculum covered cognitive and fine motor development, social and self-help skills, language and gross motor skills. Diapers, food and transportation were provided to all participants.

- As children grew to become toddlers, the staff to child ratio decreased to 1:6. The curriculum included interest centers for art, housekeeping, blocks, fine-motor manipulatives, language and literacy. A special emphasis on language acquisition required daily or semi-weekly individual sessions with each child.

- Before the participants entered kindergarten, they participated in a six-week summer transition program that included other children from the community to facilitate socialization of the Abecedarian participants.

- Parents of Abecedarian students served on the center's advisory board, attended social events at the center and received counseling by the center's medical staff on child health and development.

- Half of the participants and the control group also received a "school-age intervention" from grades K-3 (with a staff to child ratio of 1:14). This phase of the program was designed to involve parents in their children's education. One Home-School Resource Teacher (HST) served groups of 14 children and their families, providing them with individualized curriculum activities to reinforce math and reading skills learned in school. The HST visited classrooms every other week to consult with teachers about the students' needs and on alternate weeks delivered a curriculum to the parents. The HST also "functioned like a social worker" serving other needs of the family and referring them to appropriate agencies for services.

Early Intervention

Evaluators determined that "the preschool treatment was more strongly associated with the improvement in academic achievement than was the later school-age intervention." Yet they admit that variables such as duration and strategy of intervention (direct instruction vs. parent-mediated home activities) made it difficult to determine why this was so.

Long-term Support

Full-time, year-round childcare for five years was available to children from low-income families, and the continuity of service seemed to be a factor in the program's results.

Individualized Attention

The high staff to student ratios at every stage of the Abecedarian program allowed staff to individualize enrichment activities, language lessons and higher level academic curriculum activities for each child.

STUDY METHODOLOGY

For an explanation of the random selection of 111 participants in the treatment and control groups, see the "Population" section of this summary. The evaluators measured the social and intellectual development of both groups at ages 3, 4, 5, 6.5 and 8 years old with the Stanford-Binet intelligence scale and the Wechsler Preschool and Primary Scale of Intelligence. The Woodcock-Johnson Psycho-Educational Battery (a standardized achievement test) was administered to the students at age 8, 12, 15, and 21 to measure math and reading achievement. Of the initial 111 participants in the treatment and control groups, 104 were available for testing and interviews at the age of 21.

EVALUATION FUNDING

The 21-year follow-up studies of the Abecedarian Project were funded by the Maternal and Child Health Bureau of the Department of Health and Human Services, the Office of Educational Research and Improvement, the Department of Education and the David and Lucile Packard Foundation. The program and earlier phases of the research were primarily funded by a series of grants from the Mental Retardation and Developmental Disabilities Branch of the National Institutes of Child Health and Human Development and the State of North Carolina.

GEOGRAPHIC AREAS

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Focus

- Early Childhood
- Primary School
- ✓ Middle School
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POPULATION

AVID serves more than 70,000 students enrolled in over 1000 middle and high schools in 20 states and 14 countries. Demographic characteristics of participants vary by school and state. Some schools have a large population of Latino students, others of African Americans. The program serves all students regardless of their ethnicity or socioeconomic status, but it focuses on low-income students who are the first in their families to have the opportunity to attend college.

Two English teachers at Clairemont High School in San Diego, CA founded Advancement Via Individual Determination (AVID) in 1980, because they were concerned with the large number of students unlikely to pursue postsecondary education. Research has shown that well-behaved, C-average students from low-income families tend to receive the least attention from teachers and school counselors. Subsequently, these students enroll in less demanding courses that do not prepare them to enter four year colleges. AVID provides these students with a college preparatory program that relies on teacher professional development, a rigorous course of study, and the use of college students as tutors and role models. Every participant of the program takes an additional elective class during the regular school day, which emphasizes writing skills and cultivates critical inquiry. AVID has received a number of awards, including the Golden Bell Award of 1995 for the California School Boards Foundation, the A+ for Breaking the Mold Award from the US Department of Education and the Pioneering Achievement in Education Award from the Charles A. Dana Foundation.

Since AVID is a college preparatory program, evaluators used longitudinal studies to determine the program's impact on college access and success.

- Nearly 95% of AVID's graduates enroll in college.
- Seventy-seven percent of AVID's graduates enroll in four-year colleges.

- Forty-three percent of AVID's Latino graduates (who have participated in the program for at least three years) enroll in four-year colleges. Evaluators compared this to a 1990 national average for Latinos of 29%.

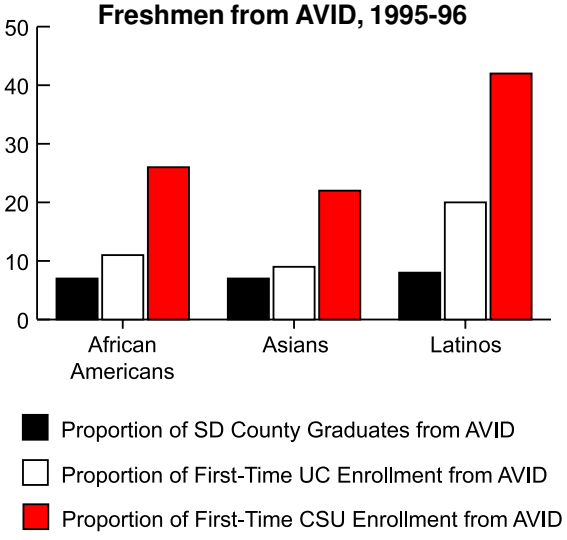
- Fifty-five percent of AVID's African American graduates enroll in four-year colleges. Evaluators compared this to a 1990 national average for African Americans of 33%.

- More than 80% of the AVID graduates remain enrolled in college two years after admission.

- AVID graduates maintain an average GPA of 2.94.

A more focused look at the 1995-96 class of AVID graduates in San Diego County revealed that AVID produced disproportionately large percentages of African American, Asian, and Latino first-time freshmen in both the University of California and California State University Systems. Though AVID minority students made up about 7-8% of the high school graduating class from San Diego County in 1996, they made up 22-42% of the CSU freshman coming from San Diego [see chart].

Percentages of San Diego County High School Graduates and First-Time College Freshmen from AVID, 1995-96



The California State Department of Education indicates that from the 1985-86 school year to 1991-92, AVID schools witnessed:

- A dropout rate that declined 37% as compared to a 14% drop in non-AVID schools.

- The number of seniors completing a four-year college preparatory course of study increased by 95% compared to a 13% increase in non-AVID schools.

- The percentage of graduates from AVID schools enrolling in California public universities increased by 35% compared to a 1% decline for non-AVID schools.

The following essential elements are required if a school is to receive certification as an AVID site:

- Prior to the implementation of the program the teacher/coordinator, the site administrator, and a team of subject area teachers must attend an AVID Summer Institute.

- The school must identify resources for program costs, purchase program materials and commit to ongoing participation in the AVID staff development and certification process.

- Student selection must focus on underachieving students in the middle who have the ability to succeed in a college preparatory curricular path.

- Participation must be voluntary.

- The program must be implemented as an integral part of the school day.

- Tutors must be available, and receive training, to implement AVID curriculum writing assignments, made relevant to the students' lives, and problem solving that fosters critical inquiry.

- The AVID curriculum must provide the basis for instruction in the classroom.
- Program implementation and student progress must be monitored and results analyzed.
- The school must feature an active, interdisciplinary Site Team.

Upon entering the AVID program, students:

- Enroll in advanced level college preparatory classes that fulfill four-year college entrance requirements.
- Are tutored by college students and exemplary high school peers, who have been trained to use specific teaching methodologies and materials.
- Attend sessions with guest speakers from educational institutions and the business community.
- Participate in field trips to places of educational and cultural interest.
- Receive classes on notetaking, study skills, test taking, time management, effective textbook reading, library research skills, preparation for the SAT/ACT, college entrance and placement exams.
- Receive help preparing college applications and financial aid forms.

A staff development program integrates curriculum standards with specific student achievement goals. The program focuses on improving students' grades in college preparatory courses and improving motivation among students from under-represented groups. Professional development is provided during the AVID Summer Institutes and monthly follow-up workshops.

For schools outside of California, the cost of implementing the AVID program is $540 per student (about $3 per day) in year one. By the third year of implementation, the cost drops to about $1 per day per student. For schools and districts in California the per-pupil cost is about $180 per year. In California, AVID is a state-supported program.

Parental Participation
Ongoing home contact in the form of regular telephone calls, letters and meetings for parents and students, and the presence of a Parent's Advisory Board, are vital to the success of the program. AVID provides a parent-training curriculum designed to assist families with the college-going process.

Redefinition of Roles and Responsibilities
AVID expects parents, businesses and universities to share in the task of preparing and motivating students to continue their education beyond high school. Students assume the responsibility for learning, while receiving support and help from the community. AVID provides the forum in which students are nurtured and challenged.

Peer Support
Working in groups, students are taken out of the isolation that characterizes the traditional high school program. They become a part of a new peer group that shares their goals. Learning groups help students realize the connection between power and learning, and once that connection is established, students become independent learners.

STUDY METHODOLOGY

The 1998-99 report drew data from 521 AVID sites that included 292 high schools, 223 middle schools, and 5 other sites. In total, these sites served 29,799 students. The longitudinal study undertaken by researchers at CREATE compiled data for 26 California high schools in 8 different regions of the state. The AVID 20th Anniversary Report included data on 645 program sties, including 326 high schools, 289 middle schools, and 30 other sites, serving 36,839 students.

EVALUATION & PROGRAM FUNDING

School districts as well as state and local education contracts funded the evaluation. The program is funded by a combination of site and district resources. In California, AVID is a state-funded program with 11 regional centers.

GEOGRAPHIC AREAS

In the school year 2000-01, AVID was implemented in AZ, CA, CO, FL, GA, ID, IL, IN, KS, KY, MA, MD, NE, NV, NJ, NC, SC, TN, TX, VA, and Department of Defense Dependents Schools Overseas. Canada is among the 14 countries with AVID programs.

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"Study of Alaska Rural Systemic Reform: Final Report" (October 1999) Northwest Regional Educational Laboratory and University of Alaska Fairbanks. By James W. Kushman and Ray Barnhardt.

"Closing the Gap: Education and Change" (October 1999) Northwest Regional Educational Laboratory and University of Alaska Fairbanks. By Jerry Lipka.

Focus

- Early Childhood
- ✓ Primary School
- ✓ Middle School
- ✓ Secondary School
- Postsecondary
- Extended Learning

These studies evaluated two mutually reinforcing reforms called Alaska Onward to Excellence (AOTE) and the Alaska Rural Systemic Initiative (AKRSI). Funded by the Meyer Memorial Trust and implemented by the University of Alaska Southeast and the Alaska Comprehensive Regional Assistance Center, AOTE was adopted by villages and school districts striving to create educational partnerships between schools and the communities they served. Funded by the National Science Foundation and directed by the University of Alaska at Fairbanks, AKRSI integrated the indigenous knowledge system and the formal education system. In turn, this meant engaging communities deeply in education; fully integrating native culture, language and ways of knowing into the curriculum; and meeting Alaska's state-driven academic standards and benchmarks. In AOTE, school districts and village schools worked closely with community stakeholders (parents, elders, other community members and students) to establish a mission and student learning outcomes. Village improvement teams then designed action steps to achieve district goals. AKRSI strove to provide a solid foundation for academic growth and learning in ten content areas: reading and writing, math, science, world languages, history, geography, government and citizenship, technology, arts and skills for a healthy life. Most schools incorporated learning activities in the native language of the village into English-based curriculum.

POPULATION

The studies focused on 7 rural Alaska communities — primarily subsistence communities serving Eskimo and Native American students — that had implemented AOTE. The vast majority of families with children in these schools relied on subsistence hunting and fishing for a significant portion of their livelihood. Their average cash income is less than $20,000 per year, and unemployment runs from 25-37%. The 7 communities covered in the studies — all isolated villages or towns reached by small airplane — range in size from approximately 125 to 750 residents. Most villages were comprised of 90-98% Alaska Native people. The schools served as few as 20 or as many as 200 students in grades K-12. Of the 2,368 teachers in Alaska's rural schools in 1998-99, nearly one-third were new to their positions.

Evaluators investigated whether the schools and communities that had implemented AOTE anytime from 1992-1996 had been able to work together for the good of students.

Southwest Region Schools (SWRS) — the district highlighted in Lipka's case study — was the district able to implement the program most closely to the model and showed the most positive impacts.

- The percent of students attending college rose dramatically (from 10% in 1988-89 to 50% in 1996-97) among SWRS [see chart].

- SWRS high school seniors experienced a steady increase in ACT scores between 1991-98. From 1995-96, differences in test scores between students graduating from SWRS and taking the ACT test and state and national average scores narrowed. The differences in test scores between SWRS and the state average declined from 6.9% to 5.96%, narrowing the gap by approximately 14%.

- The SWRS school superintendent set goals for the district: 80% or more of each class had to meet the required competencies for its grade level and 100% of the competencies for the previous grade level. In 1996-97, 100% of first and second graders mastered 80-100% of required grade-level language arts skills, compared with 67% of first graders and 92% of second graders in 1995-96. Other grades showed less significant impacts.

- In 1996-97, 100% of first graders and 92% of second graders mastered 80-100% of required grade-level math skills, compared with 68% of first graders and 66% of second graders in 1995-96. In 1995-96, the number of eighth-grade students scoring in the top quartile on the math achievement test was more than the number of students scoring in the bottom quartile.

"It is easy to start new reforms but difficult to keep up the momentum in order to bring about deep changes in teaching and learning."
—James Kushman and Ray Barnhardt, evaluators, Alaska Onward to Excellence

"The case studies tell what happened as rural schools embarked on a change journey through AOTE and other reform activities, paying attention to important educational accomplishments and setbacks, community voices and the experiences and learning of students."
—James Kushman and Ray Barnhardt, evaluators, Alaska Onward to Excellence

Students from Tatitlek in the Chugach School District performed better on the CAT/5, Woodcock Reading and Six-Trait Writing assessments after the AOTE initiative.

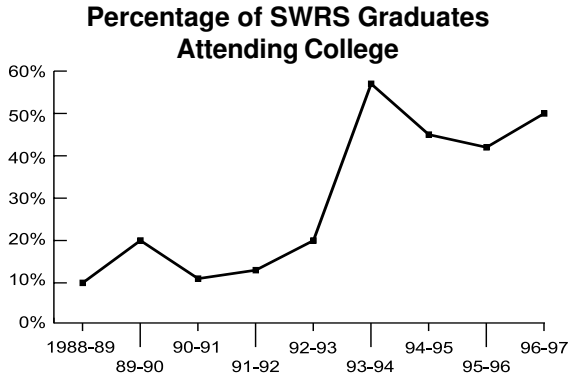
For the Klawock School District, there were improvements in bringing up the bottom quartile in grade 4 reading, grade 4 math, and grade 8 language on state-sponsored achievement tests (Iowa Test of Basic Skills and California Achievement Test). These improvements occurred during five years of school reforms in that district including AOTE, initiatives in strategic planning, outcomes-based education and curriculum alignment with state standards.

The AKRSI evaluation compared dropout rates, college enrollment and choice of major for alumni from rural AKRSI districts and from comparable rural districts without the initiative.

- Between 1995 and 1998, the dropout rate in AKRSI schools declined .9%, while the decline in comparable non-ARKSI rural schools was .3%. Yet in 1998 AKRSI schools continued to have higher dropout rates over all (3.5% vs. 2.4%).

- Between 1995 and 1998, the number of students enrolling for the first time as full-time students at the University of Alaska at Fairbanks from the 20 AKRSI districts increased from 114 to 149 at the same time that rural enrollment in 28 comparable rural districts without AKRSI decreased from 145-134.

- Between 1994 and 1998, the number of Native students at the University of Alaska at Fairbanks majoring in Science and Engineering nearly doubled (from 36 to 70).



The vision of AOTE was to bring research-based practices to Alaska schools through a process that deeply involved the whole community in a district and school improvement process.

- A focus on student learning was at the heart of AOTE. The philosophy behind the reform initiative was that all students can learn and that reform leaders must strive for equity and excellence in student learning. This philosophy was emphasized in workshops by AOTE developers that helped schools launch AOTE implementation.

- Community-wide commitment was sought as communities and schools shared leadership for the improvement process through multi-stakeholder district and village leadership teams.

- Adult learning was a strong component within AOTE, which emphasizes information gathering by adults so that decisions are informed by local culture and values, as well as research-based practices.

- Local heritage, language, culture and native ways of knowing were accepted as legitimate parts of formal education and were viewed as strengths on which to build the AOTE curriculum.

AKRSI used five initiatives "to increase the involvement of Alaska Native people in the application of Native and non-Native scientific knowledge to the solution of human problems in an Arctic environment."

- Native Ways of Knowing and Teaching: Documenting, validating and supporting traditional ways of knowing and pedagogical practices in rural schools.

- Culturally Aligned Curriculum Adaptations: Focusing on indigenous areas of content knowledge such as weather forecasting, animal behavior, navigation skills, edible plants/diet/nutrition and medicinal plants/medical knowledge.

- Indigenous Science Knowledge Base: Surveying and documenting indigenous knowledge systems in each cultural region of Alaska and creating a CD-ROM-based Regional Cultural Atlas for use in teaching and research.

- Elders and Cultural Camps: Establishing an Elders in Residence program and Cultural camps at several rural campuses associated with the University of Alaska, and setting up guidelines to protect the intellectual and cultural property rights of native peoples.

- Village Science Applications: Creating Alaska Native science camps, fairs and exploratoria, scientist-in-residence programs in the schools, and partnerships with local businesses to show Native Alaskan youth the real world applications of science and inspire them to enter the field.

Sustaining Reform & Leadership
Schools that kept momentum when implementing AOTE saw the most dramatic differences.

Staff/Leadership Retention
The most persistent barrier to sustaining reform efforts was high teacher, principal and superintendent turnover. According to the evaluators, turnover derailed reform efforts and led to a cycle of reinventing schools every two or three years. But in successful schools AOTE could "help alleviate the turnover problem by creating leadership within the community, especially when respected community elders and other leaders are brought into the process."

Unified Approach
Independent reform activities or goals that were disconnected were of little use in small communities. AOTE helped set a clear direction and vision for student success and provided opportunities for school personnel and community members to think and talk about how everyone should work together to educate children in a changing world.

Shared Leadership
"Leadership needs to be defined as shared decision-making *with* the community rather than seeking advice *from* the community," noted the evaluators. Shared leadership created community ownership that moved educational changes through frequent staff turnover.

Personal Relationships
Good relationships between school personnel and community members made a marked difference in how well AOTE was implemented. In the small communities studied, personal relationships were more central than formal decision processes as a way to get things done.

New Roles
In schools that successfully implemented AOTE, the attitude that parent and teacher domains are separate, changed. Strong AOTE schools opened avenues for parents, elders and other community members to be involved in school as volunteers, teacher aides, other paid workers and leadership team members.

STUDY METHODOLOGY

The two studies used participatory research methods (action research) that treated school practitioners and community members as co-researchers rather than subjects of the study. For each case study, a senior researcher from the Northwest Regional Educational Laboratory or University of Alaska Fairbanks led a small team of 3 to 5 school and community researchers who helped plan each case study, formulate guiding questions, collect data and interpret results. A typical team consisted of a school district practitioner, a village school practitioner, at least one non-school community member, and in some cases a high school student. The AKRSI study also compared 20 districts (serving 133 communities) with AKRSI programs to 28 school districts (serving 120 communities) in rural Alaska that did not have AKRSI programs. The evaluators did not appear to conduct a formal matching of these districts based on race, ethnicity or income. In addition to comparing dropout rates, college enrollment and choice of major for students from these districts, the evaluators examined scores for fourth and eighth graders on the California Achievement Test, 5th Edition (CAT-5). For the sake of brevity, this summary does not include the CAT-5 data.

EVALUATION FUNDING

The evaluations were funded by the National Science Foundation and the National Institute on Education of At-Risk Students, Office of Educational Research & Improvement, U.S. Department of Education. Implementation of AOTE was funded by school districts with assistance from the Alaska Comprehensive Assistance Center. The design of AOTE was funded through a foundation grant from the Meyer Memorial Trust, the Alaska Staff Development Network and the Northwest Regional Educational Laboratory.

GEOGRAPHIC AREAS

The studies centered on villages and school districts spanning western, central and southeast Alaska. Districts included Chugach, Klawock, Kuspuk, Lower Kuskokwim, Southwest, Tuluksak and Yukon-Koyukuk.

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"Enhancing the Educational Achievement of At-Risk Youth," 2000, *Prevention Science*, 1:51-60. By Steven P. Schinke, Kristin C. Cole and Stephen R. Poulin, Columbia University School of Social Work

Focus

- Early Childhood
- ✓ Primary School
- ✓ Middle School
- ✓ Secondary School
- Postsecondary
- ✓ Extended Learning

Boys & Girls Clubs of America (B&GCA) was founded in 1906 and has more than 2,000 facilities in all 50 states, Puerto Rico, U.S. Virgin Islands and U.S. military installations abroad. Nearly 400 of these programs are in public housing areas. The B&GCA's mission is to form healthy partnerships between school-aged children of all backgrounds and concerned adults. The public housing initiative was launched in 1987 under the auspices of the Office of Substance Abuse Prevention, U.S. Department of Health and Human Services. In 1996, B&GCA piloted an after-school educational enhancement program for youth in public housing in five cities. This evaluation looks at the results of the pilot study.

POPULATION

B&GCA serves approximately three million children, mostly in economically disadvantaged areas. The evaluation studied 992 youth, with an average age of 12.3 years. Forty percent were female. Of the participants, 63.5 percent were African American, 27.5 percent were Latino, 12 percent were white and 7.8 percent other. The sample reflected the national population of youth who lived in publicly subsidized housing at the time of the evaluation.

In each of the five cities, researchers targeted three subgroups of youth to participate in the study: (1) youth attending the B&GCA enhancement program ("program"); (2) youth from public housing projects whose B&GCA did not offer the program ("comparison"); and (3) youth from public housing projects that did not have B&GCA (called "control" by researchers). Between the pre-test and the 18-month follow-up, program youth had improved (differences in means were statistically significant at the 5% level):

- Average grade (average grade for program youth rose from 78.39 to 83.48, for comparison youth fell from 78.47 to 76.42, and for control youth fell from 75.43 to 71.79).
- Attendance rates (the mean number of missed days in a school year by program youth fell from 6.4 to 3.7, for comparison youth rose from 4.85 to 5.85, and for control youth rose from 7.47 to 7.75).

Grades in most subject areas (grades were rounded to the closest unit to facilitate reading):

- Mathematics - average grade for program youth rose 4 points (from 77 to 82), while falling 3 points for comparison youth (from 78 to 75) and control youth (from 75 to 72 respectively).
- English - average grade for program youth rose 6 points (from 78 to 84), while falling 1 point for comparison youth (from 79 to 78) and 3 points for control youth (76 to 73).

- Writing - average grade for program youth rose 5 points (from 80 to 85), while falling 1 point for comparison youth (from 79 to 78) and control youth (from 73 to 72).

- Science -average grade for program youth rose 6 points (from 78 to 84), while falling 2 points for comparison youth (from 79 to 77) and 4 points for control youth (from 75 to 71).

- Social studies - average grade for program youth rose 5 points (from 79 to 84), while falling 2 points for comparison youth (from 78 to 76) and 4 points for control youth (from 77 to 73).

Each week, within the B&GCA facility or in outside sessions, the trainers engaged youth in structured activities, such as:

- Four to five hours a week of discussions with knowledgeable adults.

- One to two hours a week of writing.

- Four to five hours a week of leisure reading.

- Five to six hours a week of required homework.

- Two to three hours a week of community service (tutoring other children, for instance).

- Four to five hours a week of educational games, such as word and math games.

Participation was voluntary and, to entice the youth to participate, program sites used many incentives, such as field trips, school supplies, computer time, special privileges, certificates, gold stars and praise.

Parents were also encouraged to participate with their children in the educational activities. Parents and youth attended an orientation meeting, after which parents were invited to serve as volunteers and to attend the cultural events presented by the youth.

Staff, volunteers and parents attended ongoing training.

Structured Program

Some comparison and control sites also offered tutoring and homework help, but did not have the structure offered by the B&GCA program, did not require homework and tutoring, and did not engage routinely in educational games to enhance the lessons being taught.

Trained staff

Another difference between B&GCA program and the comparison and control sites was the presence of a trained staff solely focused on educational enhancements.

STUDY METHODOLOGY

This study used both a comparison and a "control" group. Participation in the groups was voluntary (not randomized). Comparison and control groups mirrored the age, gender and ethnic/racial background of program youth. Some of the youth in the comparison and control groups received tutoring, but did not attend a structured after-school program. The attrition rate at the end of the study was 13.91 percent, with no significant differences between subgroups. Researchers used students' surveys, teacher ratings and school records to collect data at the beginning of the program (pre-test), six months later (post-test) and 18 months later (follow-up). Findings were consistent across all measures. This summary presents only school data.

EVALUATION FUNDING

Carnegie Corporation of New York.

GEOGRAPHIC AREAS

Public housing projects in Cleveland, OH; Edinburgh, TX; New York City, NY; Oakland, CA; Tampa, FL.

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"Implementing a Highly Specialized, Curricular, Instructional, and Organizational School Design in a High-Poverty, Urban Elementary School: Three-Year Results"

(July 1998) Johns Hopkins University. By Barbara McHugh and Sam Stringfield.

Focus
- Early Childhood
- ✓ Primary School
- Middle School
- Secondary School
- Postsecondary
- Extended Learning

POPULATION

During the 1996-97 school year, 90% of the students attending Calvert were white, 6% were African American and 4% were Asian or Latino. One hundred percent of Woodson's 400 students in grades K-5 were African American. The tuition at Calvert was $9,000 per year. The percentage of Woodson students (90%) eligible for free or reduced-price lunch was nearly triple the 1996 Maryland state average (31.1%) and well above the Baltimore City average of 70.4%.

The report evaluates the Calvert program after it was implemented at Dr. Carter Goodwin Woodson Elementary School (Woodson Elementary). Calvert is a private elementary school with a long history of providing a high-quality education to several generations of children from many of Baltimore's most affluent families. Woodson Elementary is a public school located in a predominantly African American community, and more than 90% of its students are eligible for free or reduced-price lunch. Calvert's philosophy of education includes high expectations, time-on-task, rapid pace of instruction, frequent evaluations, immediate feedback and student accuracy. The students are required to learn with attention to detail, including correct spelling and punctuation. Each month, parents receive report cards and representative samples of students' academic work. Calvert produces a "book" of each student's nine monthly folders of work and presents the book to the student at the end of each year.

Evaluators used the Comprehensive Testing Program III to assess the impact of the program. They compared average percentile scores of first and second graders at Woodson prior to the implementation of the program (the "comparison group" for this study) with scores of the three cohorts of first graders who were taught under the program during school years 1994-95 to 1996-97 (see table).

- In first grade reading comprehension, the average score for the comparison group was at the 18th percentile. After one year in the program, the first cohort of students scored on average at the 49th percentile, the second cohort scored at the 40th percentile and the third cohort scored at the 49th percentile. The program effect size was calculated in +2.8, +2.1 and +2.9 respectively.
- In terms of first graders reading at the lowest levels, 72% of the comparison group scored in the lowest quartile, compared to 16% of the first cohort, 35% of the second cohort and 6% of the third cohort.

Comparison Groups and Cohorts

School Year	Pre-Calvert (Comparison Group)*	1st cohort	2nd cohort	3rd cohort
1993-1994	1st grade (tested for baseline)			
1994-1995	2nd grade (tested for baseline)	1st grade		
1995-1996		2nd grade	1st grade	
1996-1997		3rd grade	2nd grade	1st grade

* As the baseline comparison group, this cohort (of 18 students) was not exposed to the program.
See Study Methodology for further clarification.

- In terms of first graders reading at the highest levels, no student in the comparison group scored in the third and highest quartiles. In the first cohort, 47% scored in the two highest quartiles, 24% did so in the second cohort, and 42% did so in the third.

- Reading gains continued in the second grade, with 44% of the first cohort scoring in the two highest quartiles and 72% of the second cohort. Only 6% of second graders in the comparison group scored at the third quartile (none at the highest).

- For writing, the comparison group scored on average at the 36th percentile, while the first cohort scored on average at the 71st percentile and the second cohort at the 67th percentile. The third cohort did not take the test that was administered only to second graders. The effect sizes of the program were +2.7 and +2.4.

- For mathematics, 89% of the comparison group scored in the two lowest quartiles, 11% in the third quartile and none in the highest quartile. For the first cohort, 22% scored in the second lowest quartile (none in the lowest) and 78% in the two highest quartiles. For the third cohort, 24% scored in the two lowest quartiles and 76% in the two highest.

Note: In the Maryland State tests (MSAP) done in spring of 1997, Woodson third graders scored significantly above the 1996 Woodson third graders (pre-Calvert), but still below Maryland statewide average. Seventy-percent of the group taking the test belonged to the first Calvert cohort while 30% were new arrivals. Results for the past two school years show a steady improvement in test scores, although the school has yet to reach satisfactory status (70% of the students passing) in any of the subjects.

"The clearest conclusion that can be drawn from Woodson Elementary is that the Calvert curricular and instructional program, when implemented with determination and drive, can make a dramatic difference in the educational lives of young, urban children."

—Barbara McHugh, et al.,
evaluators, Calvert program

Woodson Elementary School has about 400 students in grades K-5. At the time the evaluation was conducted, the Calvert School model was integrated into grades 1-3, with grades 4-5 to be added within the next year. Teachers learned to use the Calvert model through a two-week training held the summer before implementation for teachers and other staff, who learned about weekly homework sheets, monthly report cards, and other Calvert approaches. K-5 students, in classes of approximately 24 students, each had one primary teacher who used Calvert approaches and curriculum in all classes across all subject areas. Calvert stressed the following approaches to learning that went across subject areas:

- Each school day began with a 30-minute "correction period" for students to correct previous work, complete unfinished work, perfect folder papers, read independently or do other instructionally related tasks.

- Getting meaning out of reading was stressed in early grades. Students were taught to read for a specific purpose, and there was also time during each school day to read for enjoyment.

- Sight words and phonemic skills were a formal part of the Calvert curriculum, as were timed fact drills on basic mathematics facts.

- Beginning in January of first grade, all students wrote a composition each week.

- Teachers coordinated students' compilations of "error-free" papers for insertion into students' monthly folders. The folders were sent home at the end of each month and were part of school-parent communications.

School-parent interactions were both formal and informal. All parents received folders of student work at the end of each month. Some parents and grandparents, mainly in first grade, helped out during the corrections period. Additional activities such as a trip to the movies, bowling alley or skating rink, were scheduled periodically for students with perfect attendance. The school also made daily announcements of which classes had perfect attendance on the previous day.

> *"These kindergarten through third-grade results leave little doubt that impoverished urban children, given appropriate curriculum and instruction, are capable of achieving at levels that are much higher than current urban averages."*
>
> —Barbara McHugh, et al., evaluators, Calvert program

After the Calvert School agreed to share its model with Woodson, the Abell Foundation financed the implementation, including funds to pay teachers or other staff from Calvert who trained Woodson staff. Besides paying for staff costs, Calvert did not charge a "usage fee" for its model. After providing the curriculum and initial training, Calvert staff were available on an informal consultative basis, though their formal involvement in training ended. Woodson shared its evaluation information and reports with Calvert. The Abell Foundation also reviewed evaluations and student progress reports, though the foundation was not directly involved in implementation of the model.

Gradual Implementation/Faithful Replication
Woodson adopted the Calvert model grade by grade, allowing full implementation in one grade before moving on to another. All teachers were pre-trained and a full-time facilitator (funded by the Abell Foundation) was onsite throughout the implementation. For the most part, Woodson teachers seemed to faithfully replicate the Calvert model with few exceptions.

High Expectations
The Calvert model was built on high expectations combined with a high degree of structure. The curriculum centered around a rapid pace of instruction and student accuracy – including correct spelling and punctuation – was considered fundamental. Timed drills – particularly in math – were used on nearly a daily basis.

Frequent Evaluations/Immediate Feedback
The Calvert program not only gave immediate feedback to students through teacher commentary and grading but also shared frequent evaluations with parents and school administrators regarding overall student performance. Parents received monthly report cards accompanied by representative samples of a student's work. In addition, the full-time facilitator provided constant feedback to staff during the implementation process.

Focus on Results
The Calvert model was a results-oriented one. Student attendance, work quality and performance on national tests were regularly monitored and evaluated. Students were consistently required to correct work until it was error free. Even students in upper grades were given weekly spelling tests.

Professional Development
In addition to the two-week training and support from the full-time facilitator, Woodson teachers also participated in school-wide seminars in which teachers exchanged ideas and discussed problems. Woodson teachers also reviewed lessons on their own time through Calvert's home-schooling curriculum. Teacher input was used to decide which textbooks to purchase in order to increase implementation success.

Communication with Families
In addition to monthly report cards, parents and grandparents also participated in monthly parent's meetings. Parents and grandparents were asked to volunteer to be on site in the classroom helping students complete or correct work. Parents and grandparents also helped arrange classrooms, participated in recreational activities and listened to students read.

STUDY METHODOLOGY

The school implemented the Calvert program gradually, starting with kindergarten and first grade, and adding another grade every year. The report focuses on the third year of the program implementation. Data is given per cohort. The comparison group started first grade in September 1993 before the program was implemented (18 students). The first cohort started first grade in September 1994, when the program was implemented (32 students). The second cohort started first grade in September 1995 (29 students), and the third cohort started first grade in September 1996 (50 students). There was no attrition of these cohorts. All students were tested on the Comprehensive Testing Program III, a norm-referenced test used in private schools. Their scores, given in Normal Curve Equivalent (NCE), were compared to those of students who were in first grade prior to the implementation of the program. Results of the analyses were then converted to percentiles. Effect sizes were calculated as cohort mean NCE minus comparison mean NCE divided by comparison standard deviation.

EVALUATION & PROGRAM FUNDING

The evaluation was funded by Johns Hopkins University. Implementation of the Calvert program at Woodson was funded by the Abell Foundation. Before funding implementation at Woodson, The Abell Foundation also funded implementation of the Calvert program at another public Baltimore school, Barclay Elementary and Middle School.

GEOGRAPHIC AREAS

Calvert and Woodson are located in Baltimore. The program has also been implemented at Barclay Elementary and Middle School. Some 16,000 children worldwide are home-schooled using the Calvert program.

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"Career Academies: Impacts on Students' Engagement and Performance in High School" (March 2000) Manpower Demonstration Research Corporation. By James J. Kemple and Jason C. Snipes.

Focus
- Early Childhood
- Primary School
- Middle School
- ✓ Secondary School
- Postsecondary
- Extended Learning

POPULATION

Career Academies serve a broad cross-section of students. The evaluation focused on a sample of 1,764 students, of whom 56.2% were Latino, 30.2% were African American, 7.2% were Asian or Native American and 6.4% were Caucasian. Evaluators found that 24.2% of the students in the sample were from families receiving welfare or food stamps. In terms of grades, they showed 36.2% had grade point averages (GPAs) of 3.1 or higher 38% had GPAs of 2.1-3.0, and 25.7% had GPAs of 2.0 or lower.

