

How Do Pre-Collegiate Academic Outreach Programs Impact College-Going among Underrepresented Students?



PATHWAYS
TO COLLEGE
NETWORK

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Executive Summary

This paper was commissioned by the Building School Capacity (BSC) committee of the Pathways to College Network to inform future field work and case studies conducted by the BSC to examine links between school reform and pre-collegiate academic development efforts. The purpose of this paper is to examine literature on pre-collegiate academic development programs, identify key practices, and describe four programs that utilize these practices.

The report presents an analysis of outreach programs relative to the following questions:

1. What do we know about the current practices by pre-collegiate academic development programs to increase the number of educationally disadvantaged students who are prepared to enroll in an institution of higher education?
2. How are program interventions determined and evaluated?
3. What principles of practice are essential to these programs' success in helping students prepare for college?
4. What are the implications of these findings for determining and promoting links between these programs and ongoing school reform efforts?

The paper is divided into four sections. The Introduction defines the scope of the paper and presents background information on the conceptual framework and history of efforts to provide educationally disadvantaged students with access to academic enrichment and support services that will increase their college-going opportunities. A brief examination of the development of Upward Bound and GEAR UP shows that an evolution is underway in

these programs. At the same time, the lack of rigorous evaluation of program components continues to make evidence of the role of outreach in a student's college pathway elusive.

Section 2, "Principles of Practice," contains a literature review and discussion of the principles of practice that are common among pre-collegiate academic development programs: high standards for program students and staff; personalized attention for students; adult role models; peer support; K-12/program integration; strategically timed interventions; long-term investment in students; school/society bridge for students; scholarship assistance; and evaluation designs that can contribute results to interventions.

In Section 3, "Promising Practices: Four Academic Outreach Programs," we describe four exemplary programs that have been evaluated by researchers and which embody the foregoing principles of practice. These programs—Baltimore College Bound, Career Beginnings, Sponsor a Scholar, and Upward Bound—are organized according to the type of pre-collegiate academic development programming they represent: informational outreach, career-based outreach, and academic support. A brief description of each program and summaries of the evaluation findings are included.

The conclusion synthesizes the findings of this paper and suggests issues for future field work and case studies conducted by the Pathways to College Network. These issues include the need for more quantitative data from these programs in order to determine potential links to school reform efforts, as well as the need for future field work that examines the link between school reform and academic development efforts. Additional research on family involvement and curriculum in these programs will help to determine the best approaches to align these efforts to ensure that all students are prepared for and have access to college.

Introduction

In a recent attempt to make available information for educators about the ever-increasing array of pre-collegiate academic development programs available for educationally and economically disadvantaged students, the College Board conducted a National Survey of Outreach Programs (Swail and Perna, 2001). The survey, which collected information about program participant characteristics as well as program goals, services, instructional methods, costs and operational strategies, illuminates the strengths and weakness of these programs, and by so doing provides the impetus for the direction of this paper. In order to understand better how college access and enrichment programs prepare students for college and the gaps and needs that exist between the programs and school reforms that promote college preparation for all students, this paper identifies the principles of practice that are present in effective programs; discusses four programs that utilize these practices and have undergone some level of quantitative evaluation; and examines the implications of these findings for authentic links between pre-collegiate academic development programs and school reform efforts.

This paper is one of three commissioned by the Building School Capacity committee of the Pathways to College Network. The Pathways to College Network is a newly launched alliance of foundations, non-profit organizations, educational institutions and the U.S. Department of Education. The Network works to coordinate research-based efforts and to disseminate research-based information with a focus on improving college access and success for underserved youth.

The authors of the National Survey of Outreach Programs concluded that these pre-collegiate academic development programs are significant in helping disadvantaged students achieve the same scholastic achievement as their more privileged counterparts. At the same time, the survey results point out that a lack of internal, rigorous evaluation in these programs limits their ability to serve more students effectively, to make authentic and lasting links with the schools their participants attend, and to impact more significantly federal, state and local policy regarding educational opportunity. Their findings are supported by other attempts to assess the success of programs aimed at increasing the postsecondary opportunities of disadvantaged students (Hayward, Brandes, Kirst and Mazzeo, 1997; Nozaki and Shireman, 2001; Perna, 2002). Very little is known, for example, about the actual impact of pre-collegiate academic development programs in increasing the number of students entering college, and even less is known about which specific program components are effectively assisting students to enter college.