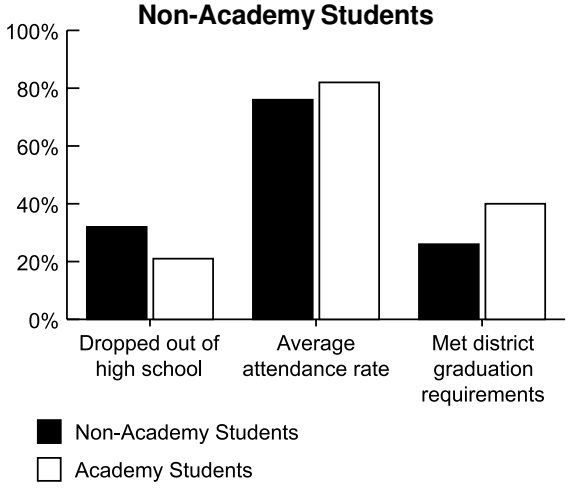
Career Academies are small schools, usually located within larger high schools, organized around a broad career theme.[1] They offer a college-preparatory curriculum, provide extensive and sustained personalized contact between teachers and students and career-related offsite learning experiences. As one of the oldest kinds of high school reform in the nation, Career Academies have existed for 30 years and have been implemented in more than 1,500 high schools. Many high schools have just one career academy, but more and more have multiple academies and some are completely divided into career academies. Career Academies were listed in the School-to-Work Act of 1994 as one of the means by which schools might provide an effective transition from school to employment. They are also identified as an effective school reform model in the Comprehensive School Reform Demonstration program of 1997.

The evaluation focuses on impacts of Career Academies on students while they are still in high school.

Outcomes were broken out along the lines of students considered "high risk," "medium risk" or "low risk" of school failure (see Study Methodology for how these categories were calculated). Overall, 93.6% of the evaluated group were minority, and this demographic did not change significantly among the risk levels. The most pronounced positive effect was for students at high risk of school failure. High risk Academy students compared to high risk non-Academy students:

- Had a lower drop out rate (21% vs. 32%).

Outcomes for Students Considered "High Risk:" Academy Students Versus Non-Academy Students



- Had a higher average attendance rate (82% vs. 76%).
- Were more likely to earn enough credits to meet district graduation requirements (40% vs. 26%).

For medium and low risk groups, Career Academies saw similar—but less pronounced—positive effects.

Career Academies have three important characteristics in common:[1]

A Career Academy is a school-within-a-school or small learning community, in which groups of students share several classes every day and have some or all of the same teachers from year to year for at least two years of high school. The number of students is relatively small—usually 150 to 300—and the teachers work as a team and share in decision making.

The curriculum combines and integrates academic and career-related subjects. Academic courses meet high school graduation and college entrance requirements; career-related courses center on a broadly defined career theme such as health, business and finance, electronics or travel. Career Academies may cover culinary arts and food science, computer science and technology, the performing arts and a myriad of other career tracks.

Local employers are involved as partners and serve on an advisory board with teachers and school district staff. A coordinator typically serves as liaison among employers, the academy, and the school district. Employer representatives serve as speakers and mentors, provide internships, give advice on curriculum and contribute financial or other in-kind support.

Small Learning Community

The school-within-a-school structure of Career Academies, with a small group of students interacting with a core group of teachers over time, provides many benefits for students including building relationships with caring adults and receiving personalized attention. Adults also get to know the strengths and weaknesses of students within their academy and work in a team to assist each student. Evaluators found that at Career Academies that had a high impact on student success, teachers also worked together on creating lesson plans in small groups.

Personalized Attention

The Career Academy structure naturally allows for more personal student-teacher contact because teachers work with a contained group of students over several years. Evaluators said that the most effective Academies had a higher-than-average degree of interpersonal support for students from both their teachers and their peers. Academy students also receive personal attention from work-site mentors during their internships.

"The Career Academies substantially improved high school outcomes among students at high risk of dropping out."

— James J. Kemple and Jason C. Snipes,
Manpower Demonstration
Research Corporation

Alternative Learning Strategies

Career Academies provide several alternative learning strategies through their focus on a career theme. Academic and career-focused instruction are integrated. Applied hands-on lessons suggest themselves from the career theme – for example, students in a Finance Academy might participate in a Virtual Enterprise competition with other high schools as a means of learning about finance and

honing their math and history skills. Additionally, Career Academies allow for work-based learning in internships with partnering employers, usually in the summer between their junior and senior years. They may also participate in field trips to job sites, job shadowing and presentations given by employers at the school site.

Innovative Structure
Many Career Academies also use block scheduling in which classes last for about 90 minutes instead of the usual 45. Four classes may be offered each semester, rather than eight classes offered over the course of a year. This structure allows for longer class periods for in-depth learning and also provides teachers with structured time to plan lessons with other Academy teachers usually once a week. Career Academies are offered over three or four years within a high school. During this time, students stay with the same group of teachers.

Employer Involvement
Employers serving on the board of advisors for each Academy help keep the curriculum up-to-date and interesting. They also ensure that students are prepared for careers that exist in their communities and that they have access to high quality, motivating, work-based learning positions. Additionally, employers provide young people with additional adult role models through work-site mentoring and school visits.

STUDY METHODOLOGY

Evaluators analyzed 10 Career Academies that had fully implemented the model. Researchers compared Academy students with a demographically similar control group of non-Academy students. The Career Academies examined received twice as many applications as they could accept. Half – or 952 – of the students were randomly selected into Career Academies (the study group), while the other half was not selected (the control group). Students were categorized into subgroups based on whether they were at "high risk," "medium risk" or "low risk" of dropping out of school. Factors determining the degree of risk were: previous school attendance rate, credits earned in ninth grade, GPA, the rate of school mobility, whether a student was overage for his or her grade level, and whether he or she had a sibling who dropped out of high school.

EVALUATION & PROGRAM FUNDING

The evaluation was funded by the U.S. Departments of Education and Labor, the Center for Research on the Education of Students Placed At Risk (CRESPAR), and 16 foundations. Career Academies across the nation are funded by a combination of state and local monies, with small amounts of federal funding.

GEOGRAPHIC AREAS

The locations of the Academies studied were not provided. More than 1,500 high schools nationwide have one or more Career Academies.

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The Career Academy Support Network (CASN)
Web site: http://casn.berkeley.edu.

The National Academy Foundation.
Web site: www.naf.org.

1. Descriptions of Career Academies are taken from Stern, David, Charles Dayton and Marilyn Raby. Career Academies and High School Reform *December 1998. Career Academy Support Network. University of California Berkeley.*

"Fifth Annual Status Report on the Blue Ribbon Task Force Recommendations, 1998-1999" (October 1999) Chapel Hill-Carrboro City Schools. By Josephine Harris.

Focus

- Early Childhood
- ✓ Primary School
- ✓ Middle School
- ✓ Secondary School
- Postsecondary
- ✓ Extended Learning

POPULATION

In 2000, CHCCS served just under 9000 students. The CHCCS high schools serve over 2600 students, 75% of whom are white, 15% African American, 10% Asian, Latino, and other. The BRTF recommendations focus exclusively on African American students.

In 1993, the School Board in the Chapel Hill-Carrboro City Schools (CHCCS) began to implement curriculum and program reforms recommended by a Blue Ribbon Task Force (BRTF) on the Education of African American Students. Comprised of 70 parents, students, teachers, administrators and university professors, the Task Force recommended multiple strategies to heighten sensitivity to the cultural needs of minority students, motivate struggling learners, maintain high educational expectations and increase parent involvement. Since 1999, the district has expanded the scope of its efforts to address the needs of Latino youth and other minorities. The Fifth Annual Report compares the effect of the BRTF recommendations in the School Year 1998-99, with student achievement data from the 1992 baseline year. CHCCS is a member of the Minority Student Achievement Network, a group of 15 urban and suburban high school districts first organized in 1999 to raise minority academic achievement.

Overall, between 1992 and 1999, more African American students in grades 3-8 at the CHCCS earned proficient scores in reading and mathematics.

- Reading: The proportion of African American students proficient in reading rose from 45% in 1992-93 to 64% in 1998-99.
- Math: The proportion of African American students proficient in mathematics rose from 40% to 65% from 1992 to 1999.

Between 1996 and 1999, the proportion of African American CHCCS high school students who earned proficient scores in math:

- Increased from 42% to 45% in algebra I.
- Increased from 48% to 53% in geometry.
- Increased from 40% to 61% in algebra II.

However, relative to African American students across the state, proficiency in writing has declined for most African American CHCCS students (except tenth graders). When compared to the average writing scores of African Americans statewide:

- African American fourth graders in CHCCS scored on average 5% lower.
- African American seventh graders in the district scored on average 11% lower.

- African American tenth graders in the district scored on average 2% higher,

Between 1992 and 1999 the proportion of African American students in the gifted and talented program increased from 1.8% to 7.8%.

An achievement gap remained between African Americans and white high school students in CHCCS. In 1999:

- 43% of African American tenth graders in CHCCS earned proficient reading scores versus 94% of white tenth graders in the district.
- 47% of African American tenth graders in CHCCS earned proficient math scores versus 92% of white tenth graders in the district.

The CHCCS strategy to improve minority academic achievement used special programs, mentors, scholarships, as well as data collection and assessment:

- The district uses several programmatic initiatives such as Reading Recovery for first graders, Attitude Changes Everything (ACE) for African American males, pre-college programs for minority students interested in math and science careers, and Advancement Via Individual Determination (AVID) to improve the academic success of minority students (for the summary of AVID, see page 49). In 1999, for instance, 56% of the AVID students were African Americans and 94% of AVID's first graduating class entered four-year colleges.
- Mentoring programs with minority students from the University of North Carolina (UNC) serve elementary, middle and high schools in CHCCS. For example, the Sister to Sister program pairs African American females in the ninth grade with African American female mentors from the UNC School of Medicine.
- Local community organizations and support from the Blue Ribbon Task Force matched 150 students with summer enrichment programs at the Museum of Life and Science, Arts Center, Orange County 4-H, Outward Bound and numerous residential camps.
- Four different scholarship programs support more than 25 minority graduates from CHCCS, who continue their education in two- and four-year colleges or universities.
- CHCCS uses student portfolio assessment, as well as traditional grades to determine promotion or retention of students in fifth and eighth grades across the district.

Focus on Minority Achievement
By focusing time, resources and public will on minority student success over a five-year period, an entire school district made considerable progress on several measures of minority academic achievement.

Comprehensive Approach
The district did not rely on one program initiative or reform model to raise academic achievement. Administrators, teachers and university officials came up with a system-wide program that gave numerous academic supports to minority students at every age and achievement level.

Professional Development
All new school staff participate in ten hours of multicultural education workshops that cover issues of cultural diversity, multicultural communication styles, African American history, gender discrimination, physical disabilities and sexual orientation.

Parent Involvement
Increasing parent involvement was a major thrust of CHCCS minority achievement initiative from the outset when parents participated in the BRTF that set the reform agenda. Special activities such as "Family Nights Out" bring minority parents and school officials together. A concerted effort is made by the teachers and advisors to meet with all minority parents between August and November either at school or in parents' homes or workplaces.

Community Involvement/Partnerships
Partnering with community-based organizations allowed CHCCS to provide services not available to the district such as a variety of after-school and summer camp activities. In addition, CHCCS provided financial and staff support to community-based organizations with academic enrichment activities.

High Standards
All high school students in the CHCCS must take two years of a second language as well as the math and science curriculum that meets the requirements for admission to state universities. CHCCS keeps track of minority student participation and completion of these advanced classes.

Mentoring
Mentors from the university community, especially minority college students, serve as role models for minority youth in the district.

Extra-Curricular Activities
The CHCCS District mandates that "every African American student will be personally encouraged by the faculty and the administrators to participate in at least one extracurricular activity." Support for this mandate comes in the form of free transportation, Minority Support Groups, the Prudential Youth Leadership Initiative and other initiatives.

STUDY METHODOLOGY

The annual report analyzed school data, pre- and post-tests and a longitudinal analysis of standardized test scores. The evaluators used the Metropolitan Achievement Tests and High School Comprehensive Reading and Math Tests to get quantitative measures of academic achievement across the district. They compared African American student achievement to white student achievement in CHCCS and to average district and state scores. Scores for other racial/ethnic subgroups were not reported in the evaluation. The report does not address potential causes for the drop in writing scores for African American students in the district.

EVALUATION & PROGRAM FUNDING

CHCCS funded the evaluations and the programs suggested by the BRTF. Schools were allocated $25,000 in 1998-99 to implement or supplement programs that addressed BRTF goals. The evaluation did not report the allocations for the first four years of the BRTF implementation.

GEOGRAPHIC AREAS

Chapel Hill and Carrboro, North Carolina.

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"Chicago Arts Partnership: Summary Evaluation" by James S. Catterall and Lynn Waldorf in *Champions of Change: The Impact of the Arts on Learning* (1999) The Arts Education Partnership & The President's Committee on the Arts and Humanities.

Focus

- Early Childhood
- ✓ Primary School
- Middle School
- ✓ Secondary School
- Postsecondary
- Extended Learning

POPULATION

The CAPE program in the Chicago Public Schools (CPS) has a majority of students from racial or ethnic minority groups: 52.5% African American, 34.2% Latino, 10% Caucasian, 3.2% Asian/Pacific Islander, and 0.2% Native American. More than 84% of CPS students come from low-income families. In 1999, the evaluators compared 19 CAPE schools to 29 other CPS schools with similar demographics that did not have arts partnerships.

The Arts Education Partnership, sponsor of this report, is a private, non-profit coalition of more than 100 partners representing arts, education, business, philanthropic and governmental organizations. Its goals are to demonstrate and promote the role of arts education in helping students to succeed in school, life and work. *The Champions of Change* report examines how arts education can change young people's lives and raise their academic achievement. This summary focuses on one program described in the report, the Chicago Arts Partnership in Education (CAPE). Founded in 1992, CAPE brings artists and arts agencies into partnerships with teachers and schools. Teams of teachers and artists create and co-teach courses that integrate arts instruction with academic goals in subjects such as reading, social studies and science. At full implementation strength, the CAPE program involved 37 Chicago schools, 53 professional arts organizations and 27 community organizations.

CAPE schools outperformed other CPS schools in all 52 test score comparisons run by the Imagination Project evaluators. Between 1992 and 1998, they increased their lead over schools using traditional curricula in:

- 25 out of 40 reading tests (grades K-8)
- 16 out of 40 math tests (grades K-8)
- 7 out of 12 reading tests (grades 9-11)
- 8 out of 12 math tests (grades 9-12)

Evaluators compared the reading scores for sixth graders in CAPE schools to sixth graders citywide and to sixth graders in similar schools.

"The first thing you notice in an arts integrated class is that everybody's working. Everybody's on task. Everybody is thinking and doing things and nobody is sleeping or day dreaming, and that's a really significant difference in classes. You can just tell in class – there's an electricity in the classroom, there's energy in classes using arts integrated things."

—Local CAPE coordinator

- Between 1992 and 1998, the percentage of CAPE sixth graders above grade level on the Iowa Test for Basic Skills (ITBS) Mathematics

increased by 50% (from 40% to 60%) while non-CAPE sixth graders increased by 30% (from 28% to 40%).

- During this same period, 14% more CAPE sixth graders scored above grade level on the ITBS Reading test compared to a matched group of sixth graders in non-CAPE schools.

Due to the small number of CAPE high schools participating in the study, score differences were not statistically significant at this age level. However, ninth graders in CAPE high schools did exhibit positive gains (one grade level) on reading tests relative to CPS ninth graders more generally.

In CAPE schools, more than half of the teachers include at least one unit during the year that is co-taught by an artist, and about a quarter of the teachers plan four or five units which integrate arts into academic subjects.

A wide variety of artists, including musicians, dancers, actors, painters, writers, and others, worked in classes across the academic spectrum, from chemistry and physics to English and history. Math proved the most difficult subject to integrate with arts instruction.

Teacher-artist pairs planned unit curricula together and co-taught classes during the regular school day, integrating arts education into both humanities *and* science curricula. In one classroom, fourth graders created a musical composition tied to the history of Chicago. In another, an artist taught high school students about the history of textiles and dyes, while the chemistry teacher helped them link this knowledge to principles of chemistry.

Sample lesson plans and curricula shared the following components:

- Planning for an artistic product.
- Explaining academic goals.
- Connecting artistic goals to state academic standards.
- Assessing students' achievement of academic and artistic goals.

Alternative Learning Strategies

Surveys with teachers, artists, coordinators and principals indicate that CAPE contributes to the development of skills such as speaking, decision-making, writing and creative thinking. Integrating arts with traditional subjects has offered alternative learning strategies for all students, and this appears to be especially beneficial to students struggling with traditional curricula.

Reduced Class Size

CAPE provides two adults for every classroom. Team teaching allowed both teachers and artists to give students more individualized attention and instruction.

Professional Development

Both teachers and artists have opportunities to participate in extensive professional development. In addition to the benefits of team-teaching, CAPE offers nearly a dozen workshops throughout the year for teachers and artists to work together, planning lessons and learning how to integrate arts into the classroom. However, because teachers and artists often have different work schedules, evaluators noted that participation was not as high as it should have been with the average teacher and artist attending only 1-3 workshops a year.

Clear Program Goals
A survey of teachers and artists involved in CAPE explained that well-defined learning objectives, matched to assessment, were crucial to the program's success. A well-planned schedule was necessary to facilitate artist school visits.

Administrative Support/Staff Commitment
Program staff also indicated that supportive principals, highly skilled artists and adventuresome, risk-taking teachers contributed to CAPE's success. The program ran well when teachers worked with art forms that they themselves liked.

Community Involvement
Artists from the community serve as role models for inspiring the youth, but they are not the only members of the community critical to the sustainability of arts education. Without the support of parents, families, artists and arts organizations, school boards, superintendents and school principals, CAPE and other arts education initiatives cannot survive.

STUDY METHODOLOGY

The CAPE evaluation included in the *Champions of Change* incorporates data from a long-term study by the North Central Regional Laboratory (NCREL) and a 1998-99 study by the Imagination Project at the University of California, Los Angeles (UCLA). Evaluators collected data on student achievement in reading and mathematics on standardized tests such as the Iowa Test of Basic Skills (ITBS) and the Illinois Goals Assessment Program (IGAP) test. The NCREL study also used large-scale surveys of teachers and students to obtain an overall view of classroom practices. The *Champions of Change* researchers also summarized an earlier study of CAPE conducted by the Imagination Project. This study focused on comparisons between CAPE and non-CAPE schools with similar racial/ethnic and socio-economic student populations. Students at CAPE schools were already doing slightly better than those in non-CAPE schools before the program, so evaluators tried to determine whether the CAPE schools' advantage grew over the course of program implementation. The evaluators reported that findings for elementary school students were significant, but that due to the small sample size of CAPE high schools in the study the data from this age group were not statistically significant.

EVALUATION FUNDING

Champions of Change was funded by The GE Fund and the John D. and Catherine T. MacArthur Foundation. The Chicago Public Schools funds CAPE.

GEOGRAPHIC AREAS

Though this summary focuses on Chicago, Illinois, *Champions of Change* includes snapshots of arts programs across the country.

CONTACT INFORMATION

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"Over the Ivy Walls: Educational Mobility of Low-Income Chicanos" (1995) State University of New York Press. By Patricia Gándara.

"Choosing Higher Education: Educationally Ambitious Chicanos and the Path to Social Mobility" (May 1994) University of California-Davis. By Patricia Gándara.

Focus
- Early Childhood
- Primary School
- Middle School
- Secondary School
- ✓ Postsecondary
- Extended Learning

Choosing Higher Education focuses on that small percentage of Chicano and Chicana students, coming from backgrounds of poverty and low education, who carved out a place for themselves in higher education. All of the professionals interviewed in the study were considered at risk of dropping out of school, yet all earned an MD, PhD or JD degree conferred from a highly regarded American university of national stature. *Over the Ivy Walls* looks at this same group of successful Chicano students, but adds a new cohort of 20, younger Chicana professionals (who earned degrees in the late 1980s and early 1990s) to analyze changing gender expectations in Chicano communities and the larger American society.

According to researcher Patricia Gándara, high academic achievement among low-income Mexican Americans is tragically an anomaly in our society. While Mexican American students aspire to the same high levels of achievement as their non-Chicano peers, few actually realize these aspirations. Latinos are the least educated, major population group in the United States. They are the least likely to graduate from high school, enroll in college and receive a college degree. For example, in California and Texas in 1994, where more than one-third of the college age population was Latinos, only 11-13% were enrolled in four-year colleges. As reported by Gándara, the disproportionately low representation Latinos in four-year colleges and universities throughout the nation is the product of several circumstances: extremely high dropout rates in high school, inadequate preparation for continued study and the failure of four-year institutions to attract many qualified Latino candidates.

POPULATION

The study focused on high academic achievement found among low-income, Mexican Americans from homes with little formal education. It examined the backgrounds of 50 persons, 30 male and 20 female, born during the 1940s to early 1950s, who met most of the predictors for school failure or "dropping out." All came from families in which neither parent completed high school or held a job higher than skilled labor. Most were sons and daughters of farm workers and other unskilled laborers. Most began school with Spanish as their primary language, yet all completed a doctoral-level education from the country's most prestigious institutions. All received their college education during the 1960s, 1970s and early 1980s. Thirteen were immigrants, 21 first-generation and 16 second-generation.

This study selected a group of successful adults and interviewed them to determine what led to their success. In terms of youth outcomes, the key finding is simply that all of the Chicano professionals in the study were considered at risk of dropping out of school, yet all earned an MD, PhD or JD degree conferred from a highly regarded, American university of national stature. The factors that led to the success of these adults are detailed below under "Contributing Factors."

Family Involvement

Whether it took the form of providing educational materials at home or becoming an active decision maker within the child's school, parental involvement was cited by interviewees as an important component in their educational lives. Many reported they perceived their mother was more supportive than their father. "While fathers frequently indicated they wanted their children to do well in school, they were more ambivalent in the messages they conveyed to their children," noted the evaluator. In cases where the father was not fully supportive of the child's educational achievement, usually the mother intervened on the child's behalf.

Environment of Achievement

Most interviewees reported the availability of some reading material in the home, and more than half reported that one of their parents was an avid reader despite a low level of formal education. Several of the parents held strong views on social issues, or were well-versed in history or literature and shared this love of inquiry and ideas with their children. When asked about the availability in their homes of an encyclopedia, dictionary, daily newspaper, magazine subscriptions and more than 25 books, 98% of the subjects had at least two of the five things and almost 70% had an encyclopedia as they were growing up. Sixty-two percent recounted how discussions of politics and world events were routine topics in their households.

> *"When I was in the tenth grade, I took that special stupid test they give you, and it came out that I would have been a fantastic mechanic…so they tracked me average…again…which precluded me from taking college prep classes, and I had already taken geometry and Spanish and biology and some other courses in junior high."*
>
> —Chicana lawyer

> *"This is not a study about 'successful' individuals…but about people who chose education as a vehicle for social or economic mobility or personal fulfillment."*
>
> — Patricia Gándara, evaluator

Resiliency

Some interviewees were dogged by weak test scores or negative impressions that had to be overcome before they were permitted to enter the college preparatory track. Almost all of the study subjects were eventually tracked into college preparatory courses when they were in high school. Once there, the college prep track had an enormous impact on them, not only because they were able to participate in classes that would lead to college, but also because of the new, challenging peer group it defined for them.

Integrated Education

In almost every case, these students got into classes or schools in which they were the only – or one of few – Chicanos in their academic peer group. In both elementary and high school, 60-70% of the subjects reported that they attended mostly white (and usually middle- to upper middle-class) or mixed schools in which at least half the students were Anglo.

Financial Aid

All of the interviewees were from low-income families so financial aid became necessary for many to attend college. Through aid provided by Latino

recruitment programs, scholarships for high-achieving scholars or stipends for low-income students, the subjects were able to break the cycle of poverty in their families.

Mentoring

Half the interviewees reported having mentors (defined by the evaluator as "a person who encouraged, showed the way and nurtured the subject's aspirations to pursue higher education") outside the family. The mentor relationships were informal, positive relationships with supportive adults from the community. In some cases, mentoring took the form of an exceptional interest in the academic nurturing of a subject, even early on. Thirty percent of the women interviewees cited a person outside of the family as having had a major influence on setting and/or achieving educational goals; 60% of the male subjects cited such a person.

A Focus on Minority Achievement and on Transition

Fifty-two percent of the interviewees attributed their college and/or graduate school attendance, at least in part, to recruitment programs for Chicanos, which brought both information and financial aid. One-third of the subjects used junior colleges as their entry point into higher education, lacking adequate financial support to go directly to universities.

Hard Work

By their own accounts, the professionals interviewed in the study were not the "smartest" students, but they were among the hardest workers. Almost two-thirds of them reported having a period in school in which they did not do well. However, hard work at home was in evidence for nearly all the subjects, many of whom held jobs to help financially support the family, cared for younger siblings and took on a large share of household chores.

The evaluator noted that the higher proportion of men in the study was not by design but was dictated by the difficulty of finding female subjects. The evaluator determined that the high level of education achieved by the subject group was much more difficult for Chicanas to achieve without at least one parent breaking into the middle class before them, most typically a mother who had attained the status of a clerical or secretarial position.

Since the group of subjects does not include those completing their education since the early 1980s, the evaluator acknowledged that the study leaves open the question of how representative the experiences of this group were compared to those of more recent graduates.

STUDY METHODOLOGY

To locate the subject group, the evaluator contacted universities and government offices across the country and asked them to nominate individuals. To a smaller extent, the evaluator pulled names from membership lists of professional organizations, class lists and university rosters. After reviewing literature on achievement, motivation and minority schooling, the evaluator interviewed subjects with both closed and open-ended questions, then highlighted areas of broad commonality.

EVALUATION & PROGRAM FUNDING

The evaluation was funded by the University of California-Davis.

GEOGRAPHIC AREAS

The evaluator, while pulling subjects from across the nation, chose to keep their hometowns, places of schooling and current location anonymous.

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"The Child-Parent Center Program and Study" (2000) Success in Early Intervention: The Chicago Child-Parent Centers pp. 22-63. University of Nebraska Press. By Arthur J. Reynolds.

"Long-term Effects of An Early Childhood Intervention on Educational Achievement and Juvenile Arrest" (May 2001) Journal of the American Medical Association 285(18): 2339-2346. By Arthur J. Reynolds, Judy A. Temple, Dylan L. Robertson, and Emily A. Mann.

Focus

- ✓ Early Childhood
- ✓ Primary School
- Middle School
- Secondary School
- Postsecondary
- Extended Learning

Established in 1967 through funding from Title I of the Elementary and Secondary Education Act (1965), the Child-Parent Center (CPC) program provides comprehensive educational and family support services to economically disadvantaged children from pre-school through early elementary school. The program serves children in high poverty neighborhoods where there is no ready access to Head Start facilities. Before enrolling their children in CPC, parents must agree to work with the program for a half a day per week. CPC provides half-day pre-school to children (for ages 3-4), half- or full-day kindergarten (for ages 4-6) and supplementary services to primary school children (ages 6-9) and their families.

POPULATION

Since 1967 CPC has served about 100,000 Chicago families. Currently, the program operates in 23 centers throughout the Chicago Public School system. The longitudinal study compared 989 children, who attended 20 CPC sites in Chicago's highest poverty neighborhoods during the mid-1980s, to a non-randomized, matched comparison group of 550 children, who participated in alternative early childhood programs and then full-day government-funded kindergarten. The vast majority of students in both groups were African American (93%), from low-income families (84%) or living in single-parent households (70%). The expected high school graduation year for youth in the study was 1998-99 and 84% of the original participants were still involved in the study in 2000.

Relative to children in the matched comparison group, the participants in the CPC program had the following academic achievement gains:

- Higher rates of high school completion (49.7% vs. 38.5%; significant at the .01 level).
- More years of completed education (10.6 vs. 10.2; significant at the .03 level).
- Lower school dropout rates (46.7% vs. 55%; significant at the .047 level).

- Lower cases of juvenile arrests (16.9% vs. 25.1%; significant at the .003 level).

- Lower rates of violent arrests (9.0% vs. 15.3%; significant at the .002 level).

The longer children and their families participated in CPC programs, the stronger the effects on academic achievement. Relative to children with less extensive participation in the program, children who participated from pre-school through second or third grade:

- Experienced lower rates of grade retention in grades K-12 (21.9% vs. 32.3%; .001 significance level).

- Were less often classified as needing Special Education (13.5% vs. 20.7%; .004 significance level).

In terms of gender, the CPC program had the strongest effect on boys. The group of predominantly African American males from CPC experiencing a 47% higher rate of high school completion than the males in the comparison group.

CPC program attendance rates regularly exceed 92%, which is four to six percentage points higher than other Title-I programs.

CPC is founded on the assumption that school success is facilitated by a stable and enriched learning environment during the entire period of early childhood (ages 3-9). The following components are shared by the majority of CPC program sites:

- CPC pre-school and kindergarten programs are affiliated with elementary schools, but they are located in a separate building or wing of the school. The staff include a head teacher, parent-resource teacher, classroom teachers, teacher aides and school-community representatives. These programs serve from 130 to 210 students, and they have 6 classrooms on average. CPC primary school programs are all located in elementary schools and they serve from 90 to 420 students in 4-18 classes.

- Half-day CPC pre-school programs are offered for 3 hours in the morning and 3 hours in the afternoon. CPC kindergarten programs are either half day (2.5 hours) or full day (6 hours). Both programs run throughout the regular nine-month school year and for 8 weeks each summer.

- The child to teacher ratio in CPC pre-school programs is 17:2, while the ratio in kindergarten and primary school programs is 25:2. The presence of parent volunteers further reduces the child to adult ratio in CPC classrooms.

- Parents get involved in numerous ways with CPC programs, from volunteering in the classroom to joining reading groups in the parent-resource room. CPC staff conduct home visits and parents are encouraged to read with their children, attend parent-teacher conferences, enroll in parent education classes and attend social events organized by CPC staff. Parent involvement is required during pre-school and kindergarten, and encouraged during the primary grades.

- The CPC curriculum emphasizes basic skills in language arts and math through a variety of learning experiences including whole class exercises, small groups, individualized learning activities, and field trips. In conjunction with these academic enrichment activities CPC fosters the psychosocial development of children.

- Health screening, referrals, speech therapy and nursing services, as well as free breakfast and lunch are available to CPC students and families.

- The average annual cost of the half-day pre-school program in CPC was $4350 per child. The average annual cost of the primary school CPC program (grades K-3) was $1500 per student above the cost of normal school programming. Both figures given in 1996 dollars.

Early Intervention
Program evaluators believed that early intervention had the greatest impact because it focused on the early childhood years "when children and parents are most receptive to change."

Parent Involvement
Before children are accepted for the program, parents must commit to participating at least a half day per week. The evaluators observed that "many parents do not often participate to this extent," but they ranked various parent involvement activities. The highest parent participation occurred in parent-resource rooms, organized school activities and home support activities. Evaluators ranked parent participation in classroom volunteering as "moderate," and parent enrollment in formal adult education courses was ranked "low." Parent-center resource rooms located in every CPC site serve as the focal point for parent services and involvement.

Community Involvement
Each CPC program site has a full-time community liaison, who has usually grown up in the neighborhood around the school. This staff member identifies families in need of CPC services and goes door-to-door to recruit prospective families. The community representative also conducts at least one home visit per enrolled child.

Program Continuity/Long-term support
Evaluators argued that one of the key factors that contributed to program success was the duration and continuity of support received by CPC children from age 3 to 9, especially in contrast to the relatively haphazard academic support available to other children from similar socio-economic backgrounds. This continuity facilitated student transitions from pre-K to kindergarten and from kindergarten to the elementary school grades.

Individualized Attention/Small Classes
"The relatively small class sizes and the presence of several adults enable a relatively intensive, child-centered approach to early childhood development," according to the evaluator.

STUDY METHODOLOGY

This quasi-experimental, longitudinal study originally included all children who enrolled in the 20 CPCs with pre-school and kindergarten programs beginning in the fall of 1983 and who were kindergarten graduates. Children who were age 3 or 4 when they enrolled could participate in the program up to age 9 in the spring of 1989. The comparison group included children who did not have a systemic intervention from pre-school through third grade, though some had participated in Head Start and most had attended an all-day kindergarten called the Chicago Effective Schools Project (CESP). These two groups were matched for race/ethnicity, gender and family income. The parents of CPC program participants had a higher high school graduation rate than the parents of children in the comparison group (66% vs. 60%), but evaluators took these differences into account when measuring program effects. By the age of 20, 83% of the original sample of 1,539 children were still involved in the longitudinal study.

EVALUATION & PROGRAM FUNDING

Title I of the Improving America's Schools Act funds the pre-school and kindergarten components of the CPC program, while the State of Illinois funds the primary school component of CPC. The evaluation was funded by the National Institutes of Health and the U.S. Department of Education.

GEOGRAPHIC AREAS

Chicago, Illinois

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"Beating the Odds: A City-By-City Analysis of the Student Performance and Achievement Gaps On State Assessments" (May 2001)

Council of the Great City Schools. By Sharon Lewis and Michael Casserly.

"Closing the Achievement Gaps in Urban Schools: A Survey of Academic Progress and Promising Practices in the Great City Schools"

(October 1999) Council of the Great City Schools. By Sharon Lewis, Jack Jepson and Michael Casserly.

Focus

- Early Childhood
- ✓ Primary School
- ✓ Middle School
- ✓ Secondary School
- Postsecondary
- ✓ Extended Learning

In 1999, the nation's urban public schools educated about 40% of all students of color, 35% of students eligible for free and reduced price lunch, and 30% of English language learners in the nation. The Council of the Great City Schools' National Task Force on Closing Achievement Gaps compiled and examined efforts and data from 48 major urban school systems across the nation. The evaluators discussed achievement gaps in the context of two general observations: 1) African American, Latino, Native American and other students score lower, as groups, than white students on standardized achievement tests; 2) students of lower socio-economic status score lower, as groups, than students of middle or higher socio-economic status on standardized achievement tests. Some school districts had the goal of boosting achievement specifically for minority populations; others tried to boost the achievement of every student with the thought that minority achievement increases would follow.

POPULATION

The school districts observed were of varying sizes and had varying mixtures of minority populations. Depending on the minority populations present, each urban school district chose to concentrate its "closing the gap" efforts on different groups. Some focused on groups of a certain socio-economic status rather than on groups of a certain race. For example, in Dallas, schools concentrated on closing the achievement gap for Latino students, while in Baltimore and Birmingham – both with more than 85% African American student populations – schools concentrated on boosting the achievement of all students. In Des Moines, schools focused on improving achievement for all students, but then broke out achievement data by socio-economic status/ income in order to shape future efforts.

This report shares a variety of findings from urban districts around the nation. A sampling of these findings show many cities increased the achievement of African American and Latino students on standardized tests and reduced the gap between minority and white students, by differing amounts. Some of the initiatives described here also increased white achievement. Below, data from several cities are reported, though readers should use caution in comparing the school districts (see Evaluator Comments below).

In Boston, MA

Time period: 1996 to 1998
African American achievement gains in math, grade 5: 56% to 59%, 3 percentage points
White achievement gains in math, grade 5: 79% to 80%, 1 percentage point
Gap reduction: The gap between African American and white students decreased from 23 to 21 percentage points in grades 5.
How measured: Percent at or above "basic" level on the Stanford-9 Achievement Test. [See chart for more details on Boston's achievement gap reduction.]
Strategy: Raised academic standards in every subject area and every grade.

In Broward County, FL

Time period: 1994 to 1998
Gap reduction: The gap between African American and white students decreased from 25 to 18 percentage points.
The gap between limited English proficient students (LEP) and non-LEP students decreased from 24 to 12 percentage points.
How measured: Florida writing assessment.
Strategy: Implemented curriculum reforms and assigned "academic coaches" to schools.

In Charlotte, NC

Time period: 1995-1996 to 1997-1998
African American achievement gains in grade 3: 39% to 48%, 9 percentage points
White achievement gains in grade 3: 78% to 83%, 5 percentage points
Gap reduction in grade 3: The gap between African American and white students decreased from 39 to 35 percentage points.
How measured: Percent reading at or above their grade level.
Strategy: Adopted high achievement goals and created Project Charters.

In Memphis, TN

Time period: Since the 1994-95 school year
African American achievement gains: Percentage earning an honors diploma doubled.
Strategy: Offered extended learning opportunities such as "Algebra Camp" for minority students and others in need, eliminated low-level course offerings.

In El Paso, TX

Time period: 1994 to 1998
African American achievement gains in grade 3: 39% to 66%, 27 percentage points
White achievement gains in grade 3: 72% to 85%, 13 percentage points
Gap reduction: The gap between African American and white students decreased from 33 to 19 percentage points.
How measured: Percent who achieved minimum expectations on all sections of the Texas Assessment of Academic Skills (TAAS).
Strategy: The El Paso School District does not have a formal policy to address achievement gaps.

In Fort Worth, TX

Time period: 1994 to 1999
Latino achievement gains in math, grade 3: 44% to 78%, 30 percentage points
White achievement gains in math, grade 3: 78% to 88%, 10 percentage points
Gap reduction: The gap between African American and white students decreased from 34 to 14 percentage points in math, grade 3.
How measured: Percent of third-graders who passed the TAAS math assessment.
Strategy: Created instructional support teams, tutoring and reading programs, a new mathematics initiative, restructured bilingual programs, staff development, and benchmark testing.

Boston Public Schools: % of Students Scoring at or Above "Basic" Level on Stanford-9 Achievement Test, 1996 and 1998

	1996	1998	Change in Gap 1996-98
Grade 5			
Math			
African American	56	59	
(African American–White Gap)	23	21	2
White	79	80	
(Latino–White Gap)	19	16	3
Hispanic	60	64	
Grade 6			
Reading			
African American	76	80	
(African American–White Gap)	14	10	4
White	90	90	
(Latino–White Gap)	22	14	8
Hispanic	68	75	
Math			
African American	38	45	
(African American–White Gap)	29	25	4
White	67	70	
(Latino–White Gap)	30	21	9
Latino	37	48	
Grade 7			
Reading			
African American	76	82	
(African American–White Gap)	17	13	4
White	93	95	
(Latino–White Gap)	24	21	3
Latino	69	73	
Grade 9			
Reading			
White	87	90	
(Latino–White Gap)	23	24	1
Latino	64	67	
Math			
African American	26	39	
(African American–White Gap)	42	36	6
White	68	75	
(Latino–White Gap)	40	35	5
Latino	28	40	
Grade 11			
Reading			
White	85	86	
(Latino–White Gap)	39	32	7
Latino	46	54	

The 48 urban school districts evaluated varied in their approaches, but some common threads emerged:

- Reducing class size was a structural change that accompanied many of the school reforms.
- New learning standards were adopted by most urban school districts.
- Academic coaches, instructional advisory teams, curriculum specialists and other school reform specialists were hired by school districts to help offer technical assistance to schools on a full-time or part-time basis.
- Training for principals or teachers was commonly offered before implementation began.

"Improving our data, and hence our ability to monitor trends, should be one of our highest priorities."

—Michael Casserly, Executive Director, Council of the Great City Schools

- School-wide "learning philosophies" or "covenants" were often used as a way to build student, parent and staff enthusiasm for a school-wide reform.
- Summer learning academies or other intervention strategies were employed as a way to supplement curriculum.
- Many districts established and annually reviewed achievement goals, measuring achievement with multiple assessments.

Focus on Minority Achievement

Many districts began their reform efforts after analyzing data that clearly showed the achievement gaps between minority students and other students, or between low-income students and other students.

Extended Learning

Many districts attributed success in part to longer school days, longer school years, summer school, after-school tutorials or Saturday enrichment opportunities.

"Few goals could be more important to American public education today than closing the achievement gaps among students by race, income, language and gender.

—Michael Casserly, Executive Director, Council of the Great City Schools

Increased Emphasis on Reading

An increased emphasis on reading, particularly in the early grades, helped boost both achievement scores and student confidence.

Community Involvement

Some districts developed linkages with community organizations or private businesses that offered equipment, facility improvements, mentors for students, and other resources.

Planning, Implementation and Evaluation

The districts that showed the most dramatic progress had detailed reform planning and evaluation procedures.

The evaluator noted that there are limitations in the comparisons that can be drawn between the data from various school districts in the Key Findings section of the summary:

- It is difficult to compare some achievement data across states, because each state has developed its own assessment, administration guidelines, testing timelines, and grades to be tested.
- Trend lines may vary in duration from state to state. Some districts have trend data spanning four to six years, while others may have data for only two years.

Each state reports its results in differing metrics or statistical units. The metrics can affect how good or bad the scores look and can influence the direction of the trends.

STUDY METHODOLOGY

The evaluators mailed a survey developed by the National Task Force on Closing Achievement Gaps to curriculum and research directors in the Council of the Great City Schools' 55 cities. Response rate was 87%. Achievement data was self-reported by the districts and was rounded to the nearest whole number.

EVALUATION & PROGRAM FUNDING

The study was conducted and funded by the Council of the Great City Schools. Reforms discussed were funded in a variety of ways but most commonly through state, district or Title I monies.

GEOGRAPHIC AREAS

The study covered a national span.

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Focus

- Early Childhood
- ✓ Primary School
- Middle School
- Secondary School
- Postsecondary
- Extended Learning

POPULATION

More than 3000 kindergarten and first grade students attended SAGE schools in the first two years of the program. Evaluators compared the scores of these students with scores of more than 1600 students in comparable district schools with similar socioeconomic demographics. SAGE classrooms have a student-teacher ratio of 12-15 students to 1 teacher and comparison classes have 21-25:1. SAGE includes 30 schools from 21 Wisconsin districts. Seven of the schools are in Milwaukee. In the school year 1999-00, 46.9% of SAGE students were white, 25.3% African American, 10.4% Native American, 7.8% Latino, 5.2% Asian, 1.6% other (0.3% unavailable). Of these students, 63.4% received free or reduced price lunch.

Enacted by state law in 1995, Wisconsin's Student Achievement Guarantee in Education (SAGE) program began as a five-year pilot program in the 1996-97 school year to test the hypothesis that smaller classes in elementary schools raise the academic achievement of disadvantaged students. SAGE includes four reform initiatives: (1) reduction of the pupil-teacher ratio in classrooms to 15:1; (2) establishment of "lighted schoolhouses" that are open longer than the traditional school day; (3) development of rigorous curricula; and (4) refinement of staff development and professional accountability systems to support the class size reduction program. During the first year of SAGE, schools focused on implementing the class size reduction initiative. To achieve the desired pupil-teacher ratio, SAGE schools used regular classrooms (15 students and 1 teacher); shared space classrooms (classrooms divided by a temporary wall with 15:1 classes on either side); two-teacher teams (30 students with 2 teachers); and floating teachers (who joined 30-student classrooms for core classes). Two other strategies were used in rare instances: split day classes (15 students and 2 teachers, one in the morning and the other in the afternoon) and three-teacher classes (45 students in one large room with three teachers). SAGE schools received $2000 per low income student to implement these class size reduction strategies.

SAGE and comparison school students began first grade with similar reading, language arts and math scores on pre-tests, but by the second and third grades, SAGE students outscored their peers in comparison schools on every test administered by the evaluators. The gap was statistically significant in every subject except reading. The mean scores on the Comprehensive Test for Basic Skills for second graders in SAGE and comparison schools are reported in Figure 1.

To indicate the significance of these mean score differences and adjust for variables such as family income, attendance and race, evaluators determined an adjusted effect size for the impact of small classes in each of the testing categories: Reading (.157), Language Arts (.230), Mathematics (.427) and total score (.315).[1]

Though they started first grade with the same academic profiles, African American students made greater gains in the small SAGE classes than African Americans in larger classes. Figure 2 shows CTBS scores for African American SAGE and Comparison students in the second grade.

The SAGE initiative reduced the gap between white and African American student achievement, with the strongest effect observed during the first

Fig - 1: Mean CTBS Scores: SAGE and Comparison Students (1999-00)

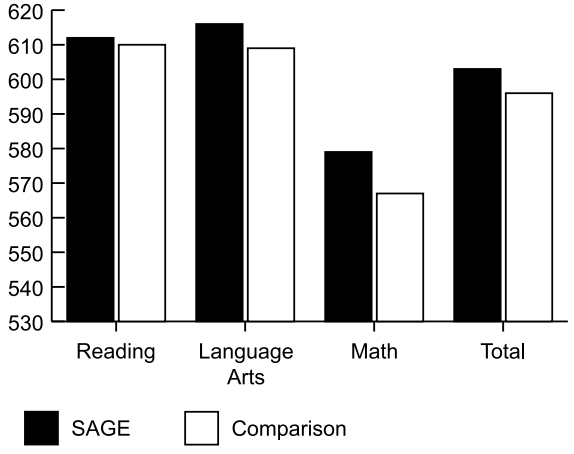
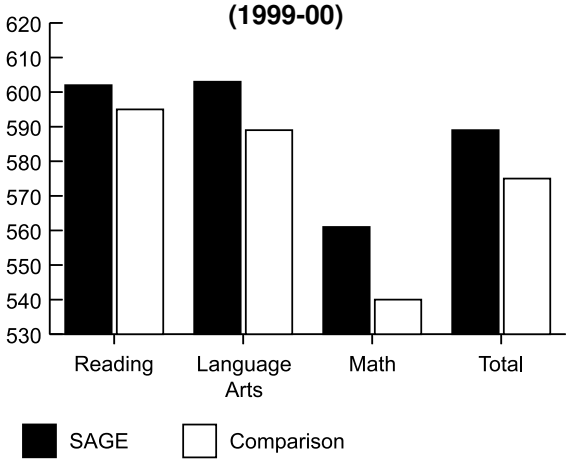


Fig - 2: Mean CTBS Scores: African American SAGE and Comparison Students (1999-00)



grade year. By contrast, the achievement gap increased over time in comparison schools.

For the second grade cohort between 1998 and 2000:

- SAGE pretest achievement gap (22 points); second grade gap (21 points).
- Comparison pretest achievement gap (26 points); second grade gap (30 points).

For the third grade cohort between 1997 and 2000:

- SAGE pretest achievement gap (29 points); third grade gap (23 points).
- Comparison pretest achievement gap (15 points); third grade gap (28 points).

The differences in achievement outcomes, related to the type of classroom reduction strategy used, were not statistically significant. In other words, regular small classes, team-teacher classes, shared space and floating teacher classes had similar, positive benefits for student achievement.

According to evaluators, the rigorous curriculum, lighted schoolhouse and staff development components of the SAGE reform model were not

uniformly or immediately implemented across the schools, so that they had little impact on achievement in SAGE classroom performance in the first few years. As these initiatives were fully implemented, they positively influenced class size findings.

SAGE used the following strategies to reduce class size, given the constraints of existing facilities and personnel in participating elementary schools:

- Small Classroom: student-teacher ratio of 15:1 in one room.
- Two-Teacher Teams: student-teacher ratio of 30:2 in one room.
- Three-Teacher Teams: student-teacher ratio of 45:3 in one large room.
- Shared Space Classroom: one large room with a temporary divider and two classes with 15:1 student teacher ratios on either side.
- Floating Teacher: a roving teacher joins 30:1 classrooms for core classes each day.
- Split Day: 2 teachers with 15 students, each instructs for half of the day.

According to a survey of 150 first- and second-grade teachers in SAGE schools, the smaller class sizes allowed for new teaching strategies, including:

- individualized instruction
- classroom discussion
- hands-on activities
- more content coverage
- less time dealing with disciplinary problems

Reduced Class Size

According to the evaluators, the most significant factor affecting individual student performance on tests was socioeconomic status (SES), but when this variable was accounted for, class size had the most significant effect on student scores. All of the class size reduction strategies used by SAGE had similar, positive effects.

Individualized Attention

According to SAGE teachers, the most significant factor in improving the learning environment and student achievement in smaller classes was the individualized instruction and attention that these classes allow. In small classes, the teachers understood the strengths and weaknesses of each student and tailored their instructional strategies to these students' unique needs.

Classroom Management

The majority of the teachers in small classes reported fewer discipline problems. Through classroom observation and student achievement data, the evaluators found that the more effective teachers used a consistent, decisive and assertive management style to enhance the disciplinary benefits of small class size.

Innovative Instructional Strategies

Because they have fewer discipline problems, small classes allow for student-directed lessons and creative problem-solving assignments, but evaluators warned that these innovative instructional strategies must be grounded in drills that instill an understanding of basics and fundamentals.

[1] In terms of effect size, a positive figure less than 0.25 is a modest effect; 0.25 to 0.5 is a moderate effect; a figure of 0.5 or above is a large effect.

STUDY METHODOLOGY

SAGE legislation mandated annual evaluation of the program's effects. The evaluation used a quasi-experimental, comparative change design. The evaluators chose this method because they could not randomly assign students and teachers to classrooms or keep classroom cohorts intact from year to year. The lack of incentives for participating in the comparison group made it impossible for the evaluators to use matched-pair comparison schools. But scores from the Comprehensive Test of Basic Skills for both SAGE students and non-SAGE students allowed evaluators to determine the influence of class size on academic achievement. Evaluators collected classroom organization profiles and teacher questionnaires as well as conducted site visits to SAGE classes and interviews with SAGE teachers. The evaluators gave both SAGE and non-SAGE schools the option of not testing students who had special needs or who spoke English as a second language.

EVALUATION & PROGRAM FUNDING

SAGE and the SAGE evaluations are funded by the state of Wisconsin. The state has provided $37 million to bring the SAGE program to approximately 400 new schools in the 2000-01 school year and an allocation of $3 million to reimburse school districts for 20% of the construction costs for new classroom facilities.

GEOGRAPHIC AREAS

SAGE has now been implemented in 46 school districts throughout the state of Wisconsin. Legislation is pending to bring this pilot program to scale in all of the state's school districts.

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Focus

- Early Childhood
- ✓ Primary School
- Middle School
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POPULATION

Nearly 12,000 students in more than 300 classrooms participated in Project STAR. Approximately one quarter of the students in Project STAR were minorities, primarily African Americans from Tennessee's large metropolitan areas. In the Lasting Benefits Study, evaluators continued to track the academic progress of between 4,000 and 6,000 of the STAR participants annually from 1990-1994.

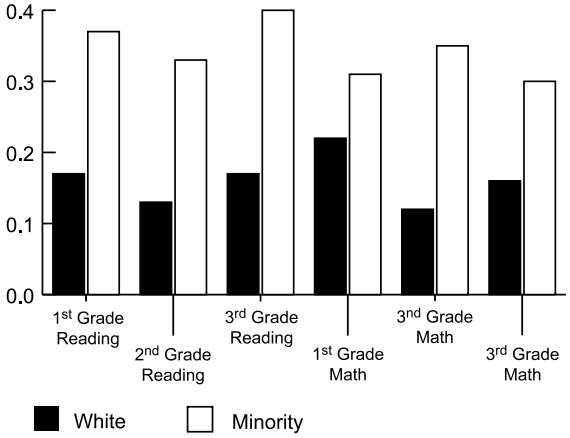
Tennessee was at the vanguard of states in conducting studies to determine the academic achievement effects of reducing class size. In Project STAR, the Lasting Benefits Study and Project Challenge, Tennessee evaluators were especially interested in the effect of reducing class sizes for minority student achievement. Project STAR (Student/Teacher Achievement Ratio) was a four-year educational reform experiment conducted from 1985-1989 by the state of Tennessee. It was intended to test whether students attending small classes in grades K-3 had higher academic achievement than their peers in larger classes. The 79 participating elementary schools throughout the state randomly assigned students entering kindergarten to one of three class types: small (S) with 13-17 pupils; regular (R) with 22-26 pupils or regular with a full time teaching aide (RA) with 22-26 pupils. With few exceptions, students remained in these class categories for four years. The teachers in these schools received no special instruction in the first year of the program, and they were randomly assigned to the different types of classes every year. After Project STAR's fourth and final year, the state continued to track the academic achievement of STAR students as they reentered regular classes for grades 4-6. (This follow-up research was called the Lasting Benefits Study.) Convinced that small classes were effective, Tennessee implemented Project Challenge in 1989, creating small classrooms for grades K-3 in the 17 districts with the lowest average incomes and test scores in the state.

Evaluators first reported the impact of small classes, by comparing the test scores of students in these classes with the scores of students in regular classes with and without aides. They also compared the scores of students in regular classes with aides to those in regular classes without aides. The presence of Teacher Aides did not have a significant impact on academic achievement; true reduction in class size did. Gains in effect sizes are reported in the chart below.

Evaluators also disaggregated the achievement gains from smaller classes by race. While all students did better in small classes, the gains in effect size for minorities were approximately twice the gains of whites, reducing the achievement gap.

The Lasting Benefits study revealed that students who had been in small classes for more than one year retained an academic achievement advantage over peers in large classes through eighth grade (four years after leaving small classes). For students who spent one year in a small class, the benefits seen above did not last through middle school. However, students who spent three years in small classes, were on average 4.5 months

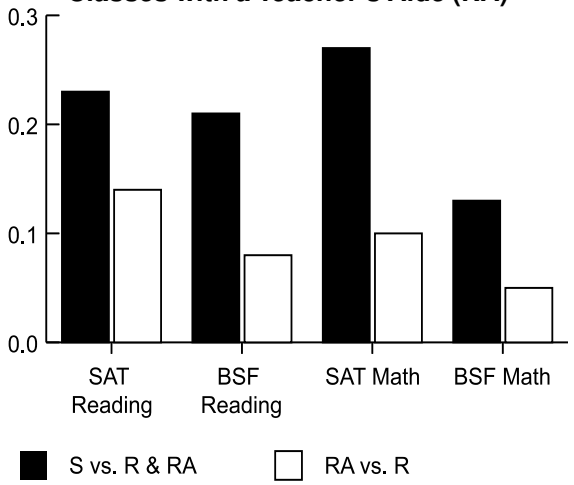
Small Class Achievement Gains for White and Minority Students



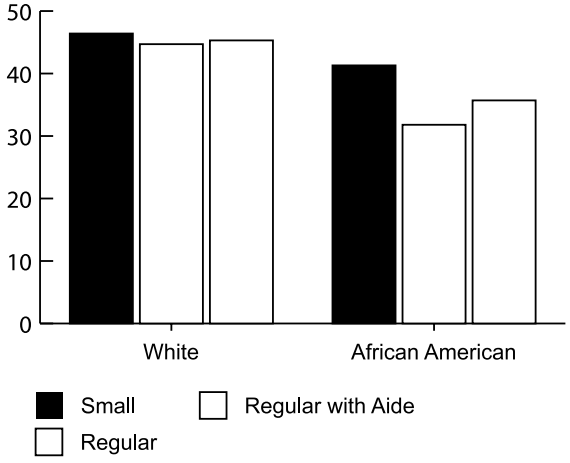
ahead of their peers in Grade 4, 4.2 months in Grade 6 and 5.4 months in Grade 8.

Evaluators used college admissions test taking (ACT or SAT) to determine whether class size in elementary school affected college aspirations. Both white and African American students in small classes were more likely to take the SAT or ACT than students who had been placed in regular size classes in elementary school. [See graph.] However, the difference in *scores*

First Grade Gains: Small Classes (S), Regular-Sized Classes (R), and Regular Classes with a Teacher's Aide (RA)



Percent of STAR Students Taking SAT or ACT by Race and Class Size (1998)



between the two groups was not statistically significant.

The students in the 17 low-income districts where Project Challenge reduced class sizes in 1989 saw gains relative to student scores before the project implementation. Gains in effect sizes for these districts averaged 0.4 reading and 0.6 for mathematics. Between 1989 and 1993, these schools also improved their average rank among the 139 school districts in the state for reading (from 99th to 78th) and for math (from 85th to 56th).

The basic intervention of Project STAR was reduction in class size, but funding for new teachers was also a component:

- The small classes in Project STAR had an average of 15 students each, down 35% from the regular class size average of 22-23 students. To be eligible for Project STAR, schools had to serve at least 57 kindergarten students (allowing a small class of 13 and two large classes of 22). When Project Challenge was implemented, classes were also reduced to an average size of 15 students.

- After the first year of Project STAR's implementation, the legislature mandated a three-day training program for a sample of teachers assigned to all three class types. Because 30% of these teachers had more than 20 years of experience and because the training was of a general nature, evaluators found that it did not affect Project STAR's results. There was little difference in the academic achievement in trained teachers' classes compared to other small classes. The benefits of small classes were confirmed for "trained" and "untrained" teachers alike.

- Teachers' aides in Project STAR were full-time, paid employees who received no special training for work with the regular sized classes.

- Project STAR provided funds only for the hiring of new teachers and teachers' aides, not for the construction of new classrooms or other facilities. Schools had to supply classrooms for the new teachers if they volunteered to participate in the program.

- In the first year of Project STAR (1985), the Tennessee state legislature allocated $3 million for its implementation. Comparable allocations were made for each of the next three years.

Early and Sustained Intervention

Evaluators suggested that small class size might be most effective for younger students because these students come from a variety of backgrounds and "many need training in paying attention, carrying out tasks and behavior towards others in a working situation." In short, they need to "learn to learn" along with others, and this may be easier in small classes at an early age. The lasting benefits accrued to students who started early and continued in small classes for 2-4 consecutive years.

Student Engagement

The evaluators found that increased student participation and engagement in smaller classes contributed to the academic achievement outcomes and constituted mutually reinforcing positive attributes of these classes.

Individualized Attention

The evaluators admitted that there were mixed findings on the amount and impact of individualized attention in smaller classes. Though teachers felt

that smaller class size facilitated individualized attention for students, observers suggested that "teachers did not alter the proportion of their time spent interacting with the whole class, with groups or with individual pupils."

Decreased Disciplinary Problems
Evaluators found that decreased disciplinary problems contributed to a more positive learning environment in which there were fewer distractions from academics.

One researcher noted that "moving incompatible children" from the small class groups to the control group had an indeterminate impact on the study. From the first year cohort of students in small classes, 108 out of 1678 (6.4%) students were moved to the other groups, perhaps siphoning off students with behavior problems or academic deficiencies.

Evaluators were also careful to point out that Project Challenge results were not compared to a control group.

STUDY METHODOLOGY

Project STAR was a controlled randomized experiment on a large scale, and as such, it is one of the most rigorous evaluations in this compendium. Schools chose to participate in the study and 79 fit the criteria (they had to commit to the study for four years, had to supply the extra classrooms, and had to enroll at least 57 kindergarteners). Participating elementary schools throughout the state, randomly assigned students entering kindergarten to one of three class types: small (S), regular (R), or regular with a full-time teaching aide (RA). Students remained in these class categories for the next four years. Teachers were randomly assigned to the different types of classes every year. Norm referenced and criterion-referenced achievement tests (the Standford Achievement Tests and Tennessee Basic Skills Tests, respectively) were administered at the end of each school year. Finn's report summarizes different class size studies including STAR, the Lasting Benefits Study, and Project Challenge.

EVALUATION & PROGRAM FUNDING

Project STAR was funded by the state of Tennessee. The Office of Educational Research and Improvement in the U.S. Department of Education funded work on the Finn monograph and the American Academy of Arts and Sciences funded Mosteller's report.

GEOGRAPHIC AREAS

Tennessee

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CSR Research Consortium. By G. W. Bohrnstedt and B. M. Stecher, eds.

Focus
- Early Childhood
- ✓ Primary School
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In the wake of Tennessee's Project Star study of academic achievement in smaller, elementary school classes, California's legislature enacted a major Class Size Reduction (CSR) initiative to create smaller classes for all public school students in grades K-3. Begun in 1996, CSR aimed at reducing average class size in these grades from 30 students to 20 or fewer students. During the 1996-97 school year, California gave $650 per student to schools that had implemented smaller classes and the state allocated an additional $400 million for new facilities. In the 1998-99 school year, the state provided $800 per student in small classes. Average expenditures per student in these districts before CSR ranged from about $4100 to $4800.

POPULATION

By the third year of CSR (1998-99), nearly 1.8 million (92%) kindergarten through third grade students in California public schools were attending smaller classes (with an average of 20 or fewer students). California's K-12 public school enrollment was 41% Latino, 39% white, 11% Asian/Pacific Islander, 9% African American and 1% Native American. One-third of these students are considered English Language Learners (ELL) and one-fourth come from families who receive Aid to Families with Dependent Children (AFDC). The state's K-3 teacher workforce has grown by 38% since the start of the initiative (22,000 new K-3 teachers were hired in the first two years).

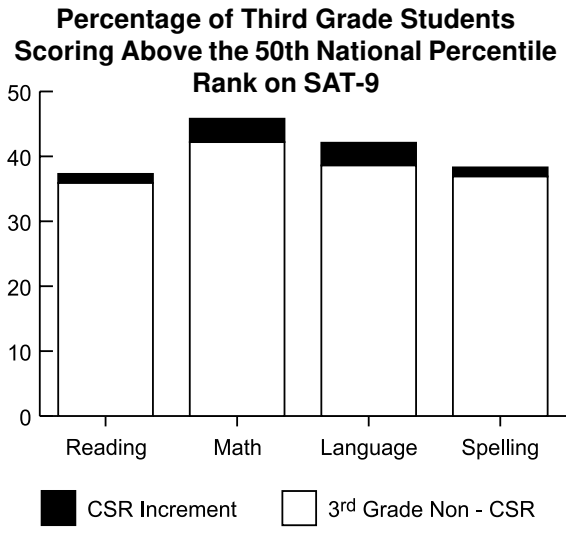
Evaluators reported only third grade achievement scores "because of the rapid implementation of the reform." These scores revealed a small, but statistically significant, positive impact of CSR on the proportion of students scoring above the 50th percentile on the SAT-9 test. Between 1% and 4% more third graders scored above the national median in schools that had implemented CSR.

CSR had a similar, positive impact for all students regardless of race, family income or language group. However, evaluators noted that the effect of CSR was quite small when compared to the effect of race, ethnicity or income on student score differentials. The differences between white and minority student scores were much greater than the difference between CSR and non-CSR student scores. For instance, the effect size of race on

reading achievement when comparing African American and white students was 0.8, whereas the effect size of the CSR initiative on reading scores was merely 0.05.

In short, while the CSR initiative improved all student scores slightly, it did not reduce the minority achievement gap and had a much smaller effect on test scores than student backgrounds did.

Students in small mathematics classes had more time to work with measuring instruments (e.g. rulers and compasses), but there was no difference in time on task in language arts classes. On average, teachers in small classes reported spending more time each day working with students in small groups (23.4 minutes vs. 14.6 minutes) and individually 18.1 minutes vs. 11.4 minutes).



CSR reduced class sizes from 30 to 20 students for the majority of K-3 classrooms in California public schools, and it led school districts across the state to hire new teachers and create new classrooms:

- CSR led to the hiring of 38% more teachers in California elementary schools, but it also resulted in a decline in the average education, experience and credentials of K-3 teachers in the first two years of implementation. Before CSR, only 1% of California's K-3 teachers were not fully accredited, but after two years of CSR, this figure had risen to 12%. The rates were even higher in low-income school districts where more than 20% of teachers in 1997-98 were not fully accredited. The need for teachers created by CSR may have led English Learner and Special Education teachers to switch to mainstream K-3 classes. In 1998-99 alone, 1000 EL and Special Education teachers across the state moved into mainstream K-3 classes.

- The demand for new classroom space created by CSR actually reduced the availability of other types of facilities in schools. Principals reported that new classrooms pre-empted 40% of their special education rooms, 27% of childcare space, 26% of music/arts rooms, 22% of computer rooms, 20% of library space, 13% of teacher prep space and 12 % of physical education space.

- The state of California has spent approximately $1.5 billion per year to reduce class size in primary schools throughout the state since the 1996-97 school year.

Unintended Consequences
The increased demand for new teachers due to CSR unintentionally led to a decline in average education level, experience and credentials of teachers, especially in high poverty and high minority districts. Similarly, the increased demand for new rooms, without an adequate amount of funds for additional construction, led to a loss space for childcare, music, arts, special education, library and computer facilities.

Funding Disparities
Because the state funded schools on a per pupil basis only *after* implementation, schools that did not implement smaller classes quickly received less CSR money. This led to a disparity in funding for school districts serving higher proportions of minority and low-income students that lacked the facilities to implement CSR. In the 1997-98 school year, districts with fewer than 17% minority students received an average of $100 more per K-3 student from CSR than districts where minority students made up two-thirds of the student population.

Yet in places where CSR was fully implemented, the evaluators pointed to two factors that may have contributed to the academic achievement benefits that accrued from the program.

Discipline
Teachers in smaller classes reported spending slightly less time each day dealing with discipline problems when compared to teachers in large classes.

Individualized Attention
The teachers in small classes reported spending more time giving "sustained attention" to students who needed special assistance with reading and more time "addressing individual students' personal needs" than teachers with large classes.

AYPF culled the above contributing factors from these studies for comparison with other summaries in the volume. However, the CSR Consortium researchers were quick to point out that these studies were not based on experimental data, and therefore, they were unable to draw clear causal inferences from the CSR research.

Above all, the researchers noted that it is too early to pass a final judgement on the effectiveness of the CSR initiative. "No one has ever implemented a class size reduction reform on this scale before, and it is difficult to establish criteria for success at this juncture. Additional time and experience are needed if we are to measure the cumulative effects of reduced classes," they concluded.

STUDY METHODOLOGY

Evaluators from the American Institutes of Research (AIR), the University of California-Riverside's California Education Research Cooperative (CERC), RAND, Policy Analysis for California Education (PACE), WestEd and EdSource make up the CSR Research Consortium. AIR and RAND researchers are the co-principals leading the investigation. Researchers used statewide school demographic data, achievement data from SAT-9 tests, interviews and surveys with parents, teachers and administrators to assess the impact of CSR. The researchers focused on 99 districts, surveying 99 superintendents (88% responded), 432 principals (78% responded), 1485 teachers (65% responded) and 2112 parents (52% responded). Because California also enacted a Reading Initiative, the Teaching Reading Program and the Mathematics Program Advisory at the same time as CSR, they found it difficult to control for the effects of these and other simultaneous reform initiatives in improved student scores.

EVALUATION & PROGRAM FUNDING

The CSR Research Consortium evaluation was funded by the California Department of Education, the US Department of Education, the Walter and Elise Haas Fund, the William and Flora Hewlett Foundation, the Walter S. Johnson Foundation, the San Francisco Foundation and the Stuart Foundation. CSR was funded by the state of California.

GEOGRAPHIC AREAS

California

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"Progress and Promise: An Evaluation of the Compact for Faculty Diversity" (January 2000) Southern Regional Education Board. By Daryl Smith and Sharon Parker.

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POPULATION

From 1993 to the end of 1999, the program served 435 minority scholars: 259 (60%) were women, 305 (70%) African Americans, 82 (19%) Latino, 31 (7%) Native American, 13 (3%) Asian American, and 4 (1%) other. Though the evaluators did not give data on economic backgrounds of students, they wrote that "most of the [Compact scholars] do not come from highly privileged backgrounds. Moreover, they have not usually attended elite undergraduate institutions in which attendance at graduate school is part of the culture."

Since its inception in 1993, the Compact for Faculty Diversity has linked three regional educational associations to create programs that support minority graduate students as they complete their doctorates and enter college or university teaching positions. The Southern Regional Education Board (SREB), the New England Board of Higher Education (NEBHE) and the Western Interstate Commission on Higher Education (WICHE) administer and oversee the Compact for Faculty Diversity in their respective regions. While each region's implementation strategy is unique, all have two broad goals. First, the Compact for Faculty Diversity works with states and graduate institutions in each region to ensure that minority doctoral students have continuous funding and financial aid as they complete their doctorates. Second, the Compact fosters a community of established minority scholars and peers who support minority doctoral students as they complete their degrees and enter the professional world. One way that the Compact for Faculty Diversity fosters this community is through an annual Institute for Teaching and Mentoring, which brings together minority graduate students and professors from across the country to discuss the possibilities and pitfalls in the world of higher education.

By the end of 1999, 92% of graduates served by the Compact for Faculty Diversity had completed or were continuing their degree programs. Eighty-four of the Compact scholars had completed their Ph.D., and of these:

- Seventy percent had earned faculty positions.
- Eighteen percent were in post-doctoral programs
- Twelve percent worked in college administration, industry, federal policy or as adjunct faculty

Evaluators favorably compared Compact's 92% retention rate with a persistence figure of 40-50% regularly reported in general literature on graduate education.

Compact's most visible component is the long-term financial support for minority graduate education; however, other program features accompany the financial aid:

- Environments of support were provided for scholars in their departments through orientation programs, faculty and peer mentors, academic activities and teaching activities.
- An annual institute for teaching and mentoring prepared Ph.D. candidates for college and university teaching. At the institute, participants shared their "lessons learned."
- Materials about minority recruitment and retention were distributed to participating schools.
- Assistance with faculty job searches was also provided.

"The results of the evaluation reflect extraordinary success for students participating in the Compact."
—Daryl Smith and Sharon Parker, evaluators, Compact for Faculty Diversity

- Committees that included the scholars themselves, key administrators, mentors and other interested community members, were established to check on the progress of the student, intervene if issues emerged and provide general oversight.
- Continuity of funding helped students know that their academic paths would not be interrupted. In 2000, the SREB component of the Compact for Faculty Diversity provided an annual stipend of $12,000 for three years plus $500 in general academic support and $1500 to attend the annual Compact institute. Partnering universities waived tuition and fees for Compact graduate students and provided an additional $12,000 stipend for the fourth and fifth years of the degree program.

Support Network

It was not only funding, but a close network of personal support that retained Compact students. Regular contact with mentors, advisors and peers helped graduate students who may have otherwise felt isolated in their programs and on their campuses. According to the evaluators, "there are numerous opportunities at the campus, institute and program level where students can seek support and advice, and where interventions can take place that maximize opportunities for success."

"Given the intensity of graduate study, given the sense of isolation that many students experience in their programs and on their campuses, given limited access to family and peers who understand what they are doing, the design of the Compact is precisely what is required."
—Daryl Smith and Sharon Parker, evaluators, Compact for Faculty Diversity

Professional Socialization

"For the scholar, the institute provides locations for students to discuss, in a relatively safe environment, concerns, issues, successes and failures," noted the evaluators. The institute also allowed scholars to achieve "professional socialization" by providing an opportunity for meeting other scholars and faculty throughout the country and by providing an environment that develops a professional understanding of the faculty role, particularly in a rapidly changing higher education environment.

Peer and Professional Mentors

The Compact program connected participating graduate students to mentors of all backgrounds throughout the country who were committed to them personally and to diversity in higher education.

An added benefit of this national connection to mentors was it naturally transformed into a job network.

Alumni Involvement
Some Compact scholars developed an alumni group that provided support to current scholars. Compact alumni also formed a cadre of experts in diversifying faculty and graduate education.

Individualized Attention
Through the Compact program, many scholars received what would be their only opportunity to work one-on-one with a faculty member. Individual faculty members often developed a serious interest and engagement in the scholars and their experiences.

Evaluators pointed out that, while the number of scholars served by the Compact program may have been small in comparison to other widespread national school programs, the impact is widened by the network of Compact alumni who then serve as mentors and role models for future scholars.

STUDY METHODOLOGY

The evaluators examined data and documents throughout the six years of the program, including annual surveys of all students and annual evaluations of the Institute for Teaching and Mentoring in addition to conducting phone interviews, focus groups and campus visits. Finally, data from other minority graduate student fellowships allowed them to evaluate the relative impact of the strategies employed by the Compact for Faculty Diversity. Compact scholars are chosen for the program, so there is a self-selection bias in the study sample.

EVALUATION & PROGRAM FUNDING

The Ford Foundation and Pew Charitable Trust funded the research and development of the Compact for Diversity. The SREB, NEBHE and WICHE jointly covered the operating expense of the program. The Ford Foundation funded the evaluation of the program in the late fall of 1998.