However, despite weaknesses in the evaluation and study of these programs, pre-collegiate academic development programs appear to be an important catalyst for institutionalizing school transformation within a context that promotes and achieves equitable postsecondary access for all students. Researchers and practitioners for the most part agree that outreach efforts that increase students' aspirations, expose them to the rigors of college at an early age, and provide interventions aimed at increasing their academic performance have been instrumental in illuminating the barriers to equitable opportunity for higher education (Fenske, Geranios and Moore, 1995; Perna, 2002; Gandara, Larson, Mehan and Rumberger, 1998). The work of these programs, while often supplemental to the curriculum and teacher development efforts that characterize school reform efforts, has nevertheless

informed these efforts, which increasingly focus on developing a college-going culture in the schools. As Monica Martinez and Shayna Klopott point out in their unpublished report, “How is School Reform Tied to Increasing College Access and Success for Low-Income and Minority Youth?”, school reform efforts that explicitly address the predictors of college going behavior are best suited to helping students achieve successful college enrollment and completion. Furthermore, pre-collegiate academic development programs currently provide the most consistent means of providing educationally disadvantaged students with learning opportunities that provide an alternative to the “hidden curriculum” of public schools that “sends a message to students who don’t conform to the cultural norm [that they] will be forced to conform, or will be ignored, or will even be pushed out (George, 2002)

Definitions and Scope

For the purposes of this paper, college access and enrichment programs are defined as student-centered; that is, those programs operated by universities and colleges, federal or state agencies, or non-profit organizations that target primarily individual students rather than classrooms or whole schools. The college access and enrichment programs as described in this paper provide supplemental academic assistance and/or enrichment activities to primarily middle and high school students. While these services may take place within a school setting, or during the school day, their function is not to impact a school’s existing curriculum or teaching practices, but rather to supplement and extend a student’s weekday curricular and extracurricular experiences. These services include, but are not limited to: direct services to students and families that provide information and assistance in college admissions; motivational activities that include mentoring, college visits, and advocacy; academic enrichment and support, including tutoring, study groups, instruction in

college preparation subject matter and college entrance exam preparation; and counseling and advising. The extent to which such services may have a beneficial, albeit secondary, effect on school practices as a whole is worthy of further study but is outside of the scope of this paper.

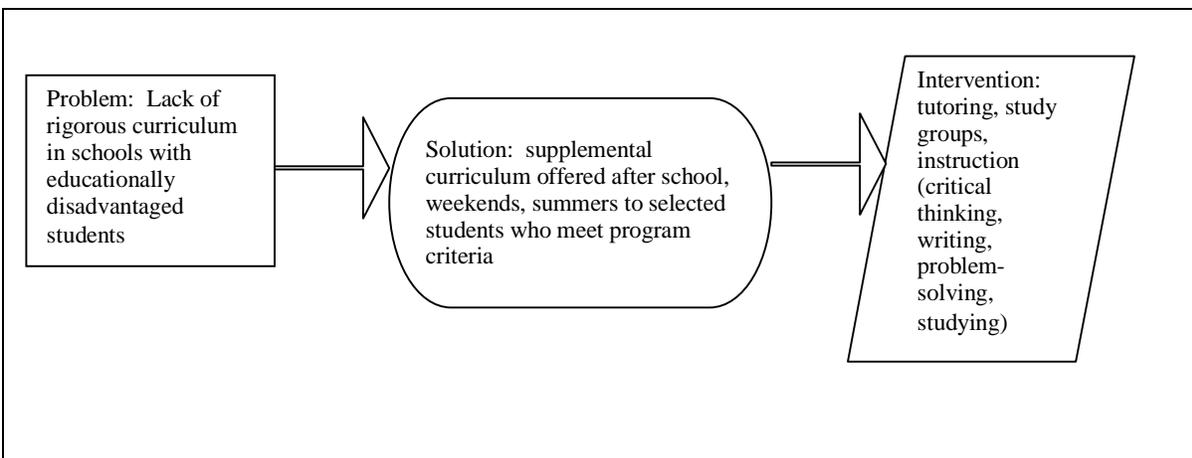
An assumption existed at the outset of this endeavor that a substantial body of research existed which would allow for an extensive literature review of pre-collegiate academic development program practices that impact the college-going behaviors of educationally and economically disadvantaged youth. While there are many studies of the conceptual frameworks that guide such programs, relatively few examine the operating principles of these programs. Six major reports are currently available that survey the field of college access and enrichment programs and evaluations; the consensus among the authors of these reports is that program evaluation data in general are unreliable and consequently provide little useful information about the impact of the programs (Osterreich, 2000; Bailis, et.al, 1995; Hayward et. al., 1997; American Youth Policy Forum, 1997; Gandara, 2001; American Youth Policy Forum, 2001; Swail and Perna, 2001). These reports serve as the basis for the review of principles of practice contained in this paper. Furthermore, the time and resources available to complete this study, combined with the paucity of available data, mean that the synthesis of promising practices in this paper is limited to a small group of pre-collegiate academic development programs for which both qualitative and quantitative data were available.