GEOGRAPHIC AREAS

The graduate students served by the Compact for Faculty Diversity attended 103 graduate institutions in 35 states.

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"Dare to Dream: Educational Guidance for Excellence" (1996) Lilly Endowment. By Jon Snyder, Gale Morrison and R.C. Smith.

Focus

- Early Childhood
- Primary School
- ✓ Middle School
- ✓ Secondary School
- Postsecondary
- Extended Learning

The "Dare to Dream" study is about school change aimed at higher achievement, greater postsecondary options and productive futures for all American children. It focuses on one cluster of such efforts, operating through three projects: Keeping the Options Open, Partners for Educational Excellence and the Indiana School Guidance and Counseling Leadership Project. All three initiatives were financed by foundations, and all embraced educational guidance as a fundamental function of the public schools, thereby creating an enhanced role for professional school counselors. The projects were implemented in 1990 in more than 50 schools across the nation. In these projects, counselors became spokespeople for students traditionally underserved in schools. The broad goal was to keep postsecondary options open for all students, not just historically high-achievers in college preparatory tracks.

POPULATION

Evaluators concentrated on 10 sites, processing 317 faculty and staff surveys, and 2,370 student surveys. The report includes case studies of 7 high schools and one middle school (see Geographic Location, below, for locations of schools) which successfully implemented (i.e. achieved the best results from) the counseling reforms. All the schools faced school-wide achievement challenges of one kind or another. At *Pike High School* none of the African American students were registered in Advanced Placement courses. *Elkhart Central High School* had a low percentage of its African American student body enrolling in college prep English. *Franklin Middle School* had a high percentage of "at-risk" students. *Indian Creek High School* had a low percentage of its rural students taking the PSAT and aspiring toward college. *Northside High School* had a low percentage of African American students in its "minimum rigorous curriculum." *Pickens County High School* was located in an Appalachian community where only 37% of the adult population had graduated from high school. *Port St. Joe High School* had a 50% college-going rate. *Robert E. Lee High School* served a predominantly Latino population with low math achievement.

The schools were linked conceptually by their use of educational guidance as the lever for school change. After the schools offered enhanced guidance counseling, students accomplished the following:

- Pike High School increased registration in Advanced Placement courses from 16 students (0% African American) in 1991-92 to 249 students (19% African American) in 1993-94.
- Between 1994 and 1995, Robert E. Lee High School increased the number of minority students enrolled in pre-calculus from 61 students to 104 and doubled the enrollment in calculus from 52 to 104 (maintaining the prior passing rates in each).
- Elkhart Central High School increased the number of African American seniors enrolled in college prep English from 26% to 69% and raised the number of African American freshmen enrolled in college prep English from 50% to 84% between 1992 and 1995.
- Northside High School increased the percentage of African American males in its "minimum rigorous curriculum" from 16% to 42.8% between 1993 and 1995 and the percentage of African American females from 29.4% to 43.3% during the same two-year period.
- Pickens County High School increased the percentage of students attending four-year colleges from 31% to 53% and the percentage of students attending either four-year or two-year colleges from 42% to 74% between 1989 and 1995.
- Indian Creek High School increased PSAT taking from 28% in 1990 to 53% in 1994. The percentage of students committed to pursuing postsecondary education rose from 53% to 97% in the same time span.
- Port St. Joe High School raised its college-going rate from 50% in 1986 to 72% in 1994.
- Franklin Middle School increased the number of students taking freshmen algebra, upon entering high school, from 121 to 201 between 1990 and 1992.

Funders of the "Dare to Dream" initiatives brought together teams of education stakeholders interested in reform at each site. These teams came up with site-specific strategic plans to strengthen counseling services for underserved student populations. First, teams were presented a statistical summary of the crisis in American public schooling, stemming from high student dropout rates and low student achievement, especially among minorities and kids from impoverished backgrounds. Second, teams compiled data on dropout rates and achievement gaps at their own schools. Third, teams devised ways to help low-achieving students find avenues to success in their schools. Fourth, teams created vision-to-action plans to foster change and the attitude that "all kids can learn." Finally, the teams were charged with bringing their action plans to fruition. As enacted, the Dare to Dream action plans facilitated the following changes:

"School change begins with the ethical commitment that all children – regardless of race, ethnicity, gender or economic background – can achieve educational goals beyond high school and construct a future of their own choosing."

—Jon Snyder, et al., evaluators

- Guidance became school-wide instead of being confined to the office of the guidance counselor. Students were provided the direct information and encouragement to locate further information themselves, regarding possible future education.

School guidance counselors were identified as the linchpin for change, but educational guidance became part of the total touch of each school. Professional school counselors became the "orchestrators" of educational guidance.

- Curriculum shifts helped ensure that academic "tracks" were less rigid, but equally rigorous as before, and that students considered "at-risk" were mixed into classrooms with those who were not.
- Shared leadership between school administrators, teachers, staff, outside expert teams and the students themselves helped each group push for new opportunities.
- "College centers," or other locations housing information about higher education, were installed in the schools.

Team Counseling
Working in teams "led to improved communication and eventually to greater possibilities of coordinating efforts around the strengths, interests and needs of children, rather than regulations or traditional role boundaries," noted the evaluators. A typical team included a school's principal, guidance counselors, teachers and parents, as well as local college and community representatives.

Broad Base of Support
District personnel, funding agencies, researchers, state boards of education and policymaking groups had a role and a responsibility in each school's change. Though the schools did the work themselves, these other groups created an environment where more localized leaders could develop and use the knowledge, skills and dispositions, onsite, to make a difference for children and young adults.

Student-Guided Change
Schools relied on students to guide the change. Program direction was based on the strengths, interests and needs of the learners.

STUDY METHODOLOGY

The case studies were not randomly chosen by the evaluators, but were selected because of quality, implementation and outcome results. Research for the case studies included school data, student "shadowing" days, and focus groups discussions, as well as interviews with students, participating faculty and non-participating faculty. Evaluators also conducted five surveys with students, teachers and administrators focusing on school demographics, student aspirations and barriers, faculty guidance responsibilities and strategies for change. Evaluators did not chart the changing total demographics for each school, which would have helped to contextualize the findings.

EVALUATION & PROGRAM FUNDING

The evaluation was funded by the Lilly Endowment. The guidance projects were supported by the Lilly Endowment and the Jesse Ball duPont Foundation.

GEOGRAPHIC AREAS

Locations of schools were: Elkhart Central High School, northern Indiana; Franklin Middle School, Minneapolis, MN; Indian Creek High School, Trafalgar, IN; Northside High School, Fort Wayne, IN; Robert E. Lee High School, San Antonio, TX; Pickens County High School, Georgian Appalachians; Pike High School, Indianapolis, IN; Port St. Joe High School, Gulf County, FL.

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Focus

- Early Childhood
- Primary School
- Middle School
- Secondary School
- ✓ Postsecondary
- Extended Learning

The Emerging Scholars Program (ESP), modeled after the Mathematics Workshop at the University of California at Berkeley, aims to increase the number of college freshmen excelling in calculus who come from groups historically under-represented in mathematics-based disciplines, in particular women, Latinos, African Americans and students from rural areas. ESP is considered an "honors-level" program and it has been replicated by more than 100 colleges and universities across the country. At the heart of ESP are its discussion sections, which are linked to calculus lecture sections. ESP discussion sessions are longer than non-ESP discussion sections, and also have fewer students – usually a maximum of 24 as opposed to 40 in a non-ESP section. Students work individually or in small groups on specially crafted problems that are unusually challenging. ESP also provides a social support group among students with similar academic goals by planning activities that link social interests with scholarly ones.

POPULATION

In 1993, 7992 mathematics, science or engineering degrees were awarded to Latinos, 9549 to African Americans and 132,254 to whites. In 1994, 35% of African American and 38% of Latino freshmen in four-year colleges intended to major in science and engineering, while only about 12% of African Americans and 14% of graduating Latinos earned a degree in mathematics, science and engineering.

From the program's inception at the University of Texas at Austin in fall 1988 through fall 1995, 445 students participated in ESP, first-semester calculus sections. About 46.5% were Latino, 19.3% were African-American, and 32.4% were white. About 57.3% of the participants were men and 42.7% of the participants were women.

The University of Wisconsin-Madison evaluation also provided another snapshot of an ESP student population: During the fall semesters from 1993-1996, 169 students attended the ESP workshop, including 50% from minority groups, and 50% white students, most from rural backgrounds.

The California Polytechnic evaluation by Bonsangue and Drew compared a group of 133 Latinos and African American students who chose to attend ESP workshops with three groups of students in the same calculus section: a group composed of 187 African American and Latino students, a group with 208 white students and a group with 198 Asian/ Pacific Island students.

The University of Texas at Austin evaluation indicated that ESP students were more successful than non-ESP students. Students who participated in ESP had odds of earning an A or B almost five times higher than non-participants. The differences between African American and Latino participants and non-participants were significant at the .01 level.

University of Wisconsin-Madison evaluators reported that ESP students were twice as likely to receive a B or better in calculus than their non-participating counterparts. The Wisconsin evaluation also suggested that the positive effects of ESP persisted: ESP students maintained higher success rates in second and third semester calculus than non-participants. But the same evaluators also found that participation in ESP had no visible effect on retention rates in mathematical-based fields of study.

At California State Polytechnic University, Pomona:

- ESP participants achieved a mean grade in calculus more than six-tenths of a grade point above non-ESP students (on a four-point grade point scale).

Universities adopt the following ESP components to fit their local resources, strengths and needs:

- Upon acceptance to a participating college or university, African American, Latino and Native American students who had the potential to declare mathematics-based majors received a letter and personal telephone call from a faculty member or student workshop leader inviting them to attend an informational meeting explaining the program. In addition, recruitment of students occurred at college and university summer orientation programs, during which, ESP staff informed potential students about the opportunity to participate.

"ESP helps me spend more time on math than I might on my own."

— ESP student

- Within three years after entering the institution, 52% of non-ESP students had withdrawn from the institution or changed to a non-mathematics based major, compared with 15% of ESP students.

- As a result of course failure, non-ESP students required an average of one quarter more to complete their three-quarter calculus sequence. Nearly half of non-ESP students required five or more quarters to complete a three-quarter calculus sequence, compared with 17% of ESP students. Ninety-one percent of ESP students who were still enrolled in a mathematics-based major after three years had completed their mathematics requirement in their major, compared with 58% of non-ESP students.

- Of Latino women still enrolled after three years, 86% of ESP students remained in a mathematics-based major compared with 52% of non-ESP participants from the same group.

- ESP discussion sessions were connected to freshman calculus lectures. ESP sessions met for longer than non-ESP sessions (six hours per week compared with two hours per week). ESP sessions also met for two hours at a time rather than one. ESP sessions, which typically included no more than 24 students, were smaller than average discussion sessions, which included up to 40 students. Peers – a graduate student teaching assistant as well as 1-2 undergraduate ESP alumni – led the discussion sessions. Specially crafted problems were distributed to discussion sessions encouraging students to explore the challenging aspects of mathematics.

- A connection between students' academic and social lives was fostered through organized activities in which ESP students are encouraged to participate, such as common meal time, workshops coordinated by local employers and concerts.

Comprehensive Academic Advising
ESP staff advised students not only on academic matters but also on non-academic matters that could possibly derail a student's academic career. ESP staff kept themselves apprised of current academic and social supports available for students, and they helped students make informed choices about their academic careers.

Small Learning Communities
ESP discussion sessions became an integral part of the academic structure of the host schools. ESP students and staff alike never felt they were participating in a separate or adjunct program, but did feel they were part of a close-knit learning community.

Engaged Learners and Instructors
ESP's combination of academic and social outlets led to often lively discussions with students explaining their solutions to both academic and non-academic problems. Bonsangue and Drew, in their 1995 evaluation, found that there was often an informal element in ESP discussion sessions, with students munching popcorn or pizza while they worked. This setting fostered a high level of personal involvement from the ESP instructor, who was often the first to become aware of students' personal, financial or logistical problems.

Rigorous Curriculum
ESP instructors crafted problems that were exceptionally difficult, but still related to the current lecture sessions. As the group struggled together, their information exchange became unusually efficient and their love for mathematics and confidence in pursuing mathematical careers seemed to follow.

STUDY METHODOLOGY

The University of Texas, Austin, evaluation by Moreno et al. reviewed the records of 1565 students who had attended a calculus class with an associated ESP section. Of the students, 445 participated in the program. Students with quantitative SAT scores below 460 were excluded from the analysis. Calculus success was defined as students earning A or B in the course.

The Wisconsin University evaluation by Kosciuk analyzed scores of all first-semester freshmen, 18 or 19 years old, who were enrolled in the first semester calculus lectures. Success was defined as a B or above in courses and retention in the College of Engineering or in a science, math or technology major. Researchers compared 169 program participants with 3,871 non-participants. Researchers matched the participant and comparison groups in terms of race, ethnicity, gender, income level and prior achievement (through SAT scores). Results are significant at the .05 level.

The California Polytechnic evaluation by Bonsangue and Drew was the first longitudinal study of the effects of ESP on persistence and achievement of minority students enrolled in mathematics, science and engineering majors. Evaluators compared a group of Latinos and African Americans who had attended at least one ESP workshop to peers who were attending the same lecture sections of first-quarter calculus, but had not participated in the workshops. There were no statistically significant differences between minority students in the workshop and comparison group in four pre-college academic measures (SAT-Math, SAT-Verbal, high school GPA and score on the precalculus placement exam). The two minority groups (workshop and comparison) had lower pre-college measures than their white and Asian peers.

EVALUATION & PROGRAM FUNDING

The evaluations were either published articles in education-related journals, or were funded by universities that host ESP. ESP is funded by the host colleges and universities. Within those sponsoring universities, often, ESP funding is shared by the Office of the Dean and math and science departments.

GEOGRAPHIC AREAS

ESP – or programs similar to it – are in place in more than 100 colleges and universities nationwide.

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"Getting to the Right Algebra: The Equity 2000 Initiative in Milwaukee Public Schools" (April 1999) Manpower Demonstration Research Corporation, by Sandra Ham and Erica Walker.

Focus

- Early Childhood
- Primary School
- Middle School
- ✓ Secondary School
- Postsecondary
- Extended Learning

POPULATION

Since 1990, over 700 schools and more than 500,000 students in 14 school districts have taken part in the Equity 2000 program. The national evaluations focused on students in 7 school districts: Fort Worth, TX; Milwaukee, WI; Nashville, TN; Prince Georges County, MD; Providence, RI; San José and East Side Union, CA. During the final school year of the national evaluation (1995-96), the student population in Equity 2000 districts was 47% African American, 28% white, 17% Latino, 6% Asian American, and less than 1% Native American. The proportion of minority students in most, if not all, of these districts has increased since the 1995-96 school year.

The College Board first piloted the Equity 2000 program in 1990 in Fort Worth, Texas in an attempt to increase college acceptance, attendance and success rates for minority students. The standard that drives this district-wide reform model is an expectation that all students will take Algebra I in the ninth grade and geometry in the tenth grade. Equity 2000 promotes academic enrichment for all students through the elimination of low-level curriculum tracking. Teachers trained by College Board staff implement an improved curriculum in all Algebra I and geometry classes, and extra help is offered to students struggling to meet the new standards. In short, the aim of Equity 2000 is "to demonstrate that a single, relatively simple policy change, requiring Algebra I and geometry for all students linked to specific programmatic interventions, could reduce the under-representation of minority and disadvantaged students in higher education."

Between 1991 and 1996, the percentage of students enrolling in and passing Algebra I and geometry (or more advanced math classes) by the ninth and tenth grades, increased in the 7 districts.

- The proportion of students enrolled in Algebra I or higher-level math courses by the ninth grade increased for African Americans (45%-72%), Asians (63%-78%), Latinos (40%-72%) and whites (59%-75%).
- The proportion of students passing Algebra I by the end of ninth grade increased for African Americans (34%-41%), Asians (60%-65%), Latinos (31%-38%), and whites (49%-54%).

- The proportion of students enrolled in geometry or higher-level math courses by the tenth grade increased for African Americans by (34%-52%) Asians (59%-64%), Latinos (21%-39%), and whites (49%-61%).

- The proportion of students passing geometry by the end of tenth grade increased for African Americans by (29%-40%), Asians (57%-58%), Latinos (17%-29%) and whites (44%-52%).

Only 3 of the 7 sites had achieved the program's stated goal (100% enrollment in Algebra I by the ninth grade) by 1995/96.

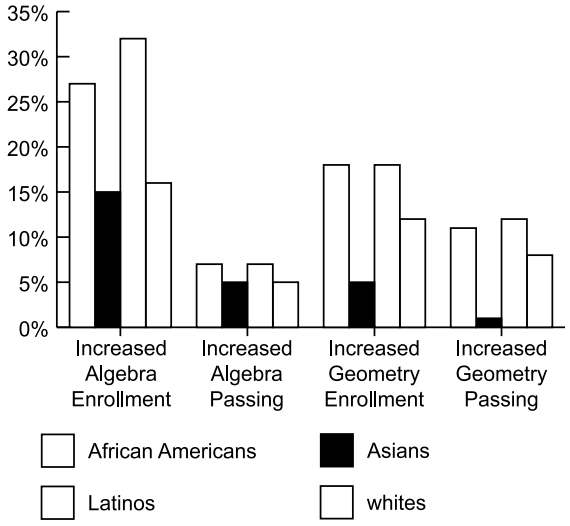
The gap between the proportion of African American and white students taking the SAT in Equity 2000 districts either decreased or remained the same between 1991 and 1996, however, the gap between Latino and white students increased.

Evaluators of Equity 2000 in Milwaukee found that between 1991 and 1997 the program:

- More than tripled the percentage of ninth graders in MPS taking Algebra I or higher level math: from 31% to 99%.

- Increased Algebra I enrollment of African American, Latino and Asian students by 75%, 78% and 67%, respectively.

Equity 2000: Increasing Enrollment and Passing Rates in Algebra I and Geometry (1991-1996)



- Nearly doubled the percentage of MPS students completing Algebra I by the end of ninth grade: from 25% to 55%. (The gain was significant for all students, but an achievement gap remained for all minority groups except Asians.)

- Trained 85% of the MPS math teachers from grades 8-10.

Milwaukee evaluators also noted, however, that nearly half (47%) of the MPS ninth graders who took Algebra I in those years did not pass the course.

The College Board worked with various high poverty or high minority school districts across the country to implement Equity 2000 with the following components:

- Letters of Agreement signed by the school districts and Equity 2000 ensured that both partners had shared goals and agendas. The districts agreed to implement required Algebra I and geometry courses for all ninth and tenth graders in order to prepare them for college-level mathematics. Individual sites worked with the College Board to create time lines for implementation.

- Staff from the College Board worked with administrators, counselors and teachers in intensive summer workshops and in-service training sessions throughout the school year. This professional development began up to two years before implementation of new mathematics requirements in each district. In Milwaukee, algebra and geometry study groups with high school math teachers and professors from the University of Wisconsin—Milwaukee (UMW) provided undergraduate credits and time for teachers to work on curriculum design.

- Voluntary Saturday Academies (for students) and summer math programs provided additional tutoring, algebra readiness classes, practice for high school proficiency exams and make-up courses for students in grades 8-12 who struggled with, or did not pass, the newly mandated requirements. In Milwaukee, Saturday Academies were sometimes held on the UMW campus.
- Parent Academies and program counselors helped parents understand the importance of math literacy to students' college access and success. Parents also joined students and counselors on field trips to the Historically Black Colleges and Universities (HBCUs).

High Standards/High Expectations
Equity 2000 was founded on the expectation that all students can complete the math requirements necessary for college admission. Program counselors encouraged all students to take advanced math courses in high school and investigate college opportunities.

Extra Supports
Voluntary Saturday Academies and math summer programs were extended learning opportunities that served as "safety nets" to catch students who began to falter when districts mandated tough new math standards. Yet, because of the optional nature of the extended learning opportunities, teachers report lower than expected attendance.

Professional Development
Evaluators indicated that ongoing professional development was crucial to the implementation of the demanding curriculum changes mandated by Equity 2000.

Transition Focus
Mandating mathematics courses that were prerequisites for college admissions facilitated access to higher education for all students in the district. Field trips to HBCUs and other colleges expanded students' educational aspirations.

Unintended Consequences
High failure rates of mathematics courses were an unintended consequence of the new Algebra I and geometry mandates, despite the fact that each district planned and trained teachers for two years before implementing the tough math requirements.

Evaluators from the Pelavin Research Center concluded: "Although a greater proportion and a larger number of minority students enrolled in and passed Algebra I and geometry, they [still] lagged behind their white peers."

Evaluators did not explain the fall off in college attendance for Asian students reported in the follow-up study.

STUDY METHODOLOGY

"The Equity 2000 Evaluation" focused on the five-year demonstration project of Equity 2000 in 7 sites. The sites were chosen to participate due to their commitment to minority achievement. Evaluators collected data from students' records, surveys of teacher and counselors, observation of mathematics classes and focus groups with school personnel. The 7 sites had over 300,000 students. "Getting the Right Algebra" evaluates the implementation of Equity 2000 in Milwaukee and utilizes district and program data collected annually. They also used interviews and focus groups with school administrators, teachers, guidance counselors and funding staff.

EVALUATION & PROGRAM FUNDING

The College Board funded both the evaluation and the program, providing more than $25 million to the districts that implemented the reform between 1991 and 2000. The Milwaukee study was a preliminary report conducted by MDRC. Funding for a full MDRC study never materialized.

GEOGRAPHIC AREAS

The Equity 2000 sites covered by the evaluation were in Fort Worth, TX; Milwaukee, WI; Nashville, TN; Prince George's County, MD; Providence, RI; San Jose Unified School District and East Side Union, CA.

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Focus

- Early Childhood
- Primary School
- Middle School
- ✓ Secondary School
- Postsecondary
- ✓ Extended Learning

Started in 1986, Gateway to Higher Education is an intermediary organization that now supports a comprehensive four-year, secondary school program in 11 New York City high schools. The organization is administered through the City University of New York and it prepares students for higher education and for careers in science, medicine and technology. Gateway includes summer enrichment programs, Saturday Academies, tutoring, counseling, internships, college visits, cultural awareness activities, advanced laboratory work, SAT preparatory classes and required Advanced Placement courses.

POPULATION

Gateway is aimed at students who are under-represented in mathematics, science and medical careers. To enter Gateway, students must score at least at the 50th percentile on New York City's Seventh Grade Math test and the Degrees of Reading Power test, have regular attendance, and generally have grades of 80 or better (on a 100-point scale). Since 1986, Gateway has served more than 3500 students. In the 1999-00 school year, the program served 801 students. In that year, 67% of the students were African American, 31% Latino, 1% Asian and 1% other. Nearly two thirds (62%) of the participating students were female. Through an analysis of students' zip codes and census data, the author of the 1997 evaluation determined that Gateway students come primarily from low-income or lower-middle income families. The racial/ethnic demographics of the program at the time of the 1997 study were as follows: 57% African American, 26% Latino, 12% Asian, 5% Native American, Caucasian and other.

During the 1999-2000 school year, 137 Gateway students (all of the seniors and some juniors) took the SAT. Their average scores are reported in the table below and compared to national mean SAT scores from 2000. [See Table.]

By the spring of 2000, 97% of Gateway graduates had been accepted to four-year colleges for the following fall. Of these:

- Forty-one percent were accepted to SUNY or CUNY colleges.
- Twenty-five percent were accepted to Ivy League or "highly selective" schools.
- Thirty-four percent were accepted to "selective" colleges (as rated by Barron's College Dictionary).

The 1997 Gateway evaluation reported course-taking, test-taking, standardized test scores and other measures of academic achievement for Gateway students compared to the overall New York City high school population, a comparison group of city students, and to subgroups.

Course-taking (1992 figures):

- Gateway students were much more likely to take advanced math and science courses than were US high school graduates in general (98% vs. 52% took "Math III").
- Gateway students were more likely than US high school graduates to have taken chemistry (97% vs. 56%) and physics (83% vs. 25%).

"Gateway requires students to engage in rigorous academic content and to avail themselves of ancillary opportunities such as internships, tutoring, and college visits. It provides guidance and resources (such as paying for the SAT) so that students stay on track to higher education."

—Education Development Center evaluators

- African American Gateway students were much more likely than all African American high school graduates to have taken chemistry (95% vs. 46%) and physics (90% vs. 18%).

Test-taking: (1997 Evaluation)

- Gateway students took the state-wide, Regents exam at a much higher rate than a matched comparison group of New York City high school students (e.g., 96% vs. 24% took the Chemistry Regents Exam; 76% vs. 14% took the Physics Regents Exam).
- Gateway students were more apt to take the SAT test (93% vs. 15% of the comparison group took the SAT at least once).

Standardized test scores (1993-94):

- Thirty-seven percent of Gateway students took the Biology AP test. Their mean score was 3.29, which was higher than the mean score of 2.98 for all Biology AP students and higher than the mean scores of 2.11 for African American students and 2.62 for Puerto Rican students.

	Gateway SAT Averages (1999-2000)				National SAT Means (2000)		
Race/Ethnicity	**Number**	**Verbal**	**Math**	**Combined**	**Verbal**	**Math**	**Combined**
African American	91	480	520	1000	434	426	860
Latino	42	500	530	1030	453	460	913
Asian	4	500	600	1100	499	565	1064
White	0	—	—	—	528	530	1058

- Gateway students' mean AP Chemistry score was 2, lower than the national mean of 2.86 and the mean score for Puerto Rican students (2.3), but at the same level as the mean AP Chemistry exam score for African Americans (2.02).

College Retention (1996):

- A 1996 survey of 330 Gateway alumni, administered by the program, revealed that 74% of the alumni had graduated or would graduate from four-year colleges or universities within five years. Only 8% of the respondents had dropped out of college. Fifty-nine percent of them remained in a science-related major or profession.

"High expectations for all students have been part of the rhetoric for several decades, [but] until recently, responsibility for success was still laid mainly on the student and barely on the system. Gateway was developed based on the assumption that responsibility for success needs to be equally shared by the student and the system."

—Education Development Center evaluators

Each Gateway school has a coordinator and a team of teachers who stay with the students throughout their four years in high school. The program is based on a strong belief that high expectations for all students, a demanding curriculum and a strong support system can lead to student success. Though each high school has a slightly different Gateway initiative, the shared program components are:

- An extended school day, including a double period of mathematics or science with a laboratory component and after-school tutorials.
- An extended school year (11 months), including a month-long summer program for students entering the ninth grade and academic summer programs for juniors and seniors at high-level universities and research institutes.
- Classes composed solely of Gateway students, especially in mathematics and science, with a maximum enrollment of 25 students.
- Four years of regents-level science, mathematics, social science, foreign language courses and an average of three Advanced Placement courses for all Gateway students.
- The expectation that all Gateway students will take the SAT (and the program pays for the test).
- Information about college, beginning in the ninth grade, including an annual college fair, college visits, PSAT and SAT preparatory classes and seminars for parents.
- Enriching activities, including exposure to professionals in science, field trips to museums, the theater, opera and symphonies and after-school experiential internships.

In 1997, Gateway cost $1,600 more per student per year than the mean New York City per pupil expenditure (mean not given in report).

Staff Qualifications

Teachers for Gateway are carefully selected, based on their qualification to teach the assigned course, their teaching experience, their willingness to put in the time and effort required to push Gateway students and their ultimate belief that the students can succeed.

Teacher Investment and Collaboration

"The commitment above and beyond their contract that Gateway teachers invest, and the opportunity that teachers have to talk with each other and be part of a team of educators" is important for the program's success, according to EDC evaluators.

High Expectations
According to the EDC evaluators, "High expectations for all students have been part of the rhetoric for several decades, [but] until recently, responsibility for success was still laid mainly on the student and barely on the system. Gateway was developed based on the assumption that responsibility for success needs to be equally shared by the student and the system."

Small Learning Community
All of the participants in Gateway (students, teachers, and program administrators) talked about "the sense of connectedness they enjoy as part of a small entity within a large institution."

Leadership Continuity
Gateway has had the same co-directors since it was founded in 1986, contributing to its consistent sense of purpose and mission.

Community Partnerships
Gateway has formed institutional partnerships with the Museum of Natural History, colleges, universities, medical schools and laboratories. For instance, a partnership with Cold Springs Harbor DNA Learning Center involves students in advanced scientific research.

STUDY METHODOLOGY

The 1999-2000 report was not a formal, independent evaluation, and it did not include a comparison group. Instead, the report focused on the achievement of Gateway students at various high schools, with special attention to how juniors and seniors in the program did on Regents' tests, AP tests, college entrance examinations and in-college enrollment. In the 1997 evaluation, researchers compared outcomes for 136 Gateway students who had expected to graduate in 1993 (because they had baseline scores on seventh grade math and reading tests) to those of a comparison group of 136 non-Gateway students. These groups were matched according to age, gender, race/ethnicity and math and reading scores. They lived in neighborhoods with similar levels of poverty. Researchers also analyzed an existing database, conducted a series of interviews and focus groups with program participants and graduates, visited 5 Gateway high schools, interviewed college admissions staff and administered a survey to 1990 and 1991 Gateway graduates. They also compared SAT and Achievement test scores of Gateway students with national averages.

EVALUATION & PROGRAM FUNDING

The 1997 evaluation was funded by the Aaron Diamond Foundation. The Gateway program and the 1999-00 Final Report were funded by the City University of New York Medical School and the New York State Education Department. Through STEP, the New York State Department of Education funds 10% of the Gateway and requires an evaluative annual report.

GEOGRAPHIC AREAS

Gateway operates in 11 New York City public high schools, including: Adlai Stevenson High School, Bayard Rustin High School for the Humanities, Brooklyn Technical High School, Erasmus Hall Campus Magnet, Jamaica High School, John F. Kennedy High School, Port Richmond High School and others.

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Focus

- Early Childhood
- ✓ Primary School
- ✓ Middle School
- ✓ Secondary School
- Postsecondary
- ✓ Extended Learning

The GE Fund began the College Bound program in 1989 as a funding initiative to reform high schools (especially in inner-city communities) near General Electric Company facilities. GE provided five-year grants of between $250,000 and $1,000,000 to 19 high schools in 17 communities. The goal of the program was to double or significantly improve the college-going rates either for schools as a whole or for substantial, targeted groups of students within these schools. The funds were for both school-wide reforms and efforts targeted at smaller groups of students. Although the GE Fund required recipients to make changes in the curriculum, professional development and services necessary to improve college-going significantly, the fund did not stipulate what these changes should be, only that GE employees be involved with the program design and as volunteers in its implementation. The schools and their GE partners came up with a mix of strategies that included design of new, college-oriented classes, professional development, homework assistance, college counseling, tutoring, mentoring, after-school/summer school programs, SAT preparation courses and college visits.

POPULATION

Located in both urban and rural areas across the eastern United States, the schools involved in the College Bound program range in racial and ethnic diversity, in students' family income and in college-going rates before the program. The overall student demographics of the College Bound schools are: 45.4% white, 39.4% African American and 13.1% Latino, with 43.4% of the total student population eligible for free or reduced-price lunch. The base year (pre-College Bound) college-going rates of graduates also varied across the sites, ranging from 21.8% at East High School in Erie, Pennsylvania to 92% in New York City's Manhattan Center for Science and Mathematics.

After reviewing the evaluation findings in 2000, the GE Fund board of directors approved a $10 million, five-year extension of the program. The expansion of the College Bound initiative will stress K-12 or K-16 programming, continuation of activities at the sites that have demonstrated effectiveness and inclusion of new program sites.

Evaluators compiled graduation and college-going data only for the 10 schools that had been affiliated with College Bound for at least five years.

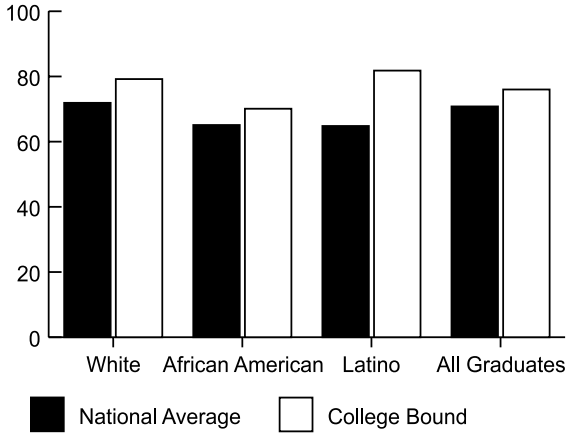
- Of the five schools that started the program with less than half of their graduates going to college, 4 of them more than doubled their rates of college enrollment within five years of the start of the program and the fifth had an increase of 82%: For instance, Valley High School (Albuquerque, N.M.) increased their college going rate from 26% to 57%, Aiken High School (Cincinnati, Ohio) increased rates from 23% to 47.4% in the same period and Southern High School (Durham, N.C.) increased rates from 43.5% to 79%.

- The five sites that started the program with higher college going rates, also showed increases, although more modest. For instance, Hendersonville High School (Hendersonville, N.C.) increased from 81.5% to 100%. The smallest increase in the group was Parkersburg South High School (W.VA), which increased from 51.2% to 57.5%.

- Seventy-six percent of College Bound graduates enrolled in college, 5% more than the national average of 70.8% for all high school graduates.

- White, African American and Latino students in College Bound all enrolled in college at rates higher than the national averages for these groups. The gain in college enrollment was greatest for Latino students (17%).

College Enrollment Rates for College Bound Graduates vs. National College Enrollment Rates



When compared to the national averages for various racial or ethnic groups, College Bound graduates were also more likely to enroll in four-year colleges and universities:

- African Americans (55.7% College Bound vs. 42.4% national average)

- Latino (60.6% College Bound vs. 30.5% national average)

- Whites (52.8% College Bound vs. 47.1% national average)

College Bound participants not only *enrolled* in college at higher rates than the national average, but they also *stayed* in postsecondary education longer than other college students. According to a survey of 161 College Bound alumni, 141 (87.9%) were still in college after one year (compared to a national college retention rate of 70%).

The number of students taking college entrance exams like the SAT and ACT increased in all of the schools that had been using College Bound funds for at least five years. But the College Bound program seemed to have little impact on

"It's all they talk about . . . SAT prep classes, how to fill out financial aid forms, college trips. Once you're in [College Bound] they start to implement it in your mind. It's just like everyone focuses on college, college, college. After a while, it's just like you have peer pressure; it's sort of like you latch on. Once you see other students interested . . . you sort of fall into the boat."

—GE Fund College Bound Graduate,
Manhattan Center for Science and Math,
New York, NY

standardized test scores, overall graduation rates or the dropout rates of the schools as a whole.

The GE Fund supported innovative curriculum changes and program activities to improve college access for students at the selected schools. Evaluators examined 15 College Bound schools and the majority of them used the following components:

- College visits (100%)
- Partnerships with a college or university (93.3%)
- In-school tutoring/homework assistance (93.3%)
- Individual college counseling (93.3%)
- SAT/ACT preparation courses (93.3%)
- Tutoring from non-GE volunteers (93.3%)
- Computer equipment/labs (86.7%)
- Financial aid and choosing a college workshops (86.7%)
- Parent information sessions (80%)
- Summer workshops and summer school (80%)
- Science equipment/labs (73.3%)
- Career Centers (73.3%)
- Community service/service-learning (73.3%)

"This little program, it just gives you that extra you need to get over. When I first started doing College Bound this year, at the beginning of the year [I started] filling out applications and all the money stuff; that's a long process. You know without this program and Ms. K. and Mr. C. I'd still be trying to figure out certain things and get my applications filled out."

—GE Fund College Bound Student, Aiken High School, Cincinnati, OH

- Mentoring with GE employees (73.3%)
- College application assistance (66.7%)
- New Advanced Placement classes (66.7%)
- Enhanced professional development (66.7%)
- Enhanced business partnerships (66.7%)
- GE scholarships (60%)
- Tutoring by GE employees (60%)
- Mentoring by non-GE employees (60%)

Program Funding and Longevity

The substantial size and long-term support of GE Fund grants—at least $250,000 for five years—gave adequate time and resources to plan and implement the reforms necessary to improve school-wide academic achievement. Seven of the 12 College Bound sites that had completed their initial grants at the time of the evaluation continued to implement College Bound program and curriculum innovations. The 5 others had not sustained their initial efforts for a variety of reasons.

Clear and Simple Mission

The clear goal of doubling or significantly increasing college attendance for program graduates gave schools and students an identifiable measure of program success.

"GE and strong companies realize that merely competing to hire the exceptions, merely harvesting the best from the blighted fields of our urban school systems, is a practice devoid of vision and ultimately self-destructive."

—John F. Welch, Jr., Former Chairman and CEO of General Electric Company

Individualized Student Support

"Conversations with College Bound students tend to echo a single theme: it was a person and not a program that made the difference in their lives. In some cases it was school staff, in others it was a mentor from GE. But the consistent message was that the encouragement and support of adults helped students move through the system," according to the evaluation team.

Strong Leadership
Frequent leadership turnover or weak support hampered programmatic reform efforts. Strong leadership exhibited by the schools and their GE partner "champions" proved essential for program sustainability.

Comprehensive Reform
The evaluation team noted that the comprehensive nature of the reforms was key to the success of the GE Fund program. "While targeted programs can impact a limited number of young people, school-wide efforts are more likely to reach to the core of the school's educational processes and the changes that they bring about . . . are more likely to sustain improvements beyond the term of any single grant."

Employer Involvement
The evaluation team documented the fact that more than two-thirds of the schools had GE mentors and half had GE tutors. However, the total number of mentors and tutors involved in the program each year was relatively small (218 for over 4000 students). Twenty-nine percent of the sites offered summer jobs for students and 14% had a GE internship program.

STUDY METHODOLOGY
The evaluation team collected school data on college-going and program characteristics and supplemented this information with student focus groups and telephone surveys of two cohorts of College Bound graduates. They visited all 17 College Bound sites at least once and conducted interviews with program staff, school and district administrators, and GE staff and volunteers. Comparisons were made with national data from the U.S. Department of Education.

EVALUATION & PROGRAM FUNDING
The evaluation was conducted by the Center for Human Resources at Brandeis University (currently known as the Center for Youth and Communities). Support for the College Bound program and its evaluation came solely from the GE Fund.

GEOGRAPHIC AREAS
At the time of the study, GE Fund College Bound sites were located in Lowndes County, AL; Louisville, KY; Lynn, MA; Albuquerque, NM; New York City, Ossining, and Schenectady, NY; Durham, Hendersonville, and Wilmington, NC; Cincinnati and Cleveland, OH; Erie, PA; Florence, SC; Houston, TX; Richmond, VA; and Parkersburg, WV. New sites have been added since the study was completed.

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Focus

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- Postsecondary
- Extended Learning

Head Start is a federal matching program started in 1965 as part of the "War on Poverty." It offers a comprehensive array of services to economically disadvantaged children, ages three to five, including health care, learning activities and social skills development. The goal is to provide children in poverty with the necessary health and intellectual support so they can start elementary school with foundations similar to more advantaged children. The program requires that 90% of participants come from families living below the poverty line. Ten percent of the openings must be set aside for children with disabilities. The Head Start Bureau indicates that, since its beginning, Head Start has served nearly 17 million children and their families. In Fiscal Year 1997, 793,809 children have been served in both Head Start classrooms and home-based programs. Of these, 36% were African American, 31% white and 26% Hispanic. Sixty-one percent of the families served had incomes of less than $9,000 a year. Federal funding for the program in FY 1997 was nearly $4 billion, with an average cost per child of $4,882.

POPULATION

The sample for this study was taken in 1990 and included 4,787 children aged three years and older, who had at least one sibling over three years old. Of these, 69% were white and 31% were African American. Among the white children, 14% had attended Head Start, 35% went to a non-Head Start program and 51% did neither. Among the African American children, 32% had been in Head Start, 25% went to another type of preschool and 43% did neither. The sample showed that Head Start children, when compared to those attending preschool, tend to have families with lower income levels, and mothers and grandmothers who have fewer years of schooling. African-American mothers of Head Start children are better educated than white mothers of Head Start children, but tend to live in households with lower income levels. Family income levels of Head Start children are also lower than those for children who attended no preschool.

When differences between families are controlled, the following outcomes were observed:

Academic Outcomes

- Children who participated in Head Start showed statistically significant (nearly seven percentage points) increases in vocabulary test scores when compared to their siblings who did not attend the program.
- White children who participated in Head Start were 47% less likely to repeat a grade later in elementary school when compared to their siblings who did not attend the program.

- African American children were found to lose benefits gained from Head Start faster than white children and, by age 10, they retained no gains, while white children still retained an overall gain of five percentage points.

- Participation in other types of preschool programs had no statistically significant effect on test scores or grade repetition.

Measures of health status

- All children who attended Head Start were 8% more likely to be immunized than children who had not attended the program.

- Younger siblings of children who attended Head Start were more likely to be immunized than younger siblings of children who did not attend the program.

"If the factors preventing African American children from maintaining the gains they achieve in Head Start could be removed, the program could probably be judged an incontrovertible success."

—Currie and Thomas, 1995

- No statistically significant differences were found in growth rates for children who attended Head Start compared to children who did not attend the program.

Discussing the different outcomes of Head Start across racial groups, the researchers observed that African American children in Head Start tend to come from more disadvantaged homes and live in poorer communities. Differences in retention of Head Start gains may also be due to differences in the types of schools that these children attended after they left the program.

Head Start provides comprehensive services for children from low-income families, aged three to five. The program is administered by the Administration for Children and Families (ACF), U.S. Department of Health and Human Services.

Grants are awarded to public or private non-profit agencies by ACF Regional Offices and the Head Start Bureau's American Indian and Migrant Programs Branches. The community has to match twenty percent of the program cost.

According to information provided by the U.S. Department of Health and Human Services, Administration for Children and Families, Head Start programs are tailored to the local needs of the participating children and the community served. However, all Head Start programs must focus on:

- education
- nutrition
- socio-economic development
- physical and mental health
- parental involvement

Head Start programs are expected to provide activities that foster the child's intellectual, social and emotional growth, while respecting his or her ethnic and cultural characteristics. The health component includes immunizations, medical, dental and mental health services. Another required component of the program is to provide children with nutritious meals.

Parental involvement is an essential component of Head Start. Parents serve as members of policy councils and committees and participate in administrative and managerial decisions. They also participate in classes and workshops on child development, health and nutrition education. Program staff conduct home visits and work with parents in educational activities that can take place at home.

Among other services provided to families of Head Start children are community outreach, needs assessment, recruitment and enrollment of children, information and referrals, emergency assistance and/or crisis intervention.

Early Intervention for the Most Vulnerable Children
Research indicates that children who are intellectually stimulated from early ages, and receive appropriate health care, will be more likely to succeed later in school and in life. Head Start programs focus on the most vulnerable children, those who live in poverty and/or have disabilities.

Parental Support
The programs do not focus solely on the child. They offer education, information and referral services to participating families, empowering them to raise their children in a healthier and more supportive environment.

Comprehensive Services
Head Start offers a comprehensive array of services for participating children and their families. The program also encourages the communities to use non-Head Start resources so that more children can be reached. In 1996, nearly 68% of Head Start children were enrolled in the Early Periodic Screening, Diagnosis and Treatment (EPSDT), a Medicaid program that pays for preventive medical and dental care for children.

STUDY METHODOLOGY

Researchers used a sample from two national databases: the National Longitudinal Survey of Youth (NLSY) and the National Longitudinal Survey's Child-Mother (NLSCM). The NLSY started in 1979 and has annually surveyed 6,283 women. As of 1990, the women, aged 25-32, had given birth to over 8,500 children. The NLSCM includes the NLSY mothers and their children. To control for family background and differential treatment among children, the researchers contrasted children enrolled in Head Start with siblings not enrolled in the program. These siblings were further divided between those who had not attended preschool and those enrolled in a non-Head Start type of preschool program. To measure academic gains, researchers used the Picture Peabody Vocabulary Test score (PPVT) and the absence of grade repetition. The impact of Head Start on children's health was measured by immunization status (specifically whether the child had been immunized for measles) and growth rates. Regression analysis was used to estimate the effects of participation or non-participation in Head Start in the four measures.

EVALUATION FUNDING

The Alfred P. Sloan Foundation and the National Science Foundation.

GEOGRAPHIC AREAS

All 50 states, the District of Columbia and Puerto Rico have Head Start programs.

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"Does Head Start Help Hispanic Children?"

Journal of Public Economics 74 (1999): 235-262.
By Janet Currie and Duncan Thomas.

Focus

- ✓ Early Childhood
- Primary School
- Middle School
- Secondary School
- Postsecondary
- Extended Learning

Begun in 1965 as part of the federal government's "War on Poverty," Head Start is a preschool program funded by the U.S. Department of Health and Human Services that provides a comprehensive set of services including health care, learning activities and social skill development for economically disadvantaged children ages 3-5. Head Start endeavors to give children from poor backgrounds the support necessary to begin elementary school with the same scholastic potential as more advantaged children.

POPULATION

The program requires that 90% of participants come from families living below the poverty line, and 10% of the openings are set aside for children with disabilities. In Fiscal Year 1998, Head Start served 822,316 children, 35.8% of whom were African Americans, 31.5% white, 26.4% Latino, 3.4% Native American, and 2.9% Asian American. More than 72% of Head Start families had incomes of less than $12,000. This study looks at 750 Latino children from 324 families across the country.

Using data from the Picture Peabody Vocabulary Test (PPVT) and the Peabody Individual Achievement Tests in math and reading (PIAT-Math and PIAT-Reading), evaluators found that Head Start:

- Closes between one-quarter and one-third of the gap in test scores between Latino and white children.
- Closes two-thirds of the gap between Latino and white children in the probability of repeating a grade.[1]

Subgroup Findings:

- Mexican American children in Head Start outperformed siblings who stayed at home and those that attended private pre-schools.
- Puerto Rican Head Start students outperformed siblings in other preschools, but neither group performed as well as Puerto Rican youth who stayed at home.

1. When the evaluators controlled for what they termed observed differences among students (such as family income or age and gender of the child) and "unobserved family differences," they found that Head Start had a stronger positive effect on test scores and on the probability of repeating a grade than private preschooling and no preschooling.

Head Start is administered by the Administration for Children and Families (ACF) in the Department of Health and Human Services. Grants are awarded to public or private non-profit agencies and the community must match 20% of the program costs. Though there is flexibility for local variation and adaptation, all Head Start programs focus on:

- education
- nutrition
- socio-economic development
- physical and mental health
- parental involvement

With these various components, Head Start programs foster children's intellectual, social, and emotional growth, while respecting their ethnic or cultural heritage. Head Start's health services include immunizations, medical, dental and mental health care. Head Start agencies also emphasize community outreach, needs assessment, emergency assistance and/or crisis intervention, and service referral.

Early Intervention

Research indicates that children who receive intellectual stimulation and adequate health care from an early age are more likely to succeed in school and later life. Head Start is an early intervention to ensure that the most vulnerable children—those who live in poverty and/or have disabilities—have the same preparation for success as children from more fortunate backgrounds.

Cultural Sensitivity and Awareness

Head Start programs provide activities that foster children's intellectual, social, and emotional growth, while respecting children's ethnic and cultural traditions. Evaluators suggest that this mix of culturally sensitive social development components helped the children of Hispanic immigrants learn English and assimilate into American culture.

Parental Involvement

Parents serve as members of advisory councils and they participate directly in managerial and administrative decisions for local Head Start centers. They also attend workshops and classes on child development, health and nutrition education. Head Start staff members also conduct home visits and work with parents on educational activities that can take place in the home.

Cost

The Head Start preschool programs cost an average of $4000 per child, per year (1993). Evaluators compared that figure to the amount an average family with a working mother spent on childcare in the early 1990s ($3000) to argue that the government-funded program "may be of higher quality than what many families could afford to buy on their own."

STUDY METHODOLOGY

Evaluators used data recorded from the 1970s to the 1990s in the National Longitudinal Survey of Youth (NYLS) and the National Longitudinal Survey Child-Mother (NLSCM) files. The study compared the achievement of Latino children who enrolled in Head Start with their siblings who did not, with Latino children from other families who attended another preschool or no preschool at all, and with non-Latino Head Start students. The evaluators also disaggregated data for children of immigrants from Mexico and Puerto Rico.

EVALUATION FUNDING

The National Science Foundation and the National Institute of Child Health and Human Development.

GEOGRAPHIC AREAS

All fifty states, the District of Columbia and Puerto Rico have Head Start programs.

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"Final Report of the Evaluation of High School Puente: 1994-1998" (December 1998)

The Carnegie Corporation of New York. By Patricia Gándara with Maria Mejorado, Dianna Gutiérrez and Miguel Molina.

Focus

- Early Childhood
- Primary School
- Middle School
- ✓ Secondary School
- Postsecondary
- Extended Learning

High School Puente (named for the Spanish word for bridge) is a program to help more Latino adolescents successfully bridge the transition from high school to four-year colleges. Latino students constituted the largest population group in the California public schools (41% of the K-12 student population), but they had the lowest participation rates in higher education of all groups. Out of every 100 Latino students in tenth grade, only four qualified for the University of California (UC) system and only one actually enrolled. Puente aims to increase Latino participation in higher education by raising student skills and aspirations through critical thinking and writing instruction, college counseling and mentoring. It provides a focused, supportive and culturally sensitive learning environment that fosters student success. Puente currently operates in 30 high schools across the state of California.

POPULATION

Puente was initially designed to target non-immigrant, English-speaking, Mexican American students as they enter high school in the ninth grade, although Latino students from other countries also participate, as do students of other races/ethnic groups. Classes are comprised entirely of a heterogeneously-skilled Puente cohort of 25-30 students. Puente tries to serve students who demonstrate a sincere desire to excel or improve in school and who "buy into" a college-preparatory ideology. Teachers and counselors from feeder middle schools nominate students, who are selected on the basis of fitting into one of four categories (described under Key Findings).

The 3 Puente case study sites examined in the evaluations collectively included 75 Puente students who began ninth grade in 1994 and a comparison group of 75 non-Puente students (due to student attrition, the final evaluated group was 144 students). The 3 sites chosen were deemed to be representative of all Puente sites with respect to urbanicity, population demographics, location and gender and ethnicity of staff.

The May 1998 evaluation reported college admissions test-taking for matched comparison groups of Puente and non-Puente students, showing that Puente students were more likely to take the PSAT in grades 9-10 and the ACT or SAT in grades 11-12. [See Table.]

The December 1998 study included a comparison of the college-going rates of Puente and non-Puente students (N=144). Puente students were twice as likely to attend a school in the University of California system (7% vs. 4%) or the California State University system (33% vs. 15%).

For the sake of analysis, the December 1998 evaluation also broke the students down into achievement categories as follows:

- Category 1: high achievers with good grades, test scores and motivation (N=38).
- Category 2: high potential students with inconsistent grades and scores (N=52).
- Category 3: students with good effort, but lower grades (N=36).
- Category 4: students with a history of low performance and low effort, but recommended by a teacher as capable of performing at a higher level (N=24).

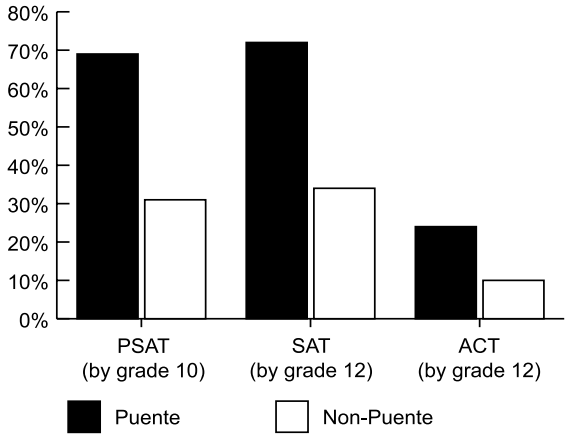
This evaluation also charted percentages of Puente and non-Puente students who completed their college entrance requirements – core academic courses that include English, foreign language, science, math and social studies – which are necessary to be eligible for UC and many other selective institutions, though not necessarily for California State University (CSU).

- More Puente than non-Puente students (44% vs. 35%) completed the UC requirements. With regard to the completion of requirements, the Puente program had its most positive effect on Category 1 students. More Category 1 Puente students than Category 1 non-Puente students completed their requirements (81% vs. 60%).

"With respect to preparation for college, Puente students reported knowing more about what was needed to go on to college; they completed college preparatory coursework at much higher rates; they took college entrance exams in significantly higher numbers than either other Latino or non-Latino students; and they reported much more influence of counselors, teachers and even parents than the other groups."

—Gándara, et al., evaluators, Puente project

Completion of College Entrance Exams (Puente vs. Matched Comparison Group)



- Nearly all of both Puente and non-Puente Category 1 students who applied to CSU were accepted. Differences were more pronounced for other student categories. More Category 2 Puente students than Category 2 non-Puente students were accepted to CSU (64% vs. 32%). More Category 3 Puente students than Category 3 non-Puente students were accepted to CSU (25% vs. 12.5%). More Category 4 Puente students than Category 4 non-Puente students were accepted to CSU (33% vs. 8.3%).
- According to statewide data, Puente students applied to the UC at a much higher rate than their peers (24% vs. 8%). In 1998, Puente students in the matched sample attended four-year colleges at nearly double the rate of non-Puente students (43% vs. 24%).
- The Puente program appeared to have no effect on participants' GPAs, relative to non-Puente students in a matched comparison group.

Puente is operated in public high schools. In each high school, 25-30 students are identified for program participation. These students:

- Enroll in ninth and tenth grade English classes specially designed for Puente. These classes focus on writing and literature, with an emphasis on Latino literature and cultural awareness. Puente teachers receive special training in the curriculum used in these classes. The classes, considered college-preparatory, are for credit and replace English classes students would otherwise take.

- Continue the program as eleventh and twelth graders by receiving intensive, college preparatory counseling. Counseling services include ensuring that students are placed in college preparatory classes, that any deficiencies are quickly noted and addressed and that students are supplied with information necessary to ensure high school success and to gain admission to postsecondary education.

- Have two types of mentors. A "peer partner" who acts as a guide through the early transitions into high school and an adult mentor who introduces the students to new opportunities and roles. A Community Mentor Liaison (CML) seeks out appropriate mentors from the community for the students, trains them and matches them to students in the program. The CML also works with counselors to arrange for appropriate activities for students and mentors and monitors these relationships.

- Attend meetings held at least monthly, with teachers and/or advisors during the school day, after school and in the evenings to discuss specific challenges, develop mentor relationships and talk about current issues impacting life choices. Teachers constantly weave "life lessons" (discussed in Contributing Factors, below) into these meetings.

Puente also ensures that parents have information to ensure high school success and college admission. Parental involvement begins early in the Puente program. A student cannot be accepted into the program unless a parent or guardian requests it and is willing to sign a statement agreeing to support the student in a variety of ways, including by attending parent meetings and events. Parent nights are usually "family affairs" with food, informal conversation, presentations in both Spanish and English and materials and information that are of critical importance to parents, such as information about financial aid or special programs that can help both students and families.

Puente also has as its goal, changing the consciousness of the school and the community about the potential of these students. One result is that the program creates local support networks that can assist Puente by offering resources, financial donations and visibility.

Family and Peer Involvement

The program design allowed for extensive parent-to-student as well as peer-to-peer involvement. Puente provides a framework through which such relationships can be developed and nurtured.

Personal Attention

Evaluators found that Puente was successful in taking students from *where they were* and maximizing their potential. Researchers found that Puente students were far better prepared than non-Puente students for preparing college applications, and the personal counseling they received from both teachers and counselors evidently led them to make critically important decisions that resulted in their taking the appropriate courses and examinations to be eligible for selective institutions such as UC.

Quality Staff
Strong, supportive principals who wove Puente into the culture of the school and quality teachers who wove personal "life lessons" into the curriculum were evident at the most effective Puente sites. These successful Puente sites also showed high levels of dedication and enthusiasm from teachers willing to work in the evenings and after school.

Community Involvement
Evaluators noted that community support, which was not dependent on one key individual, helped ensure the ongoing strength of a Puente program. The more widespread the community support, the more mentors and opportunities available to students.

STUDY METHODOLOGY

This study is the final of four qualitative studies on High School Puente. For the quantitative analysis, the evaluator matched 75 Puente students from across several representative sites with a 75-student, non-Puente control group (due to student attrition, the final evaluated group was 144 students). The evaluator matched students in the control and treatment groups by school attended, gender, ethnicity, socioeconomic background, grades and reading scores upon entering the ninth grade. Data was collected on the two groups over four years. The students were further separated into categories (see Key Findings). Teachers indicated students for each category. The study also includes surveys; school, community and classroom observations; and formal and informal conversations with administrators, teachers, counselors, parents and students (qualitative data was not summarized).

EVALUATION & PROGRAM FUNDING

The Puente evaluation was funded by The Carnegie Corporation of New York. The original Puente pilot projects were supported by the DeWitt Wallace Reader's Digest Fund. Then Puente became largely funded by the state – not by the individual schools – and in 1998 it cost roughly $480 annually, per student. Training of staff to implement the program was partially subsidized by the University of California in the form of in-kind personnel costs.

GEOGRAPHIC AREAS

The Puente project is in 30 high schools throughout California.

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Note: For additional research on High School Puente and other programs to raise Latino student achievement see "Capturing Latino Students in the Academic Pipeline" (1998) Chicano/Latino Policy Project Report. Edited by Patricia Gándara. Available through the Institute for the Study of Social Change, University of California at Berkeley, 2420 Bowditch Street, #5670, Berkeley, CA 94720-5670.

"HSTW Assessment Scores for African American and White Students" (2001) Southern Regional Education Board (Internal Documents). By Gene Bottoms.

"Academic and Vocational Teachers Can Improve the Reading Achievement of Male Career-Bound Students" (1999) Southern Regional Education Board. By Mark Forge and Gene Bottoms.

"A High Schools that Work Case Study: Los Fresnos High School" (2000) Southern Regional Education Board. By Gene Bottoms.

Focus

- Early Childhood
- Primary School
- Middle School
- ✓ Secondary School
- Postsecondary
- Extended Learning

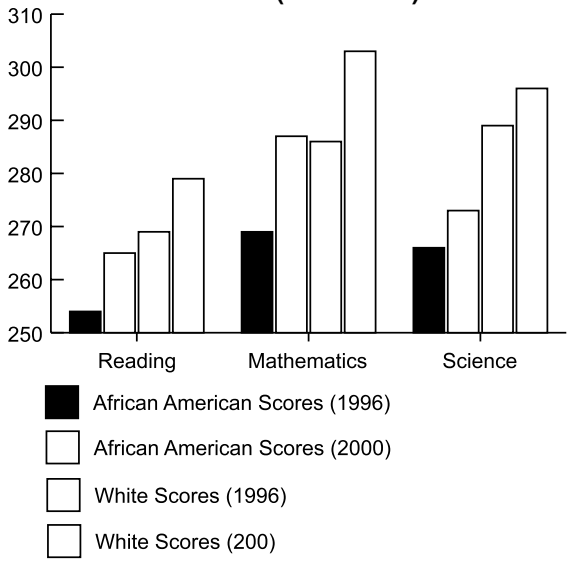
High Schools That Work (HSTW) began in 1987 and is designed to help states raise the academic achievement levels of career-bound students. HSTW, a project of the Southern Regional Education Board (SREB), was first replicated among mostly southern states, but by 2001 more than 1,000 schools in 26 states were using the program. The main goal of the program is to help participating schools replace their general and vocational tracks with an academic core of high-level math, science and English courses, integrated with quality vocational studies, thus helping to raise achievement and broaden students' educational and career opportunities. Schools choosing HSTW, implement systemic reform by changing their curricula, scheduling and resource allocations. To assess results, schools use an HSTW Assessment based on a battery of tests drawn from the National Assessment of Educational Progress (NAEP). (Findings below refer to these tests.) This summary includes a case study of Los Fresnos High School, just north of the Mexican border in Texas. In the early to mid 1990s, Los Fresnos High was labeled a "low performing school" by the state of Texas. The school began to work with HSTW in 1993 to raise graduation requirements and student expectations. The case study summarized in this report charts the achievement gains that ensued.

POPULATION

Nearly 55,000 seniors from HSTW schools across the country took the HSTW Assessment in 2000. That year, 66% of the students assessed were white, 25% African American, 4% Latino and 5% other. Of the students assessed in urban HSTW sites, 72% were African American, 22.5% white, 2.5% Latino and 3% other. In the "Academic and Vocational Teachers" research brief, scores of 444 students who participated in HSTW between 1996 and 1998 are analyzed according to gender and ethnicity. The HSTW case study focused on the Los Fresnos High School, which is in one of the poorest school districts in Texas. Eighty-nine percent of the students are Latino and more than 80% qualify for free or reduced-price lunches. The state classifies 70% of the student population as "at-risk."

SREB measures the effectiveness of its high school reform initiative with an HSTW Assessment that is based on the National Assessment of Educational Progress. Gene Bottoms reported changes in the average HSTW Assessment scores for all students in sites that participated in both the 1996 and 2000 HSTW assessment. Average African American student gains slightly exceeded the average gains of white students in reading (11 vs. 10 point gains), mathematics (18 vs. 17 point gains) and science (7 vs. 6 point gains), although an achievement gap did remain in HSTW schools. Scores were significant at the .01 level (see graph).

Average HSTW Assessment Scores: African American and White Students (1996-2000)



In 1998, HSTW entered into partnership with 55 urban sites. (The number of HSTW urban schools has since grown.) Between 1998 and 2000, African American students in the 55 original urban sites experienced score increases in reading (from 260 to 264) and science (from 262 to 269) while white scores fell in reading (from 281 to 279) but rose in science (from 295 to 299). As in the HSTW schools nationwide, despite minority student gains, the achievement gap persisted in HSTW urban sites. Reading and science score gains were significant at the .05 level, while math gains were not statistically significant.

At the predominantly Latino Los Fresnos High School, SREB measured student achievement with both the Texas Assessment of Academic Skills (TAAS) and the HSTW Assessment. Between 1993 and 2000, TAAS passing rates for Los Fresnos tenth graders jumped in reading (64% to 91%), writing (74% to 96%) and math (40% to 94%). During that same time period, Los Fresnos High School experienced more modest gains on HSTW Assessments, increasing the percentage of students meeting the program's performance goals in reading (30% to 64%), math (50% to 77%) and science (32% to 55%). The HSTW Assessment goals are 279 for reading, 295 for math and 292 for science. Attendance at Los Fresnos rose from 92% in 1993 to 96% in 2000.

Between 1996-98, the percentage of HSTW male students who met performance goals in reading rose from 35% to 44% and scores rose from 266 to 272. Scores rose eight points for white males (from 269 to 274), six points for African American males (from 256 to 262) and four points for Latino males (from 262 to 268).

HSTW is a systemic-change initiative operated through a central intermediary organization, SREB, at a variety of school sites throughout the nation in cooperation with states. In state partnerships, state education officials are asked to assume much of the responsibility for program dissemination, oversight and monitoring. District and school administrators are also asked to commit to the program and its key components (described below). They must share the overall vision and implementation procedure with local schools and teachers and administer assessment tests with continued guidance from the state and SREB. In exchange, HSTW offers:

- A model design with key components.
- Continuity, guidance and technical assistance – in addition to the national office, an HSTW coordinator, employed by the state, is trained to facilitate most aspects of the program.
- Staff development guides.
- An annual, professional development conference for teachers and administrators, which provides instructional support and guidance on managing the program.
- An HSTW assessment system for students based on a battery of tests drawn from the National Assessment of Educational Progress (NAEP).
- Assistance with program evaluation – HSTW conducts evaluations of its schools and compares them to each other on a variety of measures.
- Help locating new funding sources.

With this assistance, HSTW schools are expected to:

- Set higher expectations and get more students to meet them by having students complete a challenging program of study with an upgraded academic core and career major. The higher expectations include increased graduation requirements for general and vocational track students to include four years of college preparatory English, completion of algebra in middle school, four years of math in high school (including pre-calculus, Algebra III or calculus) and three years of science.
- Increase access to intellectually challenging vocational and technical studies, with a major emphasis on using high-level math, science, language arts, problem-solving skills and to academic studies that teach the essential concepts from the college prep curriculum by encouraging students to use academic content and skills to address real-world projects and problems.
- Provide work-based learning, collaboratively planned by educators and employers, resulting in an industry-recognized credential and employment opportunities.
- Allow common planning time for academic and vocational teachers to work together to provide integrated instruction.
- Structure guidance so that each student and his or her parents are involved in a career guidance system.
- Provide extra help to assist students who may lack adequate preparation for an accelerated program of study.
- Use student assessment and program evaluation data to continuously improve curriculum, instruction, school climate, organization and management.

High Expectations

Students who were required to prepare major research papers, short writing assignments, oral presentations and to read several books a year and use computers to prepare assignments had higher average reading scores than other students. At successful HSTW sites, high expectations and standards were adopted by general and vocational students, as well as by parents, school staff and the business community. These translated into tough new graduation requirements for English, math and science.

Specific Learning Strategy
Evaluators found that improved reading achievement was associated with students taught with a "Preparation, Assistance and Reflection (PAR)" research-based framework. During each lesson, teachers prepare students to read purposefully, assist students with their reading and ask students to reflect on what they have read.

Continuous Improvement
Student assessment and program evaluation data were used to continuously improve curricula, instruction, school climate, organization and management – all with the goal of raising student achievement.

STUDY METHODOLOGY

All of these studies relied on test results from the HSTW Assessment, as well as statewide test results, school data, site visits and student and staff interviews. The HSTW Assessment is based on a battery of tests drawn from the National Assessment of Educational Progress (NAEP). The 2000 HSTW Assessment was administered to nearly 55,000 high school seniors at HSTW sites across the country.

EVALUATION & PROGRAM FUNDING

HSTW is funded by states that, in turn, fund the implementing schools. Funds for special HSTW projects are provided by the Appalachian Regional Commission, the Charles Stewart Mott Foundation, the DeWitt Wallace-Readers Digest Fund, the Novartis US Foundation, Project Lead the Way, the U.S. Department of Education and the Whitehead Foundation.

GEOGRAPHIC AREAS

HSTW is headquartered in Atlanta, GA. By 2001, the HSTW program was in place in more than 1,000 schools in 26 states: AL, AR, DE, FL, GA, HI, ID, IN, KS, KY, LA, MA, MD, MI, MO, NJ, NY, NC, OH, OK, PA, SC, TN, TX, VA and WV.

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Focus

- ✓ Early Childhood
- Primary School
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- Extended Learning

POPULATION

The High/Scope Perry Preschool Program served 58 African American children, 3-4 years of age, from low-income homes and deemed at risk of school failure because of environmental factors and low IQ scores. The children participated in the program for approximately two years. In addition to defined classroom activities, teachers visited the children's homes weekly and had monthly group meetings with parents. The longitudinal study tracked participants and control group members until age 27. The study maintained contact with approximately 95% of the initial group.

In the early 1960s, two pioneering projects helped introduce early childhood education in America to young children living in poverty: The High/Scope Perry Preschool Program and Head Start. Both aimed to improve the academic success of low-income children by offering them settings and activities that their home environments did not provide. Head Start, initiated in 1965, was part of the federal government's "War on Poverty." The project was designed by a committee of experts in the fields of preschool education, health, child development and mental health and offered a comprehensive array of services to the child and the family. The High/Scope Perry Preschool project was developed by the Division of Special Services of the Ypsilanti School District, Michigan between 1962 and 1967. The project placed a higher emphasis on education than did Head Start. Follow-ups of project participants and a control group were conducted by the High/Scope Educational Research Foundation at ages 14-15, 19 and 27. This summary reports on the last follow-up, done in 1993.

High/Scope Perry Preschool participants at age 27, compared with members of the control group, had the following statistically significant findings (at the 0.05 level):

- Higher monthly earnings (29% vs. 7% earned $2,000 or more per month).
- Higher percentages of home ownership (36% vs. 13%) and second-car ownership (30% vs. 13%).
- Higher level of schooling completed (71% vs. 54% completed 12th grade or higher).
- Lower percentage receiving social services at some time between ages 18 and 27 (59% vs. 80%).
- Fewer arrests (7% vs. 35% having five or more arrests), including crimes of drug making or dealing (7% vs. 25%).

In addition, as measured on earlier follow-ups, participants, when compared to members of the control group, showed higher:

- Scores on the Adult Performance Level Survey at age 19.
- School achievement at age 14 as measured by the California Achievement Tests.
- Performance on the Stanford-Binet Intelligence Scale from age 4 through 7.

When compared to women in the control group, women who attended the High/Scope Perry Preschool Program had significantly:

- Higher monthly earnings at age 27 (48% vs. 18% earned over $1,000) because they had higher employment rates (80% vs. 55%).
- Fewer children out-of-the wedlock (57% vs. 83% of births) and more program women were married at age 27 (40% vs. 8%).
- Lower participation in special education programs (8% vs. 37%).

When compared to men in the control group, men who attended High/Scope Perry Preschool Program had significantly:

- Higher monthly earnings at age 27 (42% vs. 6% earned over $2,000).
- Higher percentage of home ownership at age 27 (52% vs. 21%).
- Lower receipt of social services at some time between ages 18 and 27 (52% vs. 77%).

"It is essential that we invest fully in high-quality, active learning preschool programs for all children living in poverty. Since the national Head Start program and state-funded pre-school programs now serve fewer than half of these most vulnerable of our children, the nation is ignoring tremendous human and financial potential."

—Schweinhart, Barnes & Weikart, 1993.

An analysis of criminal behavior between program participants and non-participants showed that:

- The mean number of arrests for participant males was 3.8 vs. 6.1 for non-participants.
- The mean number of arrests for participant females was 0.4 vs. 2.3 for non-participants.
- Twelve percent of participant males had been arrested five or more times vs. 49% of non-participant males.
- No participant females had been arrested five or more times vs. 16% of non-participant females.

The average cost of the program per participant was $12,356 (in 1992 dollars) and the average amount of economic benefits was estimated at $88,433 per participant. Benefits included: savings on unneeded special education services, welfare assistance, the criminal justice system process, and higher taxes paid by participants due to higher earnings. Savings by potential crime victims were calculated based on in-court and out-of-court settlements. The benefit-cost ratio of the program was $7.16 returned to the public for every dollar invested in the program.

The educational approach used in the High/Scope Perry Preschool Program is based on the work of Jean Piaget and views the child as an active learner. The main characteristics of the program are:

- A well-defined classroom program operating at least 12 ½ hours each week and relying on a plan-do-review routine.
- Developmentally appropriate practices that encourage child-initiated learning activities (the High/Scope Curriculum is used nationwide in many early childhood initiatives, including some Head Start programs).
- Emphasis on language and literacy, social relations and initiative, movement, music, classification, numbers, space and time.

- Small groups to develop closer relationships between the teacher and the child (the teacher plans the materials but allows children to choose how to use them).
- Circle time (the whole class meets together with an adult for about 15 minutes to play games, sing or exercise).
- Staff highly trained in early childhood education.
- Supportive adults, both in and outside the school (school staff maintained intensive outreach to parents, including weekly home visits).
- A child-staff ratio of no more than 10 children per adult.
- Consistent staff supervision and training (use of a train-the-trainers system).

Empowering Children

In the High/Scope Perry Preschool model, the children were seen as active learners, continuously involved in a "plan-do-review" process. They were encouraged by supportive adults to plan their own learning activities, were offered a materials-rich environment to implement these activities, and had to report on results afterwards. The role of the adult was basically that of guidance and support.