Framework and Background of Pre-Collegiate Outreach Programs

In general, the services provided by pre-collegiate outreach programs aim to counter negative school or community influences (lack of rigorous curriculum, poorly trained

teachers, lack of role models) by providing the missing elements that help students aspire to, prepare for, and obtain college enrollment. In this way, programs attempt to provide students with the social capital necessary to achieve college enrollment (Perna, 2002). To develop this social capital, programs generally provide a series of interventions that emphasize not only academic preparation, but the development of attitudes and beliefs about college that will result in a positive college enrollment outcome. This model assumes that supplemental programs will improve student performance in school and will enable them to apply and be admitted to a college or university. It also assumes that the academic and social support scaffolds provided by the program can adequately supplement students' learning environments, and that students will participate and spend additional time to meet program expectations.

Figure 1. Sample Program Model



General consensus among researchers, policymakers and practitioners is that the current wave of “outreach programs” working with K-12 students (the 2001 Outreach Program Handbook alone includes over 1000 such programs) is directly attributable to the emergence of Upward Bound as part of the Economic Opportunity Act of 1964 (Fields, 2001). More

recently, the federal government funded GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs), which began awarding grants to schools and colleges in 1999 (Fields, 2001). With a shared focus on first-generation, low income students, both programs reach large numbers of educationally and economically disadvantaged students nationwide: 1,200 colleges and universities offer Upward Bound programs to high school students, and 30 states received GEAR UP grants in 1999 (Fields, 2001). As beginning and current points in the cosmology of early intervention/pre-collegiate programs, it seems useful to understand the conceptual framework, practices and challenges of pre-collegiate academic development programs through the development and evolution of these two programs.

Upward Bound, the first of a group of federally funded programs known collectively as TRIO, prepares primarily high school students for higher education through a subject-matter focused program that provides students with instruction in literature, composition, math and sciences.¹ Conducted primarily on college campuses, Upward Bound is comprised of 772 programs. In addition, Upward Bound operates over 100 Math Science programs that strengthen mathematics, science, study and problem-solving skills. Its counterparts in TRIO form a continuum of service delivery for students from middle school on through the undergraduate years. Talent Search focuses on information and college awareness for students in grades 6-12. Undergraduate programs such as Student Support Services and Ronald E. McNair Post-Baccalaureate Achievement provide college retention services and prepare students for advanced graduate study.