Empowering Parents

Teachers visited parents at least once a week for approximately an hour and a half. The visits involved the child and the parents in discussion and modeling of the child's activities in the classroom. Monthly group meetings helped parents to understand their children's development and abilities. The focus was on helping parents to provide the necessary supports for their child to develop intellectually, socially and physically.

Empowering Teachers

Training and supervision were integral to the program and aimed both to improve the effectiveness of the program and support the teachers. A trained curriculum specialist provided teachers with hands-on workshops, observation and feedback. Currently, the High/Scope Foundation has a nationwide certified trainers program with systematic evaluation. Each High/Scope trainer works with an average of 25 teachers and assistant teachers.

STUDY METHODOLOGY

Of an initial group of 123 children who were eligible for the High/Scope Perry Preschool Program, 58 were randomly assigned to the program and the remaining 65 were assigned to a control group. Data were collected on both groups annually from ages 3 through 11, and follow-ups were conducted at ages 14, 15, 19 and 27. *Significant Benefits* reports on the follow-ups through age 27.

EVALUATION FUNDING

High/Scope Educational Research Foundation.

GEOGRAPHIC AREAS

The High/Scope Perry Preschool Program was located in Ypsilanti, MI.

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Note*: A comparative analysis of Head Start and High/Scope programs can be found in "Is the High/Scope Perry Preschool Better Than Head Start? Yes and No,"* Early Childhood Research Quarterly *(1994), 9, pp. 269-287, by Edward Zigler and Sally J. Styfco.*

"Historically Black Colleges and Universities: Their Aspirations and Accomplishments" (1999) Educational Testing Service. By Harold Wenglinsky.

Focus
- Early Childhood
- Primary School
- Middle School
- Secondary School
- ✓ Postsecondary
- Extended Learning

Most Historically Black Colleges and Universities (HBCUs) were founded during an era when African American students were barred from attending traditionally white, postsecondary institutions. Since the Civil Rights Movement opened the doors of traditionally white colleges and universities to minority students, some policymakers have challenged the continued existence of HBCUs, arguing that they serve no purpose in an integrated system of higher education. In fact, the Supreme Court decision in *U.S. v. Fordice* (1992) required states to "educationally justify or eliminate" all vestiges of segregation, including HBCUs. The study summarized here addressed this issue by assessing the educational benefits of attending an HBCU for both white and minority students. The researcher examined data on general undergraduate retention rates, retention in the fields of science and engineering (disciplines in which minorities are historically under-represented) and post-graduate aspirations.

POPULATION

Today, there are nearly 300,000 students attending 103 HBCUs across the country. On average, 13.1% of HBCU students are white and the vast majority of the remaining student body is African American. In terms of gender, the percentage of male students in HBCUs has decreased in recent years (from 47% in 1976 to 40.9% in 1990). The parents of HBCU students have significantly lower adjusted gross incomes than the parents of students at traditionally white institutions. This study looked at a database of students who took the graduate record examination (GRE) in 1993 and an Association of Universities/Association of Graduate Schools (AAU/AGS) database of graduate student completion (1989-1994). The GRE database of 351,017 undergraduates with aspirations to go to graduate school included 30,203 African Americans (10,669 attended HBCUs). The AAU/AGS database included 14,000 graduate students enrolled in 40 research universities between 1989 and 1994. Out of the 14,000 graduate students in the database, 284 students were African Americans and 34 had attended HBCUs as undergraduates.

This study compared undergraduate completion rates, post-graduate aspirations, choice of majors, graduate program retention and completion of students who attended HBCUs and traditionally white institutions.

Twenty-one percent of all African American undergraduates currently attend HBCUs, and 28% of all degrees awarded to African Americans are from HBCUs.

Using the GRE database of 351,017 students (30,203 African American), the researcher learned that:

- A higher proportion of African American HBCU students aspire to go to graduate school than African American students at traditionally white institutions. About 33% of African Americans who took the GRE in 1993 went to HBCUs, even though only 28% of all African American college graduates had attended HBCUs.

- African American males at HBCUs were more likely to choose a graduate major in science than their peers at traditionally white institutions (22% vs. 15%).

- African American females at HBCUs were more likely to choose a graduate major in science than their peers at traditionally white institutions (16% vs. 9%).

Using the AAU/AGS database of graduate students enrolled in 40 universities between 1989 and 1994, the researcher compared the retention and completion rates for African American HBCU alumni (n=34) and African American alumni of traditionally white institutions (n=250):

"[HBCUs] better prepare Blacks for those professions in which they are most underrepresented. This benefit applies both to Blacks who would have attended a traditionally white institution and to Blacks who might not have attended any postsecondary institution."

—Harold Wenglinsky, ETS Researcher

- By 1994, HBCU alumni were more likely to remain in graduate school or have achieved their PhD than alumni of traditionally white institutions (82% vs. 66%).

- HBCU alumni finished their PhDs faster (5.57 years) than their peers who had attended traditionally white instititions (6.14 years).

- HBCU alumni earned their PhDs at slightly higher rates than alumni of traditionally white institutions (21% vs. 18%), but the small numbers of African American PhDs in the database limited the significance of this finding.

The researcher found that African American students do not have more interactions with faculty at HBCUs than their minority peers at traditionally white institutions. African American HBCU students are also no more likely to engage in community service than minority students at traditionally white institutions.

Relative to traditionally white institutions, HBCUs do cost less to attend. According to the National Post-Secondary Student Aid Study (1989-90), the average student enrolled in an HBCU paid $1945 in tuition annually compared to the $3309 for the average student attending a traditionally white institution.

HBCUs vary greatly in size, mission and funding. There are 103 HBCUs located in 19 states and the District of Columbia. About half (53) of these are private schools. Eighty-nine HBCUs offer four-year degrees and 24 offer two-year degrees and/or certificates. The average enrollment at HBCUs varies from 1000 students to more than 8000 students.

General Graduate Preparation
The researcher interpreted the data on retention and completion of graduate degrees to suggest that HBCUs prepare African American students better for graduate school, though he did not explain what aspects of the undergraduate experience at HBCUs specifically contribute to graduate preparedness.

Encouragement of Participation in the Sciences
HBCUs appear to be more successful than traditionally white institutions in preparing African American students for post-graduate work in the various fields of science, fields in which minority students are often under-represented.

Historically, HBCUs have had two roles: preparing African American students for positions of leadership within their communities and preparing them for graduate and professional schools. The author of this study traces these two educational philosophies back to the teachings of African American educators W.E.B. DuBois and Booker T. Washington.

Affordability
"The affordability of HBCUs . . . may encourage students, who might otherwise either attend a community college or no college at all, to attend a four-year institution." This affordability issue seemed especially important for the minority students who chose HBCUs, since these students came from families with lower incomes than the comparable group of minority students at traditionally white institutions.

STUDY METHODOLOGY

The author of this study analyzed information from the 1993 database of Graduate Record Examinations (GRE) test registrants and a longitudinal database of the American Association of Universities/Association of Graduate Schools (AAU/AGS) Project for Research on Doctoral Education. Though there was no attempt to match the comparison groups on educational achievement, the researcher did determine that the African American students who attended HBCUs in both databases come from lower socio-economic backgrounds than their peers in traditionally white institutions. Their parents had lower average incomes and fewer years of formal education.

EVALUATION & PROGRAM FUNDING

The evaluation was funded by the Educational Testing Service. HBCUs are funded by a mix of public and private funds as well as by student tuition.

GEOGRAPHIC AREAS

There are 103 HBCUs in operation today in the United States. They are located in AL, AR, DE, DC, FL, GA, KY, LA, MD, MI, MS, MO, NC, OH, OK, PA, SC, TN, VA, and WV as well as the Virgin Islands.

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"The Role of Social Capital in Youth Development: The Case of *I Have a Dream*"

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Focus

- Early Childhood
- ✓ Primary School
- ✓ Middle School
- ✓ Secondary School
- Postsecondary
- Extended Learning

"I Have a Dream" (IHAD) is a youth organization providing financial, academic and social support to inner-city public school students throughout the country. Local sponsors, generally wealthy families, adopt an entire class of sixth graders, randomly chosen, and guarantee "last dollar" scholarships for all those who graduate from high school (the sponsor pays for college costs above those covered, for example, by grants and other scholarships). Besides maintaining personal relationships with the "Dreamers," the sponsors hire a project coordinator to facilitate and coordinate services, such as tutoring, employment, volunteering activities, counseling, health and social services. In the two case studies, the coordinators were helped by volunteers from a Princeton program and AmeriCorps members. The premise is that, with personal support and financial resources, inner-city youth will be able to pursue postsecondary education and/or be better prepared to succeed in the workplace. For another study of *IHAD*, see *Some Things DO Make a Difference for Youth*, p. 149.

POPULATION

"I Have a Dream" serves inner-city children, from sixth grade until their graduation from high school. The study focuses on two programs in Chicago. La Familia was based in a youth organization on the city's West Side and served 52 Dreamers. Of these, 31 were Mexican American, 14 Puerto Rican, five bi-racial, one white and one African American. The majority were female (56 percent) and for more than 70%, both parents had not completed high school. Seventy percent had families with incomes below $20,000. Ninety-four percent of the initial Dreamers stayed in the program until graduation. Project Success was located in a church on the South Side of Chicago and served 40 Dreamers, all African Americans. Fifty-eight percent were female. The mothers of 55% of the group had some high school education (the researchers could not gather reliable data on more than half of the fathers). Eighty percent lived in families with incomes below $20,000. Ninety percent of Project Success' Dreamers stayed in touch with the program beyond graduation.

Researchers compared Dreamers to students from previous sixth grade classes at the same schools who had not participated in the program. When compared to the control groups, Dreamers showed:

- Higher graduation rates from high school (graduation rates for Dreamers were 71% and 69%, double the 37% and 34% rates for the control groups; 6% of the Dreamers in the West Side program passed the GED).
- Higher enrollment rates in two- and four- year colleges (63% and 67% of the Dreamers enrolled in college, almost three times the control group rate, estimated at 20% and 18%).

Of the Dreamers who went to college, 78% enrolled in 4-year institutions.

The programs are tailored to the needs of the individual Dreamer. Key components, common to all programs, are:

- Long-term personal relationships (the project coordinator and the sponsors maintain personal contact with the Dreamers throughout the duration of the program and, in many cases, even after the Dreamer enters college).
- Working with the families (services are procured not only for the Dreamers, but also for their families, when needed; despite some conflicts with a few parents, mostly on issues of values, the relationship between staff and families tended to be supportive).
- Linkage to existing community services (Alcoholics Anonymous, battered women's shelters, foster care, legal services, planned parenthood, summer jobs or homeless shelters).
- Help with finding jobs and enrichment programs.
- Focus on peer support to promote and maintain pro-social behaviors.
- Academic support through tutoring and mentoring accompanied by high expectations (some Dreamers were transferred to private schools, paid by the sponsors, because staff felt that they were not receiving adequate attention and guidance in the public schools or because of gang-related problems).

The average cost per student per year for six years was $1,482 for the program on the city's West Side and $2,829 for that on the South Side. Private school tuition represented 19% and 55% of the cost, respectively. To help improve public schools in inner city areas, the IHAD Foundation is developing a charter school, one sponsor has initiated a comprehensive neighborhood development program, and another IHAD group has initiated a publicly-funded school that provides after-school programs.

Building Social Trust

Time is important to build trust among inner-city youth. By accompanying the students from the sixth grade, the project coordinator has time to build strong relationships with Dreamers. Project coordinators for both programs remained in touch with at least 90% of their original Dreamers three or more years after they had left the program.

Relationships as Vehicles for Support

Inner-city youth generally deal with social pressures that tend to undermine success. The majority of Dreamers were victims of physical, sexual or substance abuse in the home and/or had participated in gang activities. Interviews indicated that a trusting relationship with IHAD staff helped Dreamers deal with such major concerns. Relationships with staff and sponsors were also an important tool for job opportunities and access to services and programs.

Implementation Quality

IHAD's major challenge is to hire staff able to provide the intense support and commitment required by the target population. Studies of other IHAD programs that did not show graduation rates as high as these indicate that more successful programs have low turnover of project coordinators, work with both private and public schools, and benefit from volunteer help. In the case studies, AmeriCorps members and volunteers from the Princeton Project 55 Program added two full-time staff members to each of the two programs. These individuals added extra hours of staff work, besides offering more opportunities for Dreamers to establish meaningful relationships (some volunteers were able to establish positive interactions with Dreamers who were resistant to approaching the IHAD coordinators).

STUDY METHODOLOGY

Researchers studied two IHAD programs for two and a half years and used a sixth grade class at the Dreamers' schools that had not been part of the program as a control group (assignments were randomized). The programs were chosen because they were consistent with the IHAD model, maintained contact at least with 90 percent of the Dreamers and their Dreamers were already making the transition to college. Researchers interviewed Dreamers, staff, parents and sponsors, observed program operations on over 100 occasions, ran focus group sessions with staff, sponsors and students, conducted surveys, and used school records to obtain data for Dreamers and the control groups.

EVALUATION FUNDING

Steans Family and Polk Brothers Foundations, The Chicago Community Trust and the Center for Urban Educational Research at the University of Illinois at Chicago.

GEOGRAPHIC AREAS

Both programs are located in Chicago, IL.

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Focus

- Early Childhood
- ✓ Primary School
- ✓ Middle School
- Secondary School
- Postsecondary
- ✓ Extended Learning

In 1994, former Teach For America instructors founded the first Knowledge Is Power Program (KIPP) in Houston, Texas. One year later, the KIPP Academy became a charter school in the Houston Independent School District (HISD). Since its inception, the KIPP Academy has provided underprivileged students in grades 5-9 with a rigorous academic curriculum that prepares them for success in college and careers. The KIPP Academy classes are taught in more than a dozen temporary trailers in the southwest quadrant of Houston. A second KIPP Academy was set up as a school within a school, in the Bronx, with a similar commitment to serving minority students.

POPULATION

Enrollment in KIPP is based on a lottery system, which randomly selects students from a pool of applicants. Before the children start school, KIPP staff meets with parents and students to discuss a commitment contract. Approximately 320 students in grades 5-9 attend the KIPP Academy in Houston. Ninety-seven percent of the Houston KIPP students are African American or Latino and 90% of them are eligible for federal breakfast and lunch programs. Of the approximately 250 KIPP students in the Bronx Academy, 45% are African American, 55% are Latino and more than 95% are eligible for federal breakfast and lunch programs.

One way that the KIPP in Houston measures student achievement is through the Stanford-9 achievement tests. The following graphs chart the increases in Stanford reading and math scores for various classes after one, two, and three years at the KIPP Academy between 1998 and 2001. In reading, students came into the school scoring between the 35th and 57th percentile. After three years at KIPP, they were scoring between the 60th and 75th percentile on the reading test. KIPP had a similar, positive effect on math achievement (see charts).

Another measure of KIPP's effect on academic achievement is the percent of students who pass the standardized Texas Assessment of Academic Skills (TAAS) tests in math and reading.

- Before attending KIPP, between 33% and 66% of the incoming students had passed TAAS tests for their grade level.
- After one year of KIPP instruction, more than 90% of each class passed the tests and after two years, nearly 100% passed.

- The 2000 and 2001 TAAS results showed that no fewer than 97% of each KIPP class passed the math assessment, while no fewer than 93% of each class passed the reading assessment. Although KIPP does not exempt students from TASS, many classes had pass rates of 100% in both subjects.

To measure academic achievement of students at the KIPP Academy in the Bronx, KIPP reports compared the percentage of students scoring at or above grade level on the Comprehensive Test of Basic Skills, with figures for middle school students throughout the New York City school district. Between the 1998-99 school year and the 2000-01 school year:

- The percentage of KIPP students reading at grade level rose from 40% to 61% while the percentage of New York City students (grades 5-7) reading at or above grade level rose from 37% to 42%.

- The percentage of KIPP students performing at grade level in math rose from 40% to 60%, while the percentage of New York City students (grades 5-7) at or above grade level on math tests fell from 34% to 31%.

- The KIPP Academy has been rated the highest performing middle school in the Bronx in terms of average attendance (96%), reading and math every year.

Fig. 1 - National Percentile Scores for KIPP Students (Stanford Achievement Reading Test)

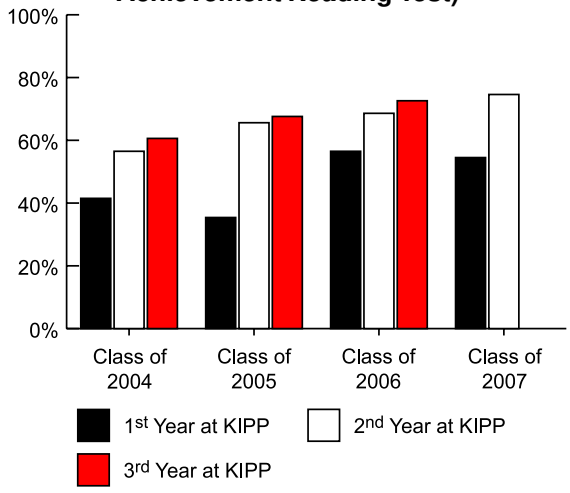
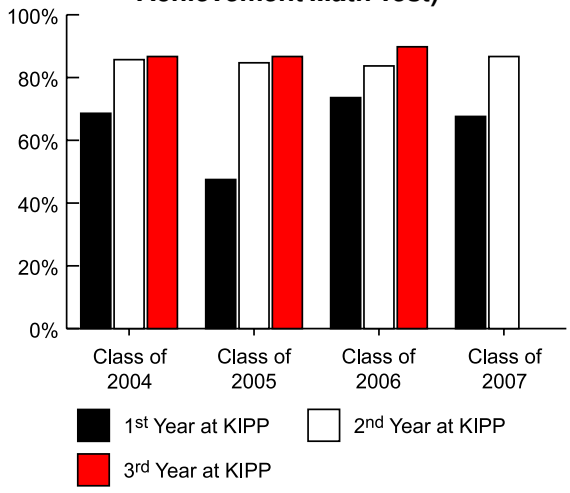


Fig. 2 - National Percentile Scores for KIPP Students (Stanford Achievement Math Test)



The KIPP school reform model stands on five "pillars" or components:

- The KIPP founders and teachers have *high expectations* that all students can learn and conduct themselves in a disciplined manner while in school. In Texas, these high expectations translated into the assumption that all students can and should score at proficient levels on the TAAS test.

- Because enrollment at KIPP is voluntary, students and parents must sign a contract agreeing to work together to reach the high goals set by the school. Program directors emphasize *student choice and commitment to the school and to each other.*

- *Extended time on task* is another integral component of the program. KIPP students spend 67% more time in class than the average

public school student. During the normal school year, KIPP students arrive at school at 7:30 a.m. and depart at 5:00 p.m. Monday through Thursday, getting out a little early (4:00 p.m.) on Fridays. In addition, students agree to attend four hours of school most Saturdays and four weeks of school every summer.

- KIPP directors want to lead the school reform movement by example, emphasizing what they term *the power to lead*. As charter school principals, they have complete control over their budget and personnel decisions. In 2000, KIPP partnered with the founders of Gap, Inc., to start a Fischer Fellowship program, which will train a corps of education reformers to found their charter schools across the country to serve disadvantaged youth. The fellowship involves a summer institute on school management at the University of California at Berkeley followed by a fall residency in KIPP network schools and a spring planning period. Fellows are expected to open up their own schools after their fellowship concludes.

- *A focus on results* is the final component of KIPP Academies, which includes evaluating program outcomes with state and national standardized test scores.

"There are no shortcuts."
—KIPP motto from Rafe Esquith,
1992 Disney Teacher of the Year

In addition to the above components, both KIPP Academies integrate music into the school curriculum. For example, in the New York KIPP Academy, all students play instruments in the school orchestra. Orchestra performances have garnered local fame and funds, which have allowed the school to provide instruments to students.

Extended Learning
The extended school day, Saturday classes and summer sessions provide additional time for KIPP students to learn. This is not simply additional "seat time," however. These extra hours spent in class seem crucial for achieving the high academic standards set by KIPP.

Parent Support
Enrollment in the KIPP Academies is voluntary. Parents choose to send their children to KIPP schools. Both parents and students must sign a contract committing to the extended class time. Parents also agree to supervise their children's homework assignments every night.

Small Learning Communities
In both Houston and the Bronx, KIPP has set up small learning communities of 250 to 300 students who stay together for four years from the fifth through the ninth grades. The small size of this community fosters a sense of belonging to the school.

Teacher/Administrator Commitment
Teachers commit to the same extended class time as students. They remain "on call" to help students or answer parent questions 24 hours a day with cell phones and toll-free numbers provided by the school. Teachers also regularly visit students in their homes and work with parents to get them involved in student work.

Professional Development
KIPP pays for teachers to travel to observe the master teachers who inspired the program. With the Fisher Fellowship, the KIPP founders provide developmental opportunities for teachers and others interested in education reform to become school administrators in their own right.

STUDY METHODOLOGY

This was not a formal evaluation, but an analysis of data taken from the state educational agencies in Texas and New York. The editor of the "No Excuses" report visited the two academies and interviewed the KIPP superintendents and district officials. Test score data came from the Texas Assessment of Academic Skills (TAAS) test, the Stanford-9 Achievement Test, the California Achievement Test-5 and the Comprehensive Test of Basic Skills. Comparisons are made with national, state and citywide data.

EVALUATION & PROGRAM FUNDING

Casey Carter's research on KIPP was funded by the Heritage Foundation. KIPP Academies are funded by the public school systems in Houston and New York City as well as numerous individuals, foundations and private corporations. The list of private funders includes The Brown Foundation, The Fondren Foundation, Houston Annenberg Challenge, Rockwell Fund and many others.

GEOGRAPHIC AREAS

KIPP Academies are located in Houston, Texas and the Bronx in New York, New York. By August 2001, three additional schools based on the KIPP model had opened their doors to students: The 3D Academy (Houston, TX), Gaston College Preparatory (Gaston, NC) and Key Academy (Washington, DC).

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"Project GRAD: Program Evaluation Report, 1998-99" (December 1999) University of Houston. By Kwame A. Opuni, Ph.D.

Focus

- Early Childhood
- ✓ Primary School
- ✓ Middle School
- ✓ Secondary School
- Postsecondary
- ✓ Extended Learning

Project GRAD (Graduation Really Achieves Dreams) began as a scholarship program in Houston, Texas in 1988-89. It has now grown into a private, not-for-profit organization that works in partnership with high schools and their feeder schools to implement multiple reform models that lead to higher graduation and college attendance rates. When a school system comes to Project GRAD for assistance, the staff institutes a series of interventions to improve classroom management and discipline, student reading and math proficiency, parent and community involvement, and finally, high school graduation and college acceptance rates. First, Project GRAD uses a Consistency Management and Cooperative Discipline program that facilitates teacher/student cooperation in instructional consistency and behavior management. Second, Project GRAD implements educational initiatives, such as Success-for-All and MOVE IT Math, to supplement basic elementary and middle school reading and math curricula. Third, the initiative works through Communities in Schools to improve the quality and level of parental and community support for school activities. Finally, Project GRAD implements a comprehensive outreach program which includes a community-wide Walk for Success to recruit students and their parents, Parent Universities to improve parental literacy and involvement levels and intensive summer institutes and college scholarships for students.

POPULATION

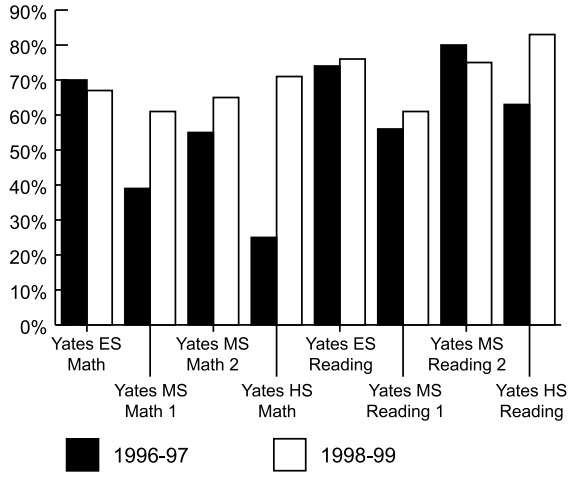
Project GRAD sites are located in inner-city schools, serving primarily minority students from low-income families. Nationally, Project GRAD serves approximately 68,000 students in 92 schools. The 24 Houston schools examined in the evaluation belong to the 2 high school feeder systems that have piloted the program in Houston: Jefferson Davis High School and Jack Yates High School. The evaluator detailed the socio-economic characteristics of the communities around the Davis and Yates high school feeder systems. Only 44% of the adults in the Davis community and 66% of those in the Yates community have completed high school. These feeder systems serve 26,000 students, the vast majority of whom were African American and Latino youth. In 1999, 89% of the students at Davis High School were Latino, 9% African American, 2% white, 18% limited English proficiency and 76% received free or reduced price lunch. That same year, 89% of Yates High School students were African American, 10% Latino, 1% Asian and 57% of the students received free or reduced price lunches.

One of Project GRAD's primary goals is to raise the college enrollment of graduates from its high schools. The program more than tripled annual college enrollment rates for Davis High School graduates, from 12% to 50%, between the first year it offered scholarships in 1989 and 1999.

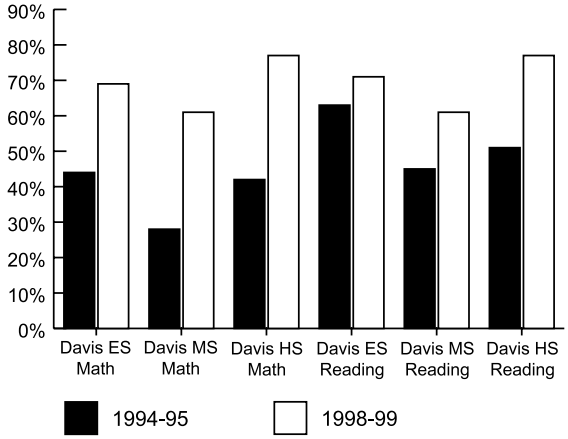
The Texas Assessment of Academic Skills (TAAS) test was used to measure improvements in reading and math proficiency at all of the Davis and Yates feeder schools (Elementary Schools-ES, Middle Schools-MS and High Schools-HS) served by Project GRAD. Davis schools began implementing Project GRAD in 1994, while Yates schools began in 1996. Schools in both feeder systems experienced increased passing rates on the TAAS after implementing Project GRAD (see charts).

Evaluators compared Project GRAD schools to other Houston schools with similar student demographics and baseline achievement scores, using the Woodcock, TAAS and Stanford-9 tests to measure the effect of participating in Project GRAD.

Yates Feeder Schools Improvement in TAAS Math & Reading Passing Rates (3 Years in Project GRAD)



Davis Feeder Schools Improvement in TAAS Math & Reading Passing Rates (5 Years in Project GRAD)



- The Woodcock, Stanford-9 and TAAS tests revealed that students who began kindergarten in the Davis system the same year that Project GRAD started (1994) outperformed a comparison cohort for three consecutive years in mathematics and two consecutive years in reading.

- The evaluator also charted longitudinal increases in grade equivalent scores on the Stanford-9 test for 472 students in the Yates feeder system after three years of participation in Project GRAD. The average, pre-Project GRAD grade equivalent score of these students was one month above the national average in reading and three months below the national average in math. After three years in the program, they performed at three months above the national average in both reading and math.

After four years of implementation, Project GRAD reduced disciplinary referrals to principals' offices in Davis elementary schools by 74% (from 1,017 to 268). The Yates feeder schools also saw a disciplinary referral decline of 22% (from 935 to 729) by the second year of the program.

When Project GRAD partners with a school feeder system, it brings a constellation of reform efforts that cover each level of schooling from kindergarten through high school.

- Consistency Management & Cooperative Discipline (CMCD) is a classroom management initiative that builds consistency in instructional and disciplinary practices by involving teachers, students and parents in a behavioral management partnership.

- MOVE IT Math (MOVE IT is an acronym for Math Opportunities, Valuable Experiences and Innovative Teaching) uses songs, games, literature and hands-on manipulatives to teach concepts and the importance of mathematics to students in grades K-6. Students learn basic math (arithmetic) and advanced math (algebra) at an early age.

- Success for All (SFA) is a research-based, school-wide reading and writing program for grades K-5 (see pp. 162-164).

- Communities in Schools (CIS) is a non-profit, dropout prevention and social service program that tailors counseling, guidance and family case-management services to individual students and their families.

- Walk for Success is a grassroots effort to inform parents and recruit student applicants for the Project GRAD scholarship program. Alumni, teachers, staff, mentors, university volunteers and community leaders go door to door to raise awareness of the program.

- Scholarships of $1,000 per year for college are guaranteed to students who: graduate on time from a Project GRAD high school; take a minimum of three years of mathematics, including algebra I, geometry and algebra II; maintain a 2.5 grade point average in core academic subjects and complete a minimum of two summer institutes sponsored by the program at local universities.

Professional Development and Support

Project GRAD recognized that the high turnover rates of teachers in inner-city schools necessitated ongoing training of all teachers hired after the first year of intensive training and project implementation. Facilitators from Project GRAD therefore provide on-going material and curricular support in CMCD and SFA. According to the evaluator, teachers feel free to come to these facilitators with their problems because of the fact that the facilitators "operate outside of the teacher appraisal process." In addition, a Social Worker/ Project Manager is housed at each school to work with students, teachers and parents to support various aspects of the program.

Sustainability

"Unlike many educational initiatives that promise a quick fix and then often cut funding prematurely before meaningful results occur, Project GRAD's programmatic perspective and commitment are long-term," noted the evaluator. Project GRAD also relies on diverse funding sources for support of its programs.

Ongoing Evaluation and Model Refinement

Teachers, administrators and Project GRAD facilitators track student test scores, discipline reports and evaluation findings to ensure that students receive adequate support and benefits from the program. Benchmark data also ensure that the program is having a positive, aggregate impact on the schools.

Comprehensive Reform
Project GRAD recognizes that a reform model focusing only on high school might be hampered by weak elementary or middle schools in the high school's feeder pattern. The evaluator believed that the scope of the reform initiative, involving teachers and administrators from all of the feeder schools has been crucial to Project GRAD's success.

Parent and Community Empowerment
Project GRAD empowers parents and community members by involving them in school reforms through CIS initiatives (GED programs, Citizenship Classes and health and employment referrals, for example). Shared Decision-Making Committees (principals, parents, teachers and community leaders) manage Project GRAD feeder schools.

Project GRAD schools must work on retaining teachers, according to the evaluator, because of the high turnover rates of teachers in inner-city schools. Such turnover rates mean the loss of many hours of program training. The evaluator found that the most substantive criticism of the program from teachers pertained to the perceived, rigid structure and lack of phonics-based instructional emphasis in Success for All, one component of Project GRAD's reform strategy.

STUDY METHODOLOGY
The evaluator used school data, statewide and national test scores, as well as teacher surveys to chart the increases in academic achievement among the cohorts of Project GRAD students. Because of high, annual student mobility rates (24%) in the pilot schools, the evaluator also used a quasi-experimental design involving matched comparison schools with similar student demographics and baseline achievement data to determine the effect of Project GRAD on student achievement. Site visits, interviews with students and teacher surveys offered a more qualitative evaluation of the program.

EVALUATION & PROGRAM FUNDING
The evaluation was funded by the University of Houston System. More than 65 public and private foundations, organizations and corporations fund Project GRAD. Some of these funding initiatives are multi-year, multi-million dollar grants, to expand and replicate the Project GRAD model.

GEOGRAPHIC AREAS
Project GRAD began in Houston, Texas, but it has now been replicated in Los Angeles, California; Atlanta, Georgia; Newark, New Jersey; Columbus, Ohio and Nashville, Tennessee. Future plans include the possibility of replicating the program in San Antonio, Texas.

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"Puerto Rico Louis Stokes Alliance for Minority Participation: 1999-2000, 1998-99 and 1997-98 Annual Progress Reports."

Submitted to the National Science Foundation by the University of Puerto Rico Resource Center for Science and Engineering. By Dr. Ana C. Piñero.

Focus

- Early Childhood
- Primary School
- Middle School
- Secondary School
- ✓ Postsecondary
- Extended Learning

POPULATION

According to National Science Foundation data, 202,607 baccalaureate degrees were awarded nationwide in 1997 in science, mathematics and engineering fields. Of these, 11,187 were awarded to Latinos. Graduates from PR-LSAMP institutions represented one-fourth of the 11,187 degrees awarded to Latinos that year. In the nine years that the program has existed (1991-2000), PR-LSAMP institutions have awarded a total of 23,525 BS degrees in the different SMET disciplines. Of these, 7,809 were in Life Sciences, 6,074 in Engineering, 3192 in the core sciences (Chemistry, Physics and Mathematics) and the others in science related fields, such as Computer Science.

Founded in 1991, The Puerto Rico Louis Stokes Alliance for Minority Participation (PR-LSAMP) is one of several nationwide initiatives sponsored by the National Science Foundation to increase the number of minority students that receive a baccalaureate degree in science, math, engineering and technology (SMET) fields. The National Science Foundation awarded two five-year grants (1991-1996 and 1996-2001) to implement this initiative to the Resource Center for Science and Engineering of the University of Puerto Rico. Thirteen campuses of four major higher education institutions on the Island are members of the PR-LSAMP alliance. The Resource Center serves as the umbrella organization of this alliance, promoting the maximum collaboration of all institutions. The major goal of the Resource Center is to transform the teaching/learning process in SMET disciplines for ALL students in Puerto Rico. The center of PR-LSAMP has been the revision of the undergraduate SMET curriculum and the incorporation of teaching strategies that have proven successful in improving student academic performance. Jointly with the curriculum revision, PR-LSAMP offers direct student services to undergraduate students, such as mentoring and research opportunities, to enhance their skills, increase their motivation to remain in SMET careers and strengthen their qualifications for graduate studies.

Since the goal of PR-LSAMP is to increase the effectiveness and efficiency of the undergraduate SMET programs, evaluators measured: SMET enrollment, SMET graduation rates, the Index of Course Efficiency (i.e. the number of times students must take a course to pass it with at least a C) and the number of BS graduates that go on to graduate school and obtain a Ph.D. in an SMET area.

The major accomplishments of PR-LSAMP since its beginning in academic year 1991-92 have been:

- Participating institutions nearly doubled their enrollment in science, math, engineering and technology fields, from 12,572 in 1991 to 23,476 in 2000.

- The number of science, math, engineering and technology BS degrees awarded by PR-LSAMP institutions grew 62% (from 1,709 in 1991 to 2,771 in 2000).

- The average graduation rate at institutions of the University of Puerto Rico System increased from 48% to 62% in science. For example, the graduation rate for engineering at UPR-Mayaguez Campus increased from 53% to 81%.

- From 1993-98, 17% (202 out of 1,169) of the Latinos who obtained a Ph.D. in a natural science field, nationwide, received their bachelor's degree from a PR-LSAMP institution.

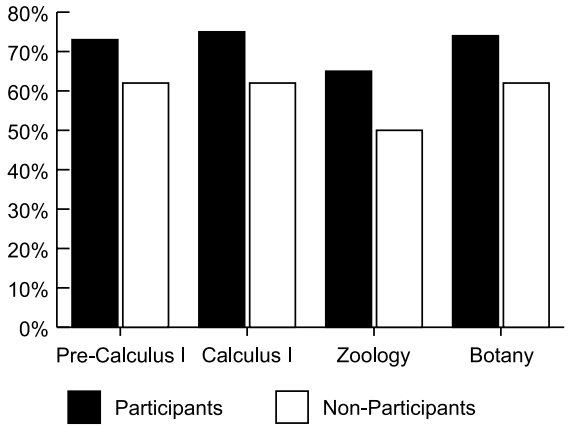
- From 1993-98, 11% (37 out of 332) of the Latinos who obtained a Ph.D. in engineering, nationwide, received their bachelor's degree from the University of Puerto Rico.

- The Index of Course Efficiency (ICE), which measures the number of times students on the average must repeat a course to obtain a satisfactory grade, was reduced in the most difficult SMET courses, from an average of 2.3 to 1.7.

To complement PR-LSAMP strategies, colleges and universities on the Island developed additional strategies to enhance student performance in SMET courses. The following strategies had documented performance outcomes:

- Professors at Inter American University-Bayamon developed Web pages for their courses and posted information such as the course syllabus, study guides, exercises and practice exams. As a result, student performance increased. When evaluators considered four pre-calculus courses of about 30 students each, they found that, with the innovation in place, 73% of students earned a grade of C or better in pre-calculus, compared to 62% without the innovation in place. In Calculus I, the same comparison was 75% to 62%, in zoology 65% to 50% and in botany 74% to 62%.

Grade Distribution for Participants and Non-Participants in Use of Web-Based Materials in SMET Courses at UIA-Bayamun



- University of Puerto Rico-Río Piedras used PR-LSAMP funds to build a high-tech classroom designed for active/cooperative learning and equipped with modern, audiovisual technology that facilitated the visualization of abstract concepts, as well as gathering, analysis and interpretation of data. The percentage of students making Cs or better in classes of 40 students held in the high-tech classroom increased from 40% to 70% from 1995-2000.

- University of Puerto Rico-Humacao implemented a program to increase and retain female students in its physics program. The program offered first year female students interested in physics: 1) academic and financial assistance; 2) a chance to work with female role models; and 3) a series of workshops in the use of scientific instruments and tools. Female enrollment in physics—which has the lowest female enrollment of all the sciences—increased by 42%.

- Six institutions are implementing cooperative learning in their SMET courses, and the grade distribution for participants is significantly better than for non-participants. As an example, 78% of the students at UPR-Río Piedras enrolled in General Chemistry using cooperative learning obtained an A, B or C, while only 60% of students in traditional course sections obtained similar results.

The core of the PR-LSAMP Program has been the transformation of the SMET undergraduate curriculum by: 1) shifting the focus from breadth of content to depth of understanding and 2) incorporating teaching strategies that have proven successful in improving student performance. PR-LSAMP and external funding sources supported several teaching and curriculum enhancements, including:

- A Study/Learning Skills Development Program (attached to specific SMET courses).
- Faculty and peer mentoring.
- Undergraduate research experiences.
- Pre-college to college and undergraduate to graduate transition programs (e.g. a two week residential program on a University of Puerto Rico campus for high school students interested in SMET majors).
- An SMET teacher preparation component.
- The use of technology in the learning process (e.g. on-line courses, computer-based learning, web-based materials and electronic laboratories).
- Incorporation of active learning strategies in SMET courses.
- Establishment of learning communities at the institution.
- Diverse assessment strategies to test for depth of understanding.
- Mentoring and academic tutoring.
- Integration of course and laboratory work.
- Use of application-oriented textbooks.
- Use of case studies to integrate theory and practice.
- Development of instructional modules.

In addition to reforming course content and classroom pedagogy, PR-LSAMP funds have been used for direct student support. Undergraduate SMET students have received stipends for:

- Participation in research activities (an average of 400 annual stipends).
- Travel expenses to present research projects at national forums.
- Academic excellence awards (178 stipends of $800 each were awarded in 1999 alone to low-income students who demonstrated high academic performance).
- Serving as mentors to other SMET students (103 students have served as peer mentors).
- Peer tutoring in courses implementing cooperative learning.

Project Administration
One of the contributing factors to the success of PR-LSAMP has been its coordination by the Resource Center for Science and Engineering of the University of Puerto Rico. By nature, the Resource Center operates as a collaborative network among the major institutions of higher education in Puerto Rico, thus providing access to a broad pool of resources and promoting the optimization of efforts. The Resource Center forms partnerships with businesses and national reform leaders to help PR-LSAMP institutions develop educational strategies, objectives and benchmarks to measure program impact.

Network of Information Sharing
The Resource Center operates as a virtual organization. The human resources needed to achieve its goals are distributed among the diverse, institutional settings, while the strategic planning, coordination of efforts and communication, links across institutional boundaries allow for the orchestration of a coherent reform strategy. This network is flexible and adapts to the changing needs of participating institutions and faculty.

Education System Alignment
By working with all levels and visualizing the educational system as a K-16^{+} continuum, the Resource Center ensures that initiatives such as PR-LSAMP build on other reform efforts, and that all initiatives are harnessed into a coherent systemic reform strategy. The Resource Center coordinates other systemwide reform efforts at the K-12 level (i.e. the Puerto Rico Statewide Systemic Initiative) and at the graduate level (i.e. the Experimental Program to Stimulate Competitive Research EPSCoR) of the educational pipeline. This articulation of efforts also allows PR-LSAMP students and institutions to gain access to additional funds for minorities in the science, math, engineering and technology fields.

External Funding
The National Science Foundation requires cost-sharing by participating institutions. For example, in 1999-2000, the Cooperative Agreement signed by the University of Puerto Rico (the leading institution in PR-LSAMP) and the National Science Foundation required for that year a $2.29M contribution from participating institutions for a $1.2M award from NSF. Participating institutions actively seek additional external funds to strengthen SMET education. In 1999-2000, a total of $15.9M was obtained from different funding sources (i.e. USDE, NASA, NIH, USDOE) to develop and implement educational strategies to enhance the teaching/learning process at their institutions.

Technology and Pedagogy
PR-LSAMP programs used technology in a variety of ways to enhance student learning.

Mentoring
Peer and professional mentoring provided academic support and role models for Latino and/or first year college students entering fields in which they are historically under-represented.

The evaluator noted that:

- In academic year 1999-2000, the number of baccalaureate degrees in SMET disciplines awarded by PR-LSAMP institutions remained flat and did not continue the upward trend of previous years.
- Although many faculty members are implementing new teaching strategies in their SMET courses to improve student performance, only a few professors are documenting performance outcomes in terms of grade improvements or test scores of current students under new teaching methologies –vs- previous students taught with traditional teaching methods.

- Although a student tracking system was developed by PR-LSAMP to obtain data on how many BS, SMET graduates, the results are skewed toward students who remained in Puerto Rico because of the difficulty in getting responses from students who had moved to the U.S. mainland.

STUDY METHODOLOGY

The researcher used institutional and central administration data, with partial use of data from the new student tracking system. Student achievement outcomes from PR-LSAMP institutions are compared to related national outcomes provided by the National Science Foundation. Site visits and case studies complemented the quantitative data used in the study.

EVALUATION & PROGRAM FUNDING

The study was conducted by the University of Puerto Rico Resource Center for Science and Engineering as an annual requirement of the NSF to evidence program achievements. The National Science Foundation funds the PR-LSAMP program, with participating institutions contributing a significant share in institutional funds. PR-LSAMP institutions actively seek money from other federal and local government agencies and from the private sector, specifically local research and development companies. Some of the sources of external funding are the National Institutes of Health, the U.S. Department of Education, other National Science Foundation programs, NASA and the U.S. Department of Energy.

GEOGRAPHIC AREAS

The administration of PR-LSAMP is headquartered at the University of Puerto Rico Resource Center for Science and Engineering, located at the Río Piedras Campus. PR-LSAMP institutions are located across the Island in Arecibo, Aguadilla, Bayamon, Cayey, Gurabo, Humacao, Mayaguez, Ponce, Rio Piedras, San German and San Juan.

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Note: The Puerto Rico Statewide Systemic Initiative is one of eight SSI nationwide projects currently funded by NSF. In 1979, the NSF started the Experimental Program to Stimulate Competitive Research (EPSCoR) in response to national concerns regarding inequitable geographic distribution of research funding. Broadly put, EPSCoR's mission is to improve the quality of science and increase the ability of scientists in eligible states to compete successfully for federal funds. For additional information on EPSCoR please consult James Hoehn, Annual Report FY 2000: Experimental Program to Stimulate Competitive Research. *August 2000. Arlington, VA. National Science Foundation.*

"Sacramento START: An Evaluation Report, September 1996 — May 1997" (January 1998)

Sacramento Neighborhood Planning and Development Services Department. By Judith Lamare.

Focus

- Early Childhood
- ✓ Primary School
- Middle School
- Secondary School
- Postsecondary
- ✓ Extended Learning

Sacramento's Students Today Achieving Results for Tomorrow (START) program is an after-school academic enrichment program that provides a safe, positive learning environment for elementary school students from low-income families. START was founded in 1995 by the City of Sacramento to help these students "succeed academically and socially" and to "connect neighborhoods with schools" by employing adults from the community and students' parents as part-time, after-school instructors. At the time of this evaluation, START operated for two-and-a-half hours a day four days a week, and students received homework assistance and help with reading while also participating in recreational activities.

POPULATION

Currently, START spans 5 school districts in the Sacramento metro area, and it enrolls over 7,000 students. At the time of the evaluation (1996-97), there were 2,000 students in the program: 87% of START students qualified for free lunch, 83% belonged to racial or ethnic minority groups and 58% came from homes where English is not the primary language spoken. The Natomas School District's sample was composed of 46 students from second through fifth grades, the North Sacramento School District includes 105 third through sixth grade students and Sacramento City Unified School District had 653 third through sixth grade students. Approximately three-quarters of the students began the program scoring below the 50th percentile in reading and math proficiency. Parents or community members made up 73% of START staff.

The evaluator used various standardized test scores from the different START schools and districts, reporting the data in Normal Curve Equivalent (NCE) scores, based on national test performance.

In the three districts evaluated, more than half of START students showed improvement in NCE scores:

- START students in the Sacramento City Unified School District (SCUSD) improved an average 5.4 NCE points.
- START students in the North Sacramento School District (NSSD) improved an average of 4.6 NCE points.
- START students in the Natomas School District (NSD) improved an average of 4 NCE points.

START had the greatest impact on students who began the program in the lowest quartile of standardized reading test scores. In SCUSD, 83% of START students who began the program in the lowest quartile improved on average 22 NCE points in third and fourth grades and 15 NCE points in fifth and sixth grades.

Compared to students scoring in the lowest quartile on standardized test scores who did not participate in START, evaluators found that START students with similar academic achievement in SCUSD improved an average of 3.5 NCE points more than their non-START peers.

Students who stuck with START for a semester or more benefited the most from the program. Those who spent a full year in the program improved an average of 6 NCE points. However, the evaluator noted that many students did not stay in the program for that long. The average program dropout rate in the first six months was 32%. Though the population served by START is highly mobile, this was not the only reason for the dropout rate, considering that only 14% of the students who left START had moved.

For nine hours a week, START staff and volunteers provide homework assistance, literacy training and other academic enrichment activities to more than 100 students at each school site. Key components of the program include:

- The majority of volunteers and paid staff are parents of students or adults who live in the same communities as the students they teach.
- The majority of START sites have a student-to-staff ratio no greater than 20:1. The program directors are striving to recruit more volunteers to achieve a ratio of 10:1.
- Program directors receive regular reports on evaluation data and analysis so that they can revise intervention strategies.

During 1996-97, START's first full year of operation, the program had a budget of $934,000, which amounted to a cost of $3.50 per child, per day. Parents and community members, who worked as staff, earned over half a million dollars for their time.

School/Program Collaboration
Communication and collaboration between START directors and school administrators was crucial to the success of the program. START had to work with schools especially in aligning the academic training of staff and the learning goals of students in the program.

Extended Learning
By providing a safe and fun learning environment after school, the START program offered an alternative avenue of academic enrichment for minority and low-income students.

Community Involvement
START consciously worked to involve members of the community in its after-school program, hiring nearly three-quarters of its staff from neighborhoods surrounding the elementary schools where the program was held.

Student Commitment and Attendance
The evaluator noted that the longer students participated in the program, the greater an impact START had on their academic achievement. Since this was the first full year of program implementation, the evaluator also recommended that further evaluation was needed once START stabilized.

Professional Development
The evaluator felt that START needed to improve staff training procedures by providing volunteer participation goals and monitoring volunteer progress as well as placing increased emphasis on the academic support component of staff work.

STUDY METHODOLOGY

Evaluators analyzed school data for students in grades 3 through 6 who attended the program. Only students with test scores in the Fall 1996 and Spring 1997 were incorporated in the research. The school districts recorded student achievement on a range of standardized tests including the California Achievement Test (CAT) and the Sacramento Achievement Levels Test (SALT). Scores were translated in Normal Curve Equivalency (NCE), an equal interval scale that indicates variations in academic growth (NCE is zero for a normal growth). Three out of the five school districts that have implemented START provided test score data; four of twenty START schools did not provide data. Since the City initiated the project and the evaluation, school districts covered in the study were those within the jurisdiction of the City of Sacramento.

EVALUATION & PROGRAM FUNDING

The City of Sacramento funded the evaluation. The START program is funded by a public/private partnership that included the City of Sacramento, five school districts and numerous corporations, foundations and individuals.

GEOGRAPHIC AREAS

Sacramento, California: Sacramento City Unified School District, North Sacramento School District, Natomas School District, Del Paso School District and Elk Grove School District.

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"Sponsor-A-Scholar: Long-Term Impacts of a Youth Mentoring Program on Student Performance" (December 1999) Mathematica Policy Research. By Amy Johnson.

Focus
- Early Childhood
- Primary School
- Middle School
- ✓ Secondary School
- ✓ Postsecondary
- Extended Learning

Philadelphia's Sponsor-A-Scholar (SAS) program, launched in 1990, was built on the idea that a relationship with a caring adult can spur disadvantaged youth to achieve in high school and continue on to postsecondary education. The program matches at-risk youth with mentors who stay with them five years – from ninth grade through their freshman college year. The mentoring relationship is a formal one that stresses academic goals, and it is buttressed with other supports such as tutoring, college visits and assistance with college application or financial aid processes. Mentors undergo formal, one-day training and SAS representatives regularly monitor the student-mentor relationship. SAS also provides financial assistance to help students pay for college.

POPULATION

SAS serves more than 500 low-income students with average grades (B-C range) from Philadelphia public high schools. The evaluation used longitudinal data on a sample of 434 students from the Philadelphia public high school graduating classes of 1994, 1995, 1996 and 1997. Of those, 180 students participated in SAS, and the remaining students were drawn from a matched comparison group. Of the evaluated SAS students, 76% were African American, 10% Latino, 7% Asian and 7% white. Some SAS students are nominated by teachers and counselors at their middle schools while others are nominated by high school staff. SAS targets students who exhibit evidence of motivation through participation in extracurricular activities, good attendance, completion of program forms clearly and on time and an expressed interest in participating in the program and working toward the goal of college attendance. Adult mentors are volunteers from the greater Philadelphia area matched with students by gender and areas of interest (but not by race/ethnicity).

The evaluator considered the program's effect on GPA, rates of college attendance, and attendance in college preparation activities, as well as qualitative information from interviews with students and mentors.

- SAS students had a higher average GPA than the comparison group (78.8 vs. 77 for tenth graders and 78.1 vs. 76.2 for eleventh graders), differences that were significant at the .05 level. However, no differences were found for twelth graders.
- SAS participants had significantly higher rates of college attendance in each of the first two years after high school (85% vs. 64%, and 73% vs. 56%, respectively).

- The program is more likely to help students who have lower academic achievement than higher achievers. Researchers compared students with low ninth grade GPAs who attended the program with those who did not attend on the following measures: tenth-grade GPA, eleventh-grade GPA and first-year and second-year college attendance. Low ninth-grade GPA students who attended SAS did significantly better on all the measures (comparisons were significant at the .05 and .01 levels).

- Mentor behaviors, such as frequent communication and getting to know a student's family significantly, affect student performance. Students whose mentors contacted them most often (at least once a week) did significantly better on tenth-grade GPA, eleventh-grade GPA, first-year college attendance, second-year college attendance and college retention (comparisons were significant at the .05 and .01 levels).

"Mentoring requires an intense commitment that goes well beyond incidental and sporadic encounters between mentors and students."
— Amy Johnson, evaluator

"A mentoring program that stresses academic goals can improve high school and college outcomes."
— Amy Johnson, evaluator

- The strength of mentor-student relationships varied widely, reported the evaluator, with 33% of mentors saying they had a strong relationship with their student, 35% saying they had a moderate relationship and 33% saying they had a weak relationship.

SAS mentoring services were delivered to students primarily at their schools on a one-to-one or small group basis. Mentors and students met monthly and stayed in contact by phone between meetings. Mentors monitored the student's academic progress, helped with financial aid and college application processes, contacted program staff on a regular basis to discuss the evolving relationship with and progress of the student and participated in program events. Fostering individual relationships between the students and their mentors was the primary function of SAS, and the following program components further defined or supported this relationship:

- A formal commitment was affirmed by signing a statement of intent in which the student agreed to comply with numerous responsibilities associated with participation: maintaining regular attendance in school, earning grades of C or above, asking for academic support when needed, keeping appointments with the mentor, communicating regularly by telephone with the mentor and program staff, attending program events, enrolling in college preparatory courses and sharing each report card.

- Mentor training was offered at an initial orientation session. Then, mentors were contacted monthly by program staff to assess and develop strategies for each relationship's progress. Mentors also participated periodically at mentor roundtables and received a regular newsletter.

- A part-time coordinator was employed by SAS to work with groups of 30 student-mentor pairs to foster effective student-mentor relationships by maintaining monthly contact with both the student and the mentor and monitoring the progress of the relationship.

- Academic support services offered by SAS included tutoring assignments, SAT prep classes, workshops on study skills and summer opportunities. In addition, students were offered workshops on obtaining financial aid, selecting a college, the application process and other related topics.

- Financial assistance — totaling $6,000 — was offered to SAS students who attended college. The money was provided by the mentor or by companies/organizations that donated the funds.

High-Quality Mentoring Relationship
SAS recognized the importance of mentoring as an intensive commitment that went well beyond incidental and sporadic encounters between mentor and student. Mentors were expected to build a relationship based on mutual respect and trust and to work with students' families to nurture the students' potential. As one mentor said, there was no "magic formula" to mentoring.

Constant Emphasis on Academics
"A constant emphasis on academic skills reinforces the commitment of all parties – students, mentors and staff – to the primary goal of increasing college attendance," noted the evaluator.

Sustainable Growth
The evaluator believed that, in any community, only a limited number of adults were capable of establishing effective mentor relationships. "A program should not sacrifice quality – and potentially significant impacts – for quantity in number of participants," the evaluator noted.

Family Support and Student Motivation
Although students from families that provided strong support – independent of SAS participation – did significantly better than others on a number of outcome measures, SAS participation significantly improved outcomes among students whose families provided low and moderate levels of support. Evaluators found that SAS similarly benefited students with the lowest levels of motivation and the lowest GPAs as they entered the SAS program.

STUDY METHODOLOGY

The study was conducted over a 4-year period, from 1993 to 1997 and included four cohorts of Sponsor-A-Scholar students (high school graduating classes of 1994 through 1997). The comparison group was selected by matching each SAS participant with two non-SAS students of the same race, gender and school attended. The comparison group was also matched for academic achievement by selecting the two demographically comparable students whose GPAs were closest (one higher, one lower) to that of the matched SAS student. Two variables on which students could not be matched were income eligibility and motivation for pursuing a college career. Given the high percentage of students from low-income families in the city's public schools, the evaluator explained, there is a high likelihood that most comparison students also fit the SAS program income criteria.

EVALUATION & PROGRAM FUNDING

The evaluation was funded by The Commonwealth Fund. SAS is funded and operated by the nonprofit organization, Philadelphia Futures, the education affiliate of the Greater Philadelphia Urban Affairs Coalition. The annual operating cost of SAS was estimated at $365,429.

GEOGRAPHIC AREAS

SAS serves the Philadelphia public schools.

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"Effects of Success for All on TAAS Reading Scores: A Texas Statewide Evaluation."

Phi Delta Kappan (June 2001), *82* (10): 750-756. By Eric A. Hurley, Anne Chamberlain, Robert E. Slavin, and Nancy A. Madden.

Focus

- ✓ Early Childhood
- ✓ Primary School
- Middle School
- Secondary School
- Postsecondary
- Extended Learning

Begun in Baltimore in the 1987/88 school year, Success for All (SFA) is a program designed to help all students achieve and retain high reading levels in primary education. SFA focuses on reading for ninety minutes a day, using both phonics and meaning-oriented approaches in a curriculum of story discussion, vocabulary, oral skills and comprehension that progresses through a set sequence of reading materials. The reading curriculum couples one-on-one tutoring with reduced class size and regrouping across grades into homogenous reading level classes. Student groups are reassessed and reassigned every eight weeks. Attempts are also made to integrate parents into the reading process at home and in the school. The study summarized here is only one of many published evaluations of SFA.

POPULATION

Almost all of the 111 schools that have implemented SFA in Texas are Title I schoolwide projects in high poverty areas. These schools served a total of 60,000 children. The data in this evaluation focuses on reading scores for students in third through fifth grades. On average, 85% of the children in SFA schools are designated economically disadvantaged (the state average is 45%). SFA schools also have more minority students when compared to the state average. Of the SFA students, 25% are African American, 62% Latino and 13% white (state averages are 14% African American, 35% Latino and 47% white). Students with limited English proficiency are also over-represented in SFA schools (27% vs. 12% statewide). Nationally, more than 1,800 schools in 48 states have implemented SFA. Schools in Australia, Canada, England, Israel and Mexico have adopted variations of the program as well.

Researchers compared gains in the percentage of students meeting the TAAS reading competency from the year before program implementation to 1998 and found that:

- Overall, SFA schools had greater gains than schools throughout Texas, and gains increased with each additional year of the program implementation. For instance, in schools with one year of implementation, the percentage of students passing the test increased 9.8%, compared to a 5.2% increase statewide. Schools with four years of implementation gained 18.8%, compared to 11% statewide.
- For African American students in SFA schools, the gains were 5.62 percentage points greater than those in control schools. For instance, in schools with one year of SFA implementation, 12.3% more African Americans passed the test,

compared to 8.4% more for African Americans in statewide schools. For schools with four years of implementation, the gains for African Americans were 22.7%, compared to 17% for African Americans in statewide schools.

- In addition, the score gap between African American and white students in SFA schools significantly narrowed. At the pretest, African American students in the 1995 cohort trailed white students by 24.6%, while at the post-test (1998) the gap was 6.4%. For African Americans statewide, the gap was 13.8%.

- Latino students in SFA schools also showed statistically significant gains in relation to statewide Latinos. For one-year SFA schools, the percentage of Latinos passing the test increased by 12.2%, compared to 7.6% statewide. Latinos in four-year schools gained 18.2% compared to the 13.4% gain for statewide Latinos.

- White students showed the same trends, with students in SFA schools gaining more than other white students, but the difference, when analyzed at the school level, was not statistically significant. White students in the four-year cohort gained 19%, while those in the state as a whole gained 13%.

- In Success for All, students learn with same-age peers for the majority of the day, but they break into cross-grade groups, by reading level, for ninety-minute classes. Teachers and tutors can then instruct at the appropriate levels without stigmatizing students with "all day tracking." Reevaluation of group assignments every eight weeks also avoids tracking stigma.

- SFA begins in kindergarten with an introduction to letters and letter sounds through, for instance, interaction with a puppet named "Alphie" who teaches the students a letter of the day. The "Reading Roots" program emphasizes phonetically decodable text, partner reading, creative writing, comprehension instruction and cooperative learning.

- The SFA program continues through the fifth grade, offering increasingly difficult reading, discussion and comprehension assignments as the students' reading levels rise. Emphasis is on cooperative learning, meta-cognitive skills, comprehension and writing.

- SFA costs approximately $160 per student in the first year and $60 thereafter. Most schools pay for the program with Title I funds, often supplemented with CSRD grants.

Staff Development and Model Fidelity

A program facilitator works in all of the sites to ensure accurate implementation of the SFA design. Three-day summer training sessions and continued on-site staff training during the year further support program implementation. Teachers receive detailed manuals and reading lists. While this contributes to successful replication of the model, some teachers find the structure of SFA restrictive.

Individual Tutoring

Each SFA program evaluated had a tutoring component, with one-on-one tutoring lasting twenty minutes a day. SFA focuses tutoring initiatives on first graders having difficulty reading, but it provides tutoring for other students as well.

Parent Involvement
In some SFA sites parents participate on the program advisory board or as classroom volunteers. A family support team teaches parents to help their children read with "Raising Readers" (or "*Creando Lectores*") programs and provides support for students with health or family problems. The family support team includes the school's Title I parent liaison, vice-principal (if any), counselor (if any), program facilitator and other appropriate school staff.

STUDY METHODOLOGY

The evaluators reviewed statewide data from the Texas Assessment of Academic Skills (TAAS), including all schools that had begun the program from 1994 to 1997 (111 schools). They compare reading score gains in the TAAS from the year pre-SFA to 1998 (in 1999 the state significantly changed the TAAS administration making comparisons with earlier data unreliable). SFA schools were also compared to all schools in the state. Effect sizes are given to all comparisons and vary between +0.17 (gains for white students) to +0.59 (overall gains). A +0.25 effect size is a moderate effect. The data is aggregate for the state, although researchers observe large variations among SFA schools.

EVALUATION & PROGRAM FUNDING

In 2001, SFA programs were located in 1,800 schools in 48 states and variations of the program had been implemented in Australia, Canada, Israel and Mexico. This study focuses on Texas schools.

GEOGRAPHIC AREAS

SAS serves the Philadelphia public schools.

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"Equity-Driven Achievement-Focused School Districts: A Report on Systemic School Success in Four Texas School Districts Serving Diverse Student Populations" (September 2000) University of Texas at Austin. By Linda Skrla, James Scheurich and Joseph Johnson, Jr.

Focus

- Early Childhood
- ✓ Primary School
- ✓ Middle School
- ✓ Secondary School
- Postsecondary
- Extended Learning

POPULATION

Aldine: Of 49,453 students in 56 schools in 1999, 36% were African American, 47% were Latino, and 14% were white. Seventy-one percent were low-income.

Brazosport: Of 13,247 students in 19 schools, 9% were African American, 33% were Latino, and 56% were white. Thirty-nine percent were low-income.

San Benito: Of 8,697 students in 17 schools, 0% were African American, 97% were Latino and 3% were white. Eighty-seven percent were low-income.

Wichita Falls: Of 15,293 students in 31 schools, 16% were African American, 18% were Latino, and 63% were white. Forty-six percent were low-income.

In 1999, four Texas school districts — Aldine, Brazosport, San Benito and Wichita Falls — were selected for study by the evaluators because they had brought about widespread academic success for children from low income homes and children of color. Researchers found five common themes among the districts. First, Texas developed a State Context of Accountability for achievement and equity, making a change from input-driven accountability to results-driven accountability. The change required schools to get a specific percentage of students to pass a state assessment of reading, writing and mathematics skills in order to maintain state accreditation. Second, Local Equity Catalysts pressured the district into improving. These catalysts included revitalized federal desegregation orders, monitors assigned to the districts by the state due to dysfunctional district governance and local activists or community groups concerned about accountability data evidence of inequitable student achievement. Third, the Ethical Response of District Leadership involved district leaders deciding to develop a district in which all student groups achieve at high levels. Fourth, District Transformation involved changing teaching and learning practices in the classroom. Finally, an attitude of "Everyday Equity" was adopted and profoundly changed many educators' outlooks. As a result of developing reform along these five common themes, all four districts demonstrated what evaluators called "impressive gains" in passing rates for all student groups on all TAAS tests over six years.

Aldine: Between 1994-99, the percentage of African American students passing all TAAS tests increased, on average, 35.6% (from 36.9% to 72.5%). The percentage of Latino students passing the tests increased 31% (from 48.9% to 79.5%). For whites, the increase was 19% (from 67.7% to 87.4%).

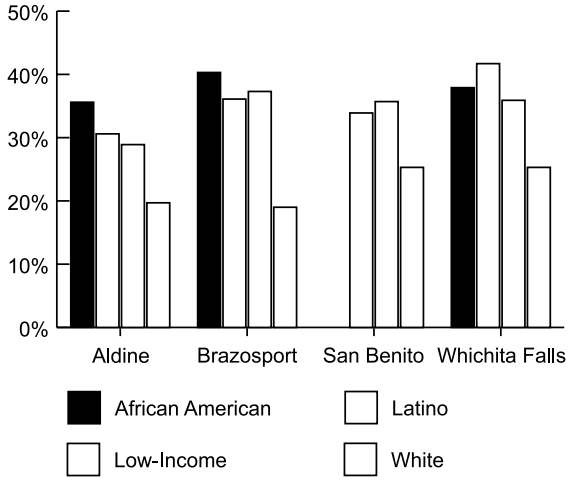
Brazosport: In the same time period, the increase in percentage of African American students passing the TAAS tests was 40.3% (from 42.9% to 83.2%), and 31% for Latinos (52% to 88.1%). The increase for white students was 19% (from 76.8% to 95.8%).

San Benito: The percentage of Latinos passing the tests was 33.9% (from 45% to 89.6%), while for whites the increase was 25.3% (from 64.3% to 89.6%). (In 1999, the district had no African American students).

Wichita Falls: Increases in the TAAS were 37.9% for African American students (from 29% to 66.9%), 41.7% for Latinos (from 35.9% to 77.6%) and 25.3% for whites (from 64.5 to 87.8%).

Increases in attendance rates from 1994 to 1999 were 0.8% for Aldine (95.1% in 1999), 1.2% for Brazosport (96.2%), 1.2% for San Benito (95.3%) and 1.1% for Wichita (95.9%).

TAAS Score Increases by Race, Ethnicity, Income, and School District (1994-99)



For the State of Texas, average increases in passing rates for all TAAS tests from 1994 to 1999 were: 30.7% for African Americans, 29% for Latinos and 18.5% for white students. Attendance rates increased 0.4% in this period.

Program components in each district were related to the five themes described in the Overview above.

- First, the *Context of Accountability* required schools to get the same percentage of students from each racial and income group to pass the assessment, in order to maintain state accreditation.

- Second, *Local Equity Catalysts* had a better range of data available to them than ever before. For the four districts, examples of local catalysts were the general public, newspapers, parents, federal judges, community activists, job seekers, local business people and competing schools/districts. Districts were required to report achievement data to Local Equity Catalysts.

- Third, the *Ethical Response of District Leadership* involved district leaders not just crunching numbers, but adopting a moral philosophy and a goal of making all students and teachers believe they could succeed.

- Fourth, *District Transformation* involved the strategy of proactive redundancy, or developing multiple ways to reach the same learning goal. For example, if a district wanted to ensure that teachers were being successful with the children in their classes, it might have required principals to visit classes weekly to examine teaching. In addition, a district might have implemented targeted, monthly testing of some sort to check whether children were learning. This provided two focused processes to ensure that the specific goal – teachers' success with students – was met.

- Finally, the districts reached an attitude of *Everyday Equity* when their high expectations snowballed. For example, as TAAS scores rose, districts reported that more students began taking advanced placement courses.

Onsite Technical Assistance
The districts provided peer review teams who gave support and onsite technical assistance to low-performing schools. Schools that needed help monitoring or assessing data also received technical assistance.

Common Sense of Mission
Evaluators reported that teachers, principals and support personnel in all four districts shared a common sense of mission, and that mission statements were backed by a true sense of commitment. Within each district, evaluators found, what they called, "a remarkable consistency" in messages about academic achievement goals transmitted to educators, parents, students and community members.

Information Sharing
"In Wichita Falls, a website available to all staff was created for each specific aspect of the state tests, and this was integrated with potential test questions and exemplary ways to teach the specific skill," noted the evaluators. In all four districts, staff development was based largely around information sharing — whether online, person-to-person or documented in published resources — about instructional practices.

Standards-Based Curriculum
Instructional practices were revised based on specific learning goals in core subjects for each grade.

Evaluation
Reform leaders carefully studied data and other measurable outcomes to determine how well school-wide changes were working.

STUDY METHODOLOGY

TAAS data is taken from the state database. To understand the changes that have occurred in the districts, a team of six researchers made two, three-day visits to the Aldine, San Benito and Wichita Falls districts. A single, three-day visit was made to Brazosport since this district had been part of an earlier pilot study. While in the districts, researchers interviewed board members, superintendents, central office staff, principals, teachers, parents, community members and business leaders.

EVALUATION & PROGRAM FUNDING

The evaluation was funded by the Sid W. Richardson Foundation. The school districts funded the reform efforts, with low-achieving schools receiving extra funds or special technical assistance on an as-needed basis to implement reform.

GEOGRAPHIC AREAS

The school districts were located in Texas. Aldine is in the northwest Houston metropolitan area, Brazosport is located on the Texas Gulf Coast, San Benito is in the Rio Grande Valley area and Wichita Falls is in northwest Texas.

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"Building Strong Communities: Tribal Colleges as Engaged Institutions" (May 2001) American Indian Higher Education Consortium (AIHEC) and the Institute for Higher Education Policy (IHEP) and the American Indian College Fund. By Alisa Federico Cunningham and Christina Redmond.

"Creating Role Models for Change: A Survey of Tribal College Graduates" (May 2000) AIHEC, IHEP, and the American Indian College Fund. By Alisa Federico Cunningham and Kenneth E. Redd.

"Tribal College Contributions to Local Economic Development" (February 2000) AIHEC, IHEP, and the American Indian College Fund. By Alisa Federico Cunningham, Veronica Gonzales, James Merisotis, Eileen O'Brien, et al.

"Tribal Colleges: An Introduction" (February 1999) AIHEC, IHEP, and the American Indian College Fund. By Alisa Federico Cunningham, Veronica Gonzales, James Merisotis, Eileen O'Brien, et al.

Focus

- Early Childhood
- Primary School
- Middle School
- Secondary School
- ✓ Postsecondary
- Extended Learning

The first Tribal Colleges were set up in the late-1960s in the wake of the civil rights movement, and the American Indian "self-determination" movement, as a way to increase access to higher education for youth growing up on reservations. Tribal Colleges have a dual education philosophy that combines instruction in Native American language, history and culture with a general curriculum of English literature, mathematics, science and technology. The colleges are located primarily on rural reservations, so they can better serve Native American students and communities. A primary goal of Tribal Colleges is to provide higher education for Native American students without forcing assimilation into mainstream white culture. Although each institution has a unique history, every Tribal College began as a two-year institution with open admissions policies. Today, several Tribal Colleges offer four-year degrees, and a few offer graduate degrees, but the majority remain two-year institutions focusing on certificate and associate degree programs. There are 32 Tribal Colleges in the U.S. and there is one in Canada.

POPULATION

Most Tribal Colleges serve small student bodies, predominantly Native Americans living on reservations. In 1996, 61% of the students enrolled in Tribal Colleges were Native Americans. In the fall of that year, 10,234 Native American students enrolled in American tribal colleges compared with 131,902 Native American students in non-tribal institutions of higher education. More nontraditional students attend Tribal Colleges than mainstream colleges. Age, family obligations and poverty are some of the factors that make college completion difficult for those students. The average age of students at Tribal Colleges is 31.5 years old compared to an average age of 18-24 years old for traditional college students. About 85% of Tribal College students live at or below the poverty line. Half of Tribal College students attend part-time and 64% are women.

Sixteen Tribal Colleges reported completion rates for the 1996-1997 school year. These colleges conferred 936 degrees, including 409 associate's degrees, 58 bachelor's degrees and 2 master's degrees. Eighty-four percent of these graduates were Native Americans and 67% were women. In 1996, Tribal Colleges awarded 19% of the associate's degrees and 10% of all certificates awarded to Native Americans.

In the mid-1990s, the Native American unemployment rate on reservations served by Tribal Colleges was 42%, compared to a national unemployment rate of approximately 6%. The unemployment rate for Tribal College graduates is lower than the rate for reservations as a whole, and the vast majority of these graduates have stayed on the reservations. Evaluators collected employment snapshots of the reservations in the table below.