Upward Bound exemplifies the majority of “principles of practice” that will be discussed later in this paper: strategically timed interventions, coupled with a long-term

investment in students as evidenced by high standards for student and staff performance, peer support and personalized attention to students; and framed by evaluation designs that contribute results to interventions can produce positive student outcomes (www.trioprograms.org; Coles, 1998; Balz and Esten, 1998; Mahoney, 1998). Upward Bound works with small groups of students, operates with performance-based, measurable objectives, and focuses on eliminating one of the most common barriers to postsecondary education—financial aid, and the perception that it is unavailable or inaccessible. Studies conducted on Upward Bound show that the program’s participants are four times as likely to earn an undergraduate degree than those with similar backgrounds not in TRIO (Fields, 2001). In addition, Upward Bound has spawned numerous programs that use many components of the Upward Bound program model. Many colleges and universities, for example, recognizing the constraints of Upward Bound on the number of students who could participate in a given program, and understanding that diversifying the undergraduate pool required broader socioeconomic and racial/ethnic criteria, developed similar interventions based in large part on the Upward Bound model.

The nearly forty year existence of Upward Bound accounts for its influence and some of its success. The program moved in the 1980’s from a group of loosely affiliated programs with varying services to a closely affiliated set of programs that cohere around a common set of objectives, services and measurements. This has resulted in institutionalizing the program on many college campuses and allowing the program to impact significantly the direction of education policy (trio website). At the same time, the longevity of the program

¹ The term “TRIO” is not an acronym. Rather, it refers to the three programs (Talent Search, Upward Bound and Student Support Services) originally funded by Congress under Title IV of the Higher Education Act of 1965.

has enabled it to establish, for the purposes of research and evaluation, study designs and control groups that are supported by a wealth of longitudinal data (Rossi, 1999).

GEAR UP, launched in 1999 as a partnership between low-performing, high poverty middle schools, universities, businesses and community based agencies, provides secondary school systems with exposure for every child to a pre-college curriculum (Fields, 2001; Swail and Perna, 2001). Designed as a cohort progression model of service delivery, recipients of GEAR UP partnership grants are expected to serve and track a cohort of middle school students through high school graduation. Like Upward Bound, GEAR UP addresses the financial aid barrier to college by providing scholarships to participants (Fields, 2001). To date, GEAR UP serves more than 700,000 students nationwide.

GEAR UP, with its model of school-based intervention, exemplifies an emerging trend in pre-collegiate academic development programs: increased integration of student-centered interventions with secondary school systems to provide mutual benefit to programs and schools and directly link students, families, schools and communities. Unlike student-centered programs like Upward Bound, which target a select group students based on program criteria (socioeconomic status, race/ethnicity, academic performance, etc.), these “blended” school- and student-centered programs attempt to improve student performance within the environment of the school itself. Like AVID, the Puente Project and MESA, which are also “blended” programs, GEAR UP works closely with, and provides professional development opportunities for, teachers, counselors and administrators to ensure that students are enrolled in college preparatory courses in middle and high school, receive additional academic support, and are informed about the resources available at their schools and in their communities. Like Talent Search, GEAR UP focuses on younger students.

Unlike Talent Search, GEAR UP provides academic interventions and teacher professional development in addition to information dissemination and college advising. Unlike Upward Bound, GEAR UP does not monitor participants' college retention and completion.

As a relatively new program, GEAR UP has few quantifiable outcomes. But its existence in the arena of pre-collegiate academic development is nevertheless significant because it reveals an evolution within pre-collegiate academic programs in general, one that has resulted, ironically enough, from Upward Bound and similar programs' success in helping policymakers, educators, researchers and practitioners understand more completely the barriers students face in attempting to prepare successfully for college: what kinds of interventions work best, when do they work best, and who is most likely to benefit from them? As models of intervention, Upward Bound and GEAR UP represent two ends of the spectrum. By and large, the Upward Bound model of intervention is the conceptual framework for pre-collegiate academic development programs; while they may vary in how they deliver services and what service components they emphasize, these programs have in common a focus on the individual student and his/her circumstances. These programs have as a goal the desire to provide a student with high potential, but limited resources, with the support necessary to reach his/her individual academic goals, including college admission and enrollment. Furthermore, the continued existence and success of these programs suggests that educationally disadvantaged students, particularly African American and Latino students of any socioeconomic status, continue to drop out of the college preparation pipeline in disproportionate numbers despite the prevalence of school reform efforts (Gandara, 1998; Allan, Bonous-Hammarth and Teranishi 2002; Klopott and Martinez, 2002; George, 2002). GEAR UP, on the other hand, by connecting middle schools more explicitly to the college

aspirations of their students and by combining academic intervention with college preparatory information, attempts to equalize the pre-college preparation experience for more students at an earlier age.

This evolution is extremely important, not only because of its implications for policy (and thus funding), but because it marks an important attempt to uncover what is fundamental about when and why a student aspires to, prepares for, applies to, and enrolls in a postsecondary institution: is college-going behavior intrinsic to the individual or is a curricular and counseling change in schools the best way to instill it in more students? Are college-going predictors best addressed through student-centered interventions deployed to some, or school-based interventions deployed to all? Either way, will the educational elites in the nation continue to find ways to outpace these efforts, so that if GEAR UP and programs like it begin in middle school with academic support for students, more privileged districts, schools and families will begin even earlier (Oakes, 2000)?

Principles of Practice

As discussed earlier, the majority of pre-collegiate academic development programs lack significant empirical data and program study designs that would allow for a more complete assessment of the relationship between program inputs, in the form of services and activities, and outcomes, in the form of college application, admission and enrollment. Because an evaluation schema for pre-collegiate academic development remains elusive (Tierney cited in Swail and Perna, 2000), in order to define how college access and enrichment programs are preparing students for college, we examined the practices identified by researchers as key components of successful academic development programs (Swail and Perna, 2000; Gandara, 2001). In synthesis, these ten principles are:

- High standards for program students and staff
- Personalized attention for students
- Adult role models
- Peer support
- K-12/program integration
- Strategically timed interventions
- Long-term investment in students
- School/society bridge for students
- Scholarship assistance
- Evaluation designs that contribute results to interventions

Interestingly, although research has found that parental education levels have a disproportionate effect on the college aspirations of children, family involvement in education, considered by many to be a critical factor in whether or not a young person aspires to college, is not included in these principles (Perna, 2002; Vernez and Krop 1999; Dempsey and Sandler, 1997). Although evaluations of pre-collegiate academic development programs include information on activities that aim to improve communication with families or to inform families about postsecondary opportunities, most research on family involvement focuses on that involvement in the primary school grades (AYPF 2001) and so is outside of the scope of this paper. Family involvement in programs aimed at middle and high school students may furthermore be impacted by the “disappearing parent” phenomena described by Patricia McDonough (2001), in which parent participation is increasingly discouraged as a student progresses through school. Feeling uninvited by the schools, parents may in turn feel unequipped to participate in a supplemental academic development program. Additionally, despite research findings on the value of family involvement, an increasing amount of funding is tied to tangible student outcomes; the ability for programs to focus upon and quantify family involvement may be elusive. So while program models contain family involvement interventions, these interventions do not comprise the dominant focus of the programs we looked at.

1. Set high standards for program staff and students

Programs that raise academic achievement adopt “high standards for participants, programs and staff, including strategies that insure the quality of implementation, and demand high performance from youth and staff alike” (AYPF, 2001). Such programs establish and review their mission, goals and objectives regularly. They make explicit to staff at all levels of the organization, through training opportunities, performance assessment and regularly updated manuals of standards and practices, what are unacceptable, acceptable and superior levels of performance. For students, program expectations and criteria are clearly stated and available. Such programs are explicit in their expectations of participants and staff. Such programs aim to implement structures where desired student outcomes, rather than tradition, bureaucracy or convention, guide student learning, teaching and other interventions.

2. Provide personalized attention to each student

Effective programs adopt strategies that enable the program staff to know students as individuals with “unique needs, strengths and weaknesses (AYPF, 2001). Effective programs in addition pay attention to students’ cultural backgrounds and attempt to incorporate this into the structure and content of the program (Gandara, ?). Bonding and recognition rituals and ceremonies are important, as is the ongoing availability of staff to provide mentoring and other support for the social as well as the academic parts of students’ lives (Fordham and Ogbu, 1986).

3. Provide adult role models

Consistent among those programs considered effective is a “close, caring relationship with a knowledgeable adult who monitors the student’s progress. Often this knowledgeable adult is a program officer; increasingly, as the number of students increases in programs, this role is performed by volunteers who serve as mentors, counselors and academic coaches. (Freedman, 1993).

4. Facilitate peer support

Gandara (1998) notes that numerous programs believe that supportive peer groups contribute to the effectiveness of the program on student achievement. Uri Treisman’s 1992 study of minority undergraduate students’ persistence in advanced mathematics courses indicates that social isolation is a major factor in college retention; as such, this principle is applicable to programs working with middle and high school students who face isolation, because of race or socioeconomic status, in college preparation courses in school.

5. Integrate the program within K-12 schools

In their assessment of outreach programs at the University of California, researchers at PACE note that:

As outreach programs have added components focusing more intensively on academic enrichment and support, many programs have also become much more collaborative with K-12. The quality or strength of intersegmental collaboration in all of these programs appears to be a factor in their success. Programs which operate only at the margins of a K-12 school may effect some change in individual students but are unlikely to contribute to overall increases in college preparedness of students at that school.

Patricia Gandara (1998), in her study of high school Puente, makes similar observations, but distinguishes between short term and long term effectiveness: “failure to connect in this way [in the long term] not only isolates a program politically, making it a

constant target for resource allocation, but may hinder its ability to accomplish its goals.” It is important to note here that program goals and objectives determine the extent to which schools and programs can integrate. Programs with specific, short term goals may have little need to integrate fully with schools. University and college programs geared toward high achieving disadvantaged students, or that focus exclusively on junior or senior year students, will find little incentive to integrate their pre-collegiate academic development efforts with the more general educational goals of secondary schools. And because these programs service individual colleges’ interests, such integration is probably not beneficial to either institution. However, truly developmental programs, that is, those working with students over many years, may discover that the extent to which they can marry their interests with those of their local schools may impact their longevity.

6. Provide strategically timed interventions

As the evolution of TRIO programs and GEAR UP makes clear, a program’s ability to intervene early in the performance gap between advantaged and disadvantaged students will be more successful in keeping the gap from widening or in eliminating it altogether. Programs that employ strategically timed interventions look carefully at state and local curriculum frameworks and standards, understand adolescent development, and place a premium on increasingly rigorous academic interventions. They ensure that students understand the content of a course as well as how to prepare for it. An example of a strategically timed intervention is admission and college entrance examination preparation beginning in early high school (PACE, 1997).

7. Make long term investments in students

The longer a student participates in a program, the more he/she benefits from it (Gandara, 1998). Support services that are sustained over a period of years, and even extend into a student's collegiate years, do not indicate diminished returns but rather enhanced preparation for postsecondary success (PACE, 1997). Early intervention that begins before high school is increasingly recognized as raising predisposition for college (Perna 2002; Allen et.al 2001).

8. Provide students with a bridge between school and society

The colleges and universities to which program participants aspire are, with few exceptions, alien places for educationally and economically disadvantaged students. Effective programs affirm and help students understand that academic success is not attained through individual achievement alone, but through an axis of support (PACE, 1997; Treisman, 1992).

9. Provide scholarship assistance

Despite the correlation between college enrollment and the availability of financial aid and scholarships, very few programs can provide significant financial support for college (Gandara 1998; Levine and Nidiffer, 1996). Facilitating the financial aid process, however, is a means of ensuring that program participants enroll at a postsecondary institution.

10. Design evaluations that contribute results to interventions

Impact evaluations are scarce in these programs. Few programs are positioned to conduct objective, empirical research on program participation and outcomes; fewer still can bring perspective to that work. One reason is that long-term outcomes are difficult to

measure; as students move away to colleges and universities, keeping track of their enrollment and persistence is difficult for small programs. As a first step to developing internal, rigorous evaluation of a program, the creation of a strategic plan, with measurable student outcomes, program standards, activities and services directly tied to outcomes and standards, accountability and methods of measurement, can help data-averse organizations become data-friendly ones.

Promising Practices: Four Academic Outreach Programs

While there are thousands of excellent pre-collegiate academic development programs, the four included here exemplify most or all of the principles of practice that connect research-based student-focused interventions with evaluation designs that allow the program to determine its effectiveness. The exception is K-12 integration; none of the programs below integrate K-12 school reform with their academic development efforts. Instead, they represent three common types of pre-collegiate academic development programming:

- Informational Outreach:* Primarily information dissemination and advising; little or no academic intervention in the way of actual instruction.
- Career-Based Outreach:* Academic, motivational and informational interventions designed around a students’ career aspirations and intended to link those aspirations with college majors.
- Academic Support:* Instructional services designed to increase student performance in college preparation classes or to improve students’ opportunity to enroll in such classes.

Table 2: Program Alignment with Principles of Practice

Principles/Programs	Baltimore College Bound	Career Beginnings	Sponsor a Scholar	Upward Bound
High Standards	■	■	■	■

Personal Attention	▪	▪	▪	▪
Adult Role Models	▪	▪	▪	▪
Peer Support	▪	▪		▪
K-12 Integration				
Timed Interventions	▪	▪	▪	▪
Long-term Investment	▪	▪	▪	▪
School/Society Bridge	▪	▪	▪	▪
Financial Aid	▪		▪	▪

Although they vary in their approaches, each program focuses on academic achievement. Each program includes, in addition to its primary function, additional practices that scaffold students and facilitate their advancement into postsecondary institutions. For each program, we provide an overview of the program and its target population; a description of the program design, components and outcomes; and a brief assessment of the relationship between the program components, evaluation design and outcomes and the principles of practice.

Informational Outreach: Baltimore College Bound

Baltimore College Bound assists low-income minorities by providing them with financial assistance for college. The program provides students with the monetary difference between the financial aid the students obtain and the amount of their full college tuition. The program provides primarily college information assistance and advising; these interventions are timed to address early awareness of college, college preparation, college entrance exams, test preparation and financial aid. Services include in-class presentations to 9th and 10th graders to help them think about college. Students in the junior year of high school receive individualized assistance in: filling out college applications, applying for

financial aid, taking the SAT or other college entrance examinations, and applying to several different colleges.

Researchers gathered qualitative data about the program via a literature review, focus groups with participants and families, and interviews with school personnel and program staff. Using participant data, they analyzed college application and enrollment patterns for the program participants and for a control group of comparable Baltimore students. Research shows that students in the Baltimore College Bound program who received counseling were considerably more likely than non-participants to attend college and complete the freshman year. At the University of Maryland, which has more rigorous admissions criteria than most other local colleges, Baltimore College Bound students had a lower dropout rate than comparable students. For students who enrolled at Morgan State University, a historically black college, none of the program participants who enrolled subsequent to 1989 dropped out in their first three years. In contrast, between 15 and 30% of every 100 Baltimore City high school graduates attending college in that time period dropped out in the first three years. The program's focus on strategically timed interventions and personalized assistance when it can be most effective, coupled with the prospect of the scholarship, affected student behavior in enrollment and retention in post-secondary education.

Career-Based Outreach: Career Beginnings²

Career Beginnings is run by School & Main, a Boston-based organization that works to improve education for youth and also has offices in Austin, Texas and Denver, Colorado. It targets high school juniors with average grades who are from economically and/or educationally disadvantaged families and works with them until they graduate from high

school. Career Beginnings offers four types of support: (1) educational enrichment; (2) mentoring; (3) career exploration and action plan development; and (4) employment.

In evaluating the program, researchers selected a treatment group of high school juniors who ranked in the middle of their class academically and demonstrated personal motivation beyond school activities (for example, by working part-time or participating in school or community activities). A total of 1574 students were randomly assigned, in equal numbers, to the experimental and control groups. Systematic differences did not exist between the two groups at the outset. The results of the evaluation are based on responses provided by 1233 of the youth during two follow-up interviews, two years later. Evaluation outcomes indicate that program participants started college “on schedule” more often and worked less while in college. However, first year college retention rates were similar for students in the control group and program participants.

This study’s use of random assignment in creating the treatment and control groups enabled researchers to design measurable outcomes for the program. The only information missing is the number of students who participated in the interviews from each group. This information is useful to determine whether the conclusions drawn from the interviews are generalizable for each group.

Academic Enrichment: Sponsor a Scholar (SAS)

Sponsor a Scholar is funded and operated by the nonprofit organization, Philadelphia Futures, the education affiliate of the Greater Philadelphia Urban Affairs Coalition. It serves more than 500 low-income students with average grades (B-C range) from Philadelphia public high schools. SAS targets students who exhibit evidence of motivation through

² Career Beginnings has ceased operations in Boston.

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. The program exemplifies the principles of long-term investment, peer group support, adult role models, strategically timed interventions and providing financial aid and scholarships to participants. The program matches at-risk youth with mentors who stay with them for 5 years – from the 9th grade through their freshman year in college. The mentoring relationship is a formal one that stresses academic goals and is buttressed by other supports such as tutoring, college visits and assistance with college application or financial aid processes. Adult mentors are volunteers from the greater Philadelphia area who have been matched with students by gender and areas of interest (but not by race/ethnicity). The program operates on the principle that a relationship with a caring adult can spur disadvantaged youth to achieve in high school and to continue to postsecondary education. To support students academically, SAS offers academic support services such as tutoring, SAT preparation classes, workshops on study skills, and summer opportunities. Additionally, students are offered workshops on obtaining financial aid, selecting a college, the application process and other related topics. Furthermore, SAS provided financial assistance to students who attended college.

In evaluating SAS, researchers from Mathematica created a control group matching each SAS participant with two non-SAS participants from the same school on the basis of race, gender and GPA. Outcomes show that SAS students had a slightly higher GPA than the comparison group (78.8 vs. 77 for 10th graders and 78.1 vs. 76.2 for 11th graders; no differences for 12th graders). SAS participants also 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). Students with lower academic achievement going into the program appear to benefit more than higher achievers.

The researchers concluded that mentoring efforts, such as frequent communication and getting to know a student's family, significantly affect student performance. For example, students whose mentors contacted them most often (at least once a week) did significantly better in terms of their 10th grade GPA, 11th grade GPA, first year college attendance and college retention.

Academic Enrichment: Upward Bound

Upward Bound is funded by the federal government under the Higher Education Act. The program targets students who have completed the 8th grade, whose family incomes are below 150% of the poverty line, and/or who are potentially the first in their families to go to college. During the school year, Upward Bound staff provide weekly, academic support for program participants through high school visits, tutoring and mentoring relationships. Then the program offers a six-week academic program during the summer. At least 2/3 of UB participants at each site must be both low-income and potential first-generation college students. Students enter the program in the 9th or 10th grade and may continue to participate in the program through the summer after their high school graduation.

In the world of student-centered outreach, Upward Bound is the seminal program, and its longevity has allowed for extensive data collection. This allows researchers to determine the impact of the program not just on first and second year college retention, but through graduation. The availability of longitudinal data allows researchers to study the impact of a number of variables. Mathematica researchers examined longitudinal survey data from a group of program applicants who were randomly assigned to participate in either the program

or control group. The almost 3,000 youth in the study came from a sample of 67 Upward Bound sites, also randomly selected. In comparison to the control group, Upward Bound participants:

- Earned more non-remedial high school credits in math;
- Were more likely to remain in school (35% vs. 28%)
- 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).

Both UB participants and the control had similar cumulative GPAs and enrollment in postsecondary institutions. Given the academic and social circumstances which participants face, this should not be surprising. When participant data is disaggregated for race and ethnicity, it showed that Latino participants 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. Similarly, African American participants 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.

Research on aspirations also reveals that Upward Bound interventions are directly tied to the program's desired outcomes.³ When compared to a similar control group, Upward Bound students who entered the program with low expectations about attending college earned approximately 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 a four-year college; and earned about seven more credits in four-year colleges. Finally, male participants in the program were less likely to drop out of school and more likely to attend a highly selective four-year institution. The ability of Upward Bound to

³ The Mathematica evaluation identified program attrition as an issue; TRIO administrators and staff are addressing it.

provide a set of services comparable to the college preparation programs enjoyed by more advantaged