In 1999, the evaluators conducted a survey of 242 Tribal College alumni, most of whom had received an associate's degree, one year after graduation. Of the Tribal College alumni surveyed:

- Fifty-four percent were working full-time outside of the home.

"If it weren't for Sinte Gleska I would still be ignorant of my Lakota culture. This is perhaps the strongest aspect of Tribal Colleges."
—Graduate, Sinte Gleska University

- Thirty-two percent were attending college for a bachelor's degree.
- Nineteen percent were working part-time outside of the home.
- Nine percent were neither working nor attending college.
- Three percent were self-employed.

Many alumni were both working and attending four-year colleges.

The average annual salary of employed survey respondents was $15,683 in 1999. Although there is no comparable data on the average salary for all employed reservation residents, the average per capita income on Tribal College reservations ($4,665 in 1990) offers some indication of how difficult it is to make a living wage on the reservations.

Tribal College Alumni Unemployment vs. Reservation Unemployment

Tribal College	Alumni	Reservation	All Residents
Salish Kootenai College	14%	Flathead Res. (MT)	20%
Stone Child Community College	15%	Rocky Boy Res. (MT)	72%
Turtle Mountain Community College	13%	Turtle Mountain Res. (ND)	45%

Cultural studies, community service, internships and business training are key components of the Tribal College curricula:

- The Tribal Colleges offer courses in tribal languages, literature and other subjects reflecting Native American culture. Without these classes traditional tribal languages might disappear. Courses are taught in ways that respect Native American cultural traditions. For instance, Bay Mills Community College in Montana offers a tribal literature class only in the winter, because the stories are to be told only when snow is on the ground. These colleges also serve as the primary repositories of archival materials on tribal history and culture.
- In terms of community service, 22 Tribal Colleges offered adult basic education, remedial courses or high school equivalency programs to

residents in the surrounding community. North Dakota's Sitting Bull Community College, for example, runs a mobile classroom to serve the outlying areas of the reservation. Similarly, California's D-Q University has an American Indian Young Scholars Program that provides academic preparation, research experience and support services to Native American high school students interested in pursuing science careers.

- Tribal College professors work with local employers to align curricula with the career options available for graduates. Employers work through the Tribal Colleges to provide students with internships in local businesses. Tribal Colleges also offer business courses, leadership development workshops and technical assistance at small business centers to support Native American entrepreneurship.

"During my years attending a Tribal College, I received a lot more help than I would have if I'd attended a university. I feel that the Tribal College has given me the experience and ability to be a successful student."
—Graduate, Dull Knife Memorial College

"Attending a tribal college gave me the courage to go back to school. The small classes and personal relationship with the teachers and professors made me want to give school a chance again. I will never forget the two years I spent at Fort Peck Community College."
—Graduate, Fort Peck Community College

- Through partnerships with local schools and federal TRIO programs, Tribal Colleges facilitate the transition from high school to postsecondary education for Native American students. Sixty percent of Tribal Colleges have articulation agreements with local high schools. Three Tribal Colleges run Talent Search programs, 6 run Upward Bound programs, and 14 offer Student Support Services.

Faculty/Staff Role Models

The Tribal Colleges make a conscious effort to hire and retain Native American faculty and staff who can serve as role models for their students. In 1995, 30% of full-time faculty and 79% of full-time staff at Tribal Colleges were Native Americans. In contrast, less than 1% of faculty and staff at all public colleges and universities were Native Americans.

Student Services

To meet the needs of nontraditional or disadvantaged students, Tribal Colleges offer a range of services such as day-care, nutrition, counseling and substance abuse.

Facilities and Funding

Despite fundraising efforts by the American Indian College Fund and funding from the departments of Education and the Interior, Tribal Colleges struggle with funds for facilities, maintenance and faculty salaries. In the 1997-98 school year, the average faculty salary at Tribal Colleges was $30,241 compared to $45,919 at two-year mainstream institutions and $52,335 at all public institutions in the United States. In 1994, 30 Tribal Colleges gained status and funding as land-grant colleges. This greatly increased federal funding, but evaluators estimated that "together, the 30 land-grant Tribal Colleges receive approximately the same funding through land-grant related appropriations [as] one state land-grant university."

STUDY METHODOLOGY

The evaluators collected quantitative and qualitative information about the effect of Tribal Colleges on Native American achievement by interviewing Tribal College faculty and administrators and by surveying Tribal College alumni one year after graduation. Evaluators mailed the survey to 965 alumni and received 242 responses. The demographics of respondents varied only slightly from the demographics of Tribal College students collected by the colleges themselves and by the U.S. Department of Education. Evaluators used comparative data from the U.S. Department of Education, the Bureau of Indian Affairs and other federal agencies and departments.

EVALUATION & PROGRAM FUNDING

Support for this study came from the American Indian Higher Education Consortium, the Institute for Higher Education Policy, the American Indian College Fund, the Pew Charitable Trusts and the US Department of Health and Human Services' Administration for Native Americans. The Sallie Mae Education Institute co-sponsored the Alumni Survey.

GEOGRAPHIC AREAS

Tribal Colleges are located in Arizona, California, Kansas, Michigan, Minnesota, Montana, Nebraska, New Mexico, North Dakota, South Dakota, Washington and Wisconsin.

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"The Impacts of Upward Bound: Final Report for Phase I of the National Evaluation," Mathematica Policy Research, Inc. (April 1999)

Focus

- Early Childhood
- Primary School
- Middle School
- ✓ Secondary School
- Postsecondary
- ✓ Extended Learning

POPULATION

Nationally, the three largest racial/ethnic groups of youth involved in UB are African Americans (50%), Latinos (22%), and whites (21%). Native Americans and Asian Americans also participate. Less than one-third (29%) of Upward Bound applicants are males. The study focused on representative sample of 67 randomly selected project sites across the country and included approximately 1,500 program participants, the majority of whom (82%) came from low-income families.

Established by the Higher Education Act (1965), the Upward Bound (UB) program is one of the largest federally funded college access programs in the country, other than financial aid and scholarship programs. In 1999, 44,000 students participated in 563 sites across the country. At least two-thirds of UB participants at each site must be both low-income and potential first-generation college students, and the primary goal of the program is to prepare these students for college. Students enter the program in their first or second year of high school and may continue to participate through the summer after high school graduation. UB offers tutoring and counseling during the school year and a six-week academic program, which is often held at a two or four-year college, during the summer. [UB is one of five TRIO programs funded by Title IV of the Higher Education Act. The others are: Talent Search, Educational Opportunity Centers, Student Support Services and the Ronald E. McNair Post-Baccalaureate Achievement Program.]

Findings from this evaluation of Upward Bound were mixed with small and inconsistent impact for students overall, but larger, consistently positive impacts for students who entered the program with low educational expectations. (All findings reported are significant at the 0.1 level).

A comparison of UB students to a control group found that the program participants:

- Earned more non-remedial high school credits in math (0.2 credits).
- Were more likely to receive financial aid to attend college (33% vs. 30%).
- Earned more non-remedial credits at postsecondary institutions (6.8 vs. 5.7).
- Were more likely to remain in school (35% vs. 28%).

However, when compared to non-participants, UB participants had similar:

- Cumulative GPAs.
- Enrollment in postsecondary institutions (two or four-year college or vocational/technical schools).

When researchers analyzed the two groups according to race/ethnicity, they found that:

- Latino UB youth completed 10% more high school credits than Latinos in the control group. They were also less likely to drop out of school and more likely to earn non-remedial credits in four-year colleges.

- African American UB youth earned 16% more Advanced Placement credits than their peers in the control group, and they earned fewer credits in remedial courses while attending two-year colleges. The program had no impact on overall numbers of credits taken or drop out rates.

- White UB youth earned 10% more high school credits than their peers in the control group. They were also less likely to drop out of school, and they earned less remedial credit in college.

The lower the expectation to attend college prior to joining the program, the more significant the results. When compared to a similar control group, UB students who had entered the program with low expectations to attend college:

- Earned about three more high school credits (mostly in sciences and social studies)

- Were more likely to graduate from high school (65% vs. 52%)

- Were 12% more likely to attend four-year colleges

- Earned about seven more credits in four-year colleges

When compared to males in the control group, UB male participants (of every race and ethnicity):

- Earned two more high school credits and four more credits at four year colleges

- Were less likely to drop out of school

- Were more likely to attend a highly selective four-year college

For other subgroups, the program had the following effect:

- Girls took fewer remedial classes than their peers in the control group when attending two-year colleges, but otherwise UB had little impact on high school graduation and college access for girls.

- Low-income students earned three times more Advanced Placement credits and were less likely to dropout of high school than peers outside of the program.

- Students participating in the program for more than one year were 14% more likely to attend a four-year college and earn five more college credits than students who stayed in the program for less than one year.

Students had the opportunity to participate in Upward Bound for all four years of high school, but 35% left the program during the first year and an additional 20% drop out of the program before the end of their senior year in high school. The average length of time in the program was 19 months.

Students who participated through their senior year reaped the greatest benefits from UB. About 85% of the students who remained in UB their senior year enrolled in college the fall after they graduated from high school, and approximately two-thirds of these students enrolled in four-year colleges.

Upward Bound is a year-round academic enrichment program for disadvantaged students (grades 9-12) that includes counseling, after school classes during the year, and intensive summer programs.

- During the school year, UB staff provide weekly, academic support for program participants through high school visits, tutoring and mentoring relationships.
- After school, UB participants can take advantage of high level courses usually taught at nearby two- and four-year colleges, but sometimes held at a high school or community-based organization.

The summer programs, often hosted by two- and four-year colleges, provide intensive academic training with classes in math, the sciences, arts, literature, and other subjects. The summer programs run six weeks, and they provide UB participants a vision of the possibilities and promises of higher education.

Challenging Academic Environment
The advanced academic coursework after school and during the summer programs is comparable to college preparatory programs enjoyed by more advantaged students. Exposure to college level work on college campuses gives disadvantaged students a vision of themselves undertaking and succeeding in postsecondary education.

Student-Centered Initiative
Rather than focusing on reforming an entire school or intervening in the families and communities of young people, UB focuses on raising the academic achievement of each individual student.

Student Commitment
The benefits of the program were greatest for students who committed to the program for all four years of high school, but not all students could commit for that long. Many left the program in order to get jobs or because transportation to program sites was unavailable.

Evaluators argued that since the impact of the program on students entering with lower expectations was consistently positive across a range of achievement outcomes, UB might be more effective if students with lower educational expectations and poorer academic records were recruited in greater numbers by, for instance, targeting ninth graders with C and D averages.

To address the high program dropout rate of participants seeking paid employment, evaluators suggest that UB provide "employment opportunities that complement the design and curriculum" of the program.

STUDY METHODOLOGY

Mathematica researchers examined longitudinal survey data from a group of program applicants who were randomly assigned to participate in either the program (1,479 UB participants) or a control group (1,320 members). The groups were selected during the 1992-93 and 1994-95 school years. The almost 3,000 youth in the study came from a sample of 67 UB sites, also randomly selected. The groups were subdivided into subgroups according to gender, race/ethnicity, expectation to attend college, low-income and potential first generation of college student. These youth filled out baseline questionnaires between 1992 and 1994, and follow up surveys in 1994 and 1996. Researchers also collected high school and (when available) college transcripts, as well as project staff evaluations of students. This was an interim report of a longitudinal study, so most of the participants had completed high school, but few were of an age to have finished college. Findings are most reliable with regard to high school outcomes. Future studies will report more accurate data on postsecondary achievement.

EVALUATION & PROGRAM FUNDING

The U.S. Department of Education conducted and funded the evaluation. The program is funded by the federal government under the Higher Education Act.

GEOGRAPHIC AREAS

UB sites are located in all fifty states and the District of Columbia. Mathematica did not indicate the location of specific sites examined for the evaluation.

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"Hope for Urban Education: A Study of Nine High-Performing, High-Poverty, Urban Elementary Schools" (1999) U.S. Department of Education – Office of the Undersecretary. Joseph F. Johnson, Jr. and Rose Asera, eds.

Focus
- Early Childhood
- ✓ Primary School
- Middle School
- Secondary School
- Postsecondary
- ✓ Extended Learning

The research focused on nine urban elementary schools that served students who evaluators referred to as "children of color in poor communities." All 9 of the schools have used Title I, school-wide programs. In addition, all the schools were located in urban areas and did not have selective admissions policies. Only two of the schools used nationally known, comprehensive school reform models; one used the Accelerated School Program and another used Success for All. The evaluators chose to write case studies about these schools because they had achieved results on state assessments of reading and mathematics that exceeded the average for all schools in their respective states.

POPULATION

Student demographics varied. At 6 of the 9 schools, most students were African American, at one school most students were Latino and at another, most were Asian. The majority of the students qualified for free or reduced-price lunch; in 7 of the schools, at least 80% of the students met low-income criteria. Enrollments ranged from 283 students at Baldwin Elementary, in Boston, to 1,171 at Goodale Elementary in Detroit. Three of the schools had more than 500 students. Although all of the schools served elementary grades, they had different grade level configurations, starting as early as pre-kindergarten and ending as late as eighth grade.

- A school that successfully closed a wide gap between minority students' test scores and other students' test scores was Lora B. Peck Elementary School in Houston. In 1995, no Latino students passed the writing section of Texas Assessment of Academic Skills (TAAS) while fewer than one in five African American students passed it. In contrast, in 1998, at least 90% of each population group — African American, Latino, white and economically disadvantaged students — passed each section of the test.

- Another school successful in closing the gap was Baskin Elementary School in San Antonio. In 1994, 81.3% of white students achieved the passing standard in reading on the TAAS while the percentage of African American students achieving the same standard was 56.3 percentage points lower. By contrast, four years later, at least 90% of all students, 90% of African American students, 90% of Latino students and 90% of low-income students passed the reading, writing and mathematics sections of the test.

"The true catalyst was the strong desire of educators to ensure the academic success of the children they served."
— Joseph F. Johnson, et al., evaluators

- In 1995, at Burgess Elementary School in Atlanta (where 99% of the student body is

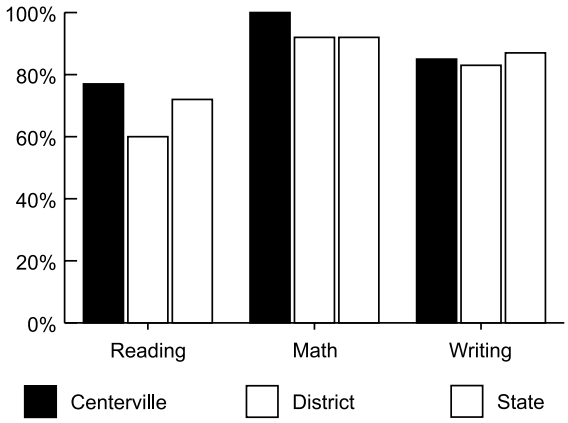
African American), 29% of students in grades 1-5 were scoring above the national norm in reading and 34% above the national norm in mathematics on the Iowa Test of Basic Skills (ITBS). By 1998, 64% of students in grades 1-5 scored above the national norm in reading while 72% scored above the national norm in math.

- At Baldwin Elementary in Boston, from 1996 to 1998, students' Stanford-9 mathematics and reading scores improved substantially, with achievement shifting from Levels 1 & 2 (little or no mastery of basic knowledge and skills to partial mastery) to Levels 3 & 4 (solid academic performance and superior performance beyond grade level).

- At the third-grade level, a greater percentage of Centerville Elementary students met or exceeded statewide performance goals for reading and mathematics as measured by the Illinois Goal Assessment Program that took students throughout Illinois. One hundred percent of third graders tested, met or exceeded state goals in mathematics (see graph).

- In Detroit, students at Goodale Elementary once performed below the state average and in 1998 scored above it on the Michigan Educational Assessment Program (MEAP). In 1993-94, 22.4% of students scored satisfactorily on MEAP, compared with 43.6% statewide; in 1997-98, 65% did, compared with 58.6% statewide. Similarly, students at the Gladys Noon Spellman Elementary School in Cheverly, MD improved considerably on the Maryland State Performance Assessment Program in reading between 1994-1998. In 1994, 17% of third-graders scored at or above the satisfactory level. By 1998, 69% did, compared with 41.6% statewide.

Percentage of Centerville Elementary Students Meeting or Exceeding State's IGAP Goals for Grade Three



- One hundred percent of students in third grade at Hawley Elementary School in Milwaukee passed the Wisconsin Reading Comprehension Test in 1998, compared with 25% passing throughout Milwaukee public schools.

- Students at James Ward Elementary School in Chicago have shown long-term progress in achievement on the ITBS. In 1991, the percentage of Ward students scoring at or above the 50th percentile on the ITBS reading assessment was 18.9% while it was 42.6% on math. In spring of 1998, 51.2% of Ward students scored at or above the 50th percentile in reading while more than 63% scored at or above the 50th percentile in math.

These were all public schools that used federal Title I dollars to create Title I school-wide programs. They pooled all of their resources to improve achievement throughout the entire school instead of targeting federal resources to only those children who met eligibility criteria based on financial need. Though achievement-boosting initiatives varied from school-to-school, there were some common components:

- A visible and attainable, initial goal helped schools move toward broader, more ambitious goals.
- A sense of responsibility was fostered among students for appropriate behavior, cutting down on time spent with discipline and enhancing instructional time.
- The use of data helped schools to identify, acknowledge and celebrate strengths while focusing attention and resources on areas of need.
- Instruction was aligned to the standards and assessments required by the state and/or the school district.

"Even though there are far too many well-documented stories of intellectually vapid schools that perpetuate cycles of poverty and further limit the life choices of children, there are some urban schools that are giving new life to their communities and transforming the futures of the children they serve."

— Joseph F. Johnson, et al., evaluators

- Professional development for teachers was added in tandem with school-wide or curriculum changes. School leaders made sure that teachers felt like they had adequate materials, equipment and training.
- Confidence and respect of parents was pursued by educators, primarily by improving the achievement of students.

Instructional Coaching

Principals tended to spend a large percentage of their time in the classrooms observing teachers, reinforcing good teaching techniques and helping to improve instruction. Some schools created a new "instructional guide" position, separate from other administrative positions. Instructional guides provided instructional coaching and support for teachers.

Clear Accountability

The schools created "clear, measurable and rigorous school accountability provisions," observed the evaluators. A focus on adequate yearly progress, they added, was insufficient.

Capacity-Building Strategies

States and districts set high expectations for the schools but also provided adequate support for them to meet these expectations. One of the most important supports was time for school personnel to align instruction to standards and assessments.

High Quality Training

Principals and school decision-making committees had high quality training that helped them use data to focus resources on critical areas of instructional need.

Extended Learning Time

The schools had resources that enabled them to increase the quantity of time available for instruction. The evaluators cited after-school programs, "Saturday Schools" and extended-year programs as important vehicles for ensuring that students met challenging standards.

STUDY METHODOLOGY

Teams of researchers made two-day visits to all 9 schools during which they interviewed campus and district administrators, teachers, parents and other school personnel. They also observed classrooms, hallways, playgrounds and various meetings. Finally, they reviewed various school documents and achievement data.

EVALUATION & PROGRAM FUNDING

The U.S. Department of Education funded the evaluation. The schools were all public schools that used federal Title I dollars to create Title I school-wide programs.

GEOGRAPHIC AREAS

The high-performing, urban schools selected were: Harriet A. Baldwin School, Boston, MA; Baskin Elementary School, San Antonio, TX; Burgess Elementary School, Atlanta, GA; Centerville Elementary School, East St. Louis, IL; Goodale Elementary School, Detroit, MI; Hawley Environmental Elementary School, Milwaukee, WI; Lora B. Peck Elementary School, Houston, TX; Gladys Noon Spellman Elementary School, Cheverly, MD and James Ward Elementary School, Chicago, IL.

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"Test Score Effects of School Vouchers in Dayton, Ohio, New York City, and Washington, D.C.: Evidence from Randomized Field Trials" (August 2000)

Prepared for the annual meetings of the American Political Science Association. By William G. Howell, Patrik J. Wolf, Paul E. Peterson and David E. Campbell.

"The Effect of School Vouchers on Student Achievement: A Response to Critics"

Program on Education Policy and Governance, Harvard University. By William G. Howell, Patrik J. Wolf, Paul E. Peterson and David E. Campbell.

Focus

- Early Childhood
- ✓ Primary School
- ✓ Middle School
- ✓ Secondary School
- Postsecondary
- Extended Learning

Vouchers are tuition subsidies for students in public schools seeking to attend private schools and for students already in private schools. Voucher programs may be publicly or privately funded. The evaluation (and the response to critics) concentrate on three voucher initiatives: the School Choice Scholarships Foundation (SCSF) in New York City, Parents Advancing Choice in Education (PACE) program in Dayton, OH and Washington Scholarship Fund (WSF) program in Washington, DC. With similar designs, these voucher programs were privately funded, focused on students from low-income families (most of whom lived within the central city) and provided partial tuition ($1400-$1700 per year) which the family was expected to supplement from other resources.

POPULATION

All three of the voucher programs awarded scholarships by lottery to students from low-income families. The evaluation focused on students entering grades 2 to 5 in New York City and grades 2-8 in Washington, D.C. and Ohio. For all three programs, the ethnic split of the populations generally reflected the demographics of the area's low-income population at large. For example:

- Of 1,300 students who received vouchers in New York City through SCSF and participated in the second-year evaluation, 42% were African American, 51% Latino and 5% white.
- Of 515 students who received vouchers in Dayton through PACE and participated in the second-year evaluation, 74% were African American, 24% white, and 2% Latino.
- Of 1,000 students who received vouchers in Washington, DC through WSF and participated in the second-year evaluation, 95% were African American, 4% Latino and 1% white.

The goal of the evaluation was to measure test-score effects of school vouchers with a focus on differing results among ethnic groups. Results are given in National Percentile Ranking (NPR). When voucher students were compared to a matched group of students who attended public schools, evaluators found that:

- In the three cities taken together, the average overall test score performance of African American voucher students was, after two years, 6.3 NPR points higher than the performance of the control group (a cut of approximately one third of the test score gap between African Americans and white students nationwide). The difference is significant at the .05 level.

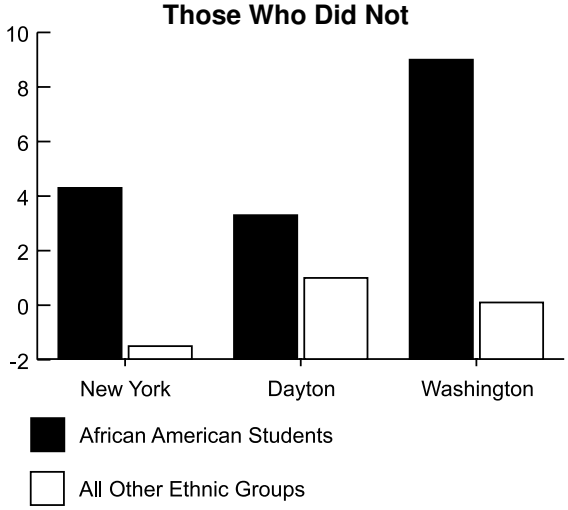
- In each city, for African American voucher students, the difference in test performance after two years was statistically significant, but results varied in each city. The difference for African American voucher students in New York city was 4.3 NPR points higher, in Ohio the difference was 6.5 NPR points higher and in Washington, D.C., 9.0 NPR points higher.[1]

- When controlling for family background (employment status, welfare recipient, family size, and mother's education), the difference between voucher and non-voucher students in Dayton is not significant, the difference in New York City is significant at the 0.1 level, but that in Washington D.C. is significant at the 0.01 level ("The Effect of School Vouchers").

"The average impact across the three sites may provide a reasonable estimate of the likely initial impact of a school voucher initiative elsewhere."

—Howell, et al.

Test Score Differences Among African Americans and All Other Ethnic Groups After Two Years, By City, Among Students Who Received Vouchers Compared To Those Who Did Not



Difference in National Percentile Ranking (NPR) Points Among Students Who Received Vouchers

- In DC, after one year, older African American voucher students trailed their public school peers in overall test performance by 9.0 points. But by the end of two years, this older group of African American students had combined test score performances that were 8.1 percentile points higher than those of a control group.

- No statistically significant effects, either positive or negative, were observed for voucher students from other ethnic groups.

[1.] *A study of school vouchers in New York by Mathematica reveals that the majority of the significant gains for African American voucher recipients occur in sixth grade. It is unclear why the impact is so strong for this age group and not others. "School Choice in New York City After Two Years: An Evaluation of the School Choice Scholarship Program" (August 2000) Mathematica Policy Research, Inc. (MPR# 8404-036). By David Myers, Paul Peterson, Daniel Mayor, Julia Chou, and William G. Howell.*

SCSF: In early 1997 SCSF provided 1,300 scholarships, worth up to $1,400 annually for three years to children from low-income families currently attending public schools. The scholarship could be applied toward the cost of attending a private school, either religious or secular. To be eligible for a scholarship, children had to be entering grades 1 to 5, live in New York City, attend a public school and come from families with incomes low enough to qualify for the U.S. government's free school lunch program.

PACE: For the 1998-99 school year, PACE offered scholarships for four years to 515 students who were in public schools and 250 students who were already enrolled in private schools. Students who were from low-income families and who were entering grades K-12 qualified. The maximum award was a $1,200 annual voucher guaranteed for four years.

WSF: After a large infusion of philanthropic funds in October 1997, WSF expanded an existing voucher program to offer more than 1,000 scholarships, with a majority going to students not previously in a private school. To qualify, applicants had to be entering grades K-8 in fall 1998. WSF awarded recipients, from families with incomes at or below the poverty line, vouchers that equaled 60% of tuition or $1,700, whichever was less. Recipients from families with incomes above the poverty line received smaller scholarships.

The three voucher programs evaluated shared some key components.

- All focused on students from low-income families who lived in the central city, and all offered partial tuition scholarships.
- A lottery system decided the final scholarship recipients after initial eligibility was determined, giving each family an equal chance to be chosen. All three programs had hundreds more families apply for vouchers than could be awarded.
- Vouchers could be used to attend any private school within the metropolitan area.
- All three of the voucher programs were privately funded.
- Most voucher recipients had to supplement the voucher funds with their own money or other scholarships to meet the private school tuition costs.

The evaluators acknowledge that they have yet to determine which specific factors could have led to the positive outcome they found for African American students who switched from public to private school. But the evaluators, as well as others researching voucher programs, have theorized that the following factors may have contributed to the achievement gains:

- Classroom Environment: Parents of voucher recipients believed that classes in private schools had less cheating, fighting, property destruction, racial conflict, truancy and absenteeism.
- Peer Groups: Evaluators allowed that positive peer influences could have contributed to the increased achievement, but their research did not prove or disprove this hypothesis.

STUDY METHODOLOGY

The evaluator used randomized field trials, using the students who had applied for vouchers but did not win the lottery system as a control group. Vouchers were provided to students who attended both public and private schools, but the evaluation included only those students who were attending public schools. Students entering the lottery had similar academic achievement as tested by the Iowa Test of Basic Skills. Families of voucher students in New York and D.C. had higher incomes than the families of non-voucher students. The opposite was true in Dayton. Differences between voucher and non-voucher groups were mathematically adjusted. Each student was given an NPR score in math and reading that may vary between 0 and 100. Nationwide, median student performance is 50. Results are reported for math, reading and a combined score that is the average of the math and reading scores.

EVALUATION & PROGRAM FUNDING

The evaluation was funded by grants from the following foundations: Achelis Foundation, Bodman Foundation, Lynde and Harry Bradley Foundation, William Donner Foundation, Thomas B. Fordham Foundation, Milton and Rose D. Friedman Foundation, John M. Olin Foundation, David and Lucile Packard Foundation, Smith-Richardson Foundation, Spencer Foundation and Walton Family Foundation. The voucher programs considered in the evaluation are all privately funded.

GEOGRAPHIC AREAS

SCSF was in New York City, PACE was in Dayton, OH and WSF was in Washington, DC. Voucher programs are in place in other states across the nation as well.

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American College Test (ACT): A standardized examination first created in 1959 by the American College Testing Program and used primarily by schools in the Midwest and West to determine student readiness for postsecondary education. The ACT includes 215 multiple choice questions, focusing on four subject areas: English, mathematics, reading, and science. Composite scores range from 0 to 36. Approximately 40% of high school seniors in the United States take the ACT.

Advanced Placement (AP): College-level academic courses taken during high school that confer college credit if students pass standardized examinations at the end of the courses.

After-School Programs: Programs run by schools and/or community based organizations that provide recreational and learning activities for students after the end of the regular school day (usually from about 3:00 PM to 6:00 PM) or on the weekends. Some of these programs are supported through federal 21st Century Community Learning Center legislation. The legislation defines a community learning center as "an entity within a public elementary, middle or secondary school building that (1) provides educational, recreational, health, and social service programs for residents of all ages within a local community, and (2) is operated by a local educational agency (LEA) in conjunction with local governmental agencies, businesses, vocational education programs, institutions of higher education, community colleges, and cultural, recreational, and other community and human service entities."

Alignment: Matching the skills and knowledge imparted by school or program curricula with the requirements of state standards and tests as well as the demands of postsecondary education and employment.

Applied Curriculum: A course of study that uses real-world problem solving assignments to teach theoretical concepts and academic skills.

California Achievement Test (CAT): A series of norm-referenced standardized tests used across the country to measure academic achievement of elementary, middle, and high school students in six subject areas: reading, language, spelling, mathematics, study skills, and science. Percentile scores are reported rather than raw scores.

Comparison Group: An existing collection of individuals, similar enough to the treatment group, but who do not participate in the program or initiative being studied and whose achievement is measured against the treatment group to assess the intervention's effectiveness. For instance, a group of students in the same school but whose class does not participate in a determined program. Comparison groups are identified, but not created, by the researcher. Comparison groups are not as rigorous as Control Groups. See also Control Group, Experimental Design, Treatment Group and Matched Comparison/Control Group.

Control Group: A group of individuals who come from the same pool as the treatment group, but are assigned, preferentially through random processes (such as a lottery) not to receive the program or intervention and whose achievement is measured against that of the treatment group. Control groups are created by the researcher as part of the experimental design. See also Comparison Group, Experimental Design, Treatment Group and Matched Comparison/Control Group.

Correlation Coefficient: An index that describes the extent to which two sets of data are related or a measure of the relationship between two variables. Correlation does not imply a causal relationship. It simply indicates whether two variables (such as grades and attendance) are related.

Criterion-Referenced Test: A test that measures student achievement in relation to established skill and/or content standards rather than against the performance of other students (as in norm-referenced tests).

Effect Size: A measure of the impact of an initiative based on the difference between the mean scores of the treatment and comparison/control groups and the spread (or standard deviation) of each group's scores. See also Standard Deviation.

Experimental Design: The design of an evaluation study that randomly assigns students to treatment and control groups and holds all other factors or variables (e.g. socio-economic, demographic, environmental, etc.) constant as the students go through the education process so that the differences between the two groups can be attributed to the treatment employed (in educational research, the treatment is the program or school initiative).

High-Stakes Tests: Examinations that imply consequences for the future educational trajectory of students, teachers, principals, and schools. For students, failure carries penalties, such as not advancing to the next grade level or graduating, regardless of other measures of achievement. For schools, high failure rates might mean district take-over or revoked accreditation.

Iowa Test of Basic Skills (ITBS): A norm-referenced, standardized test used across the country to measure aptitude and achievement of students in grades K-8 in several areas: listening, word analysis, vocabulary, reading, comprehension, language skills, mathematics, social studies and science. Percentile scores are reported rather than raw scores. The Riverside Publishing Company, a subsidiary of Houghton Mifflin, publishes the ITBS.

Longitudinal Research: Evaluation that measures the effect of a program or school initiative on one group of students at different points over time. This entails tracking students' achievement while they participate in an initiative and for a number of years after they exit.

Matched Comparison/Control Group: A comparison or control group where students are similar (matched) to the treatment group in variables that are important for the research, such as race/ethnicity, age, gender, income level and academic level. The comparisons will be valid and generalizable only when the two groups (comparison or control and treatment groups) are similar or matched.

National Assessment of Educational Progress (NAEP): Also called "the Nation's Report Card," NAEP was begun in 1969 as a continuous assessment of student knowledge and achievement in eight subject areas: reading, mathematics, science, writing, U.S. history, civics, geography, and the arts. A national sample of students in grades 4, 8 and 12 take NAEP tests. NAEP is mandated by Congress and funded through the National Center for Education Statistics in the U.S. Department of Education. Scores are reported for race/ethnicity and other subgroups of students nationally and by state but not for individual students or schools.

Normal Curve Equivalent (NCE): A standardized scale of scores developed by the U.S. Department of Education that allows comparison between different types of tests and different groups of students taking the same test. NCE scores have a normal curve distribution with a mean of 50 and standard deviation of 21.

Norm-Referenced Test: A test that measures the performance of individuals against the mean performance of the other students taking the test rather than against a set of skill or content standards. Scores on norm-referenced tests are relative and usually reported as percentiles. (See also Criterion-Referenced tests.)

Percentile: The standing of an individual in relation to a larger group of students taking the same test (e.g., a student scoring at the 75th percentile scored higher than 75% of the students taking the test, but did not necessarily get ¾ of the answers on the test correct). [Percentiles are values that divide a sample of data into one hundred groups containing equal numbers of observations. For example, 50% of the data values lie below the 50th percentile.]

Sample Size: The number of students included in an experiment or evaluation, usually smaller than the total number of students participating in the program or school initiative but large enough to represent the entire group.

Scholastic Aptitude Test (SAT): A standardized examination first developed by the College Board in 1926 to determine student readiness for postsecondary education. Today, the SAT focuses on two subject areas, measuring verbal and

mathematical ability. It is one of the most popular tests used by college admissions officials (in conjunction with other application materials) to determine whether to accept prospective students. Scores range from 200 points to 800 points on the Verbal and Mathematics sections of the test with a maximum potential score of 1600. Approximately 40% of high school seniors in the United States take the SAT.

Small Learning Communities: The organization of a school or youth program that is small enough to allow for personalized attention by staff and teachers for each student. The U.S. Department of Education supports small learning communities through Part A of Title X of the Elementary and Secondary Education Act (ESEA), which provides grants to implement career academies, schools-within-schools, mentoring, career clusters and other strategies to restructure large schools.

Standard Deviation: Standard deviation is a measure of the spread or dispersion of a set of data. The more widely the values are spread out, the larger the standard deviation. For example, if a group of students was given two exams and their scores varied from 30 to 98 on the first exam and from 80 to 98 on the second exam, the standard deviation is larger for the first exam.

Stanford-9 (SAT-9): A norm-referenced, standardized test used in schools nationwide to measure student achievement in grades K-12. For elementary and middle school students, the test focuses on vocabulary, reading, writing, spelling, and math. The subject areas for high school students are reading, writing, history/social science, math, and science. The Harcourt Brace Educational Measurement division publishes the SAT-9. Percentile scores are reported rather than raw scores.

Te**xas Assessment of Academic Skills (TAAS):** A criterion-reference test administered annually by the Texas Education Agency that measures student achievement in reading and math (for grades 3-8 and 12), in writing (for grades 4, 8, and 12), and in science and social studies (grade 8). Spanish language versions are available for grades 3-6. Texas students must pass the TAAS to graduate with a high school diploma.

Treatment Group: In education research, this is the collection of students who participate in a program or school initiative. Their attitudes or achievement outcomes are often measured against control or comparison groups to determine the effectiveness of the program or school initiative. See also Control Group and Comparison Group.

Note: For more information on testing and educational research terms, see Gerald W. Bracey, "Thinking About Tests and Testing: A Short Primer in 'Assessment Literacy'" (Washington: American Youth Policy Forum, 2000). Available on line at www.aypf.org/BraceyRep.pdf.

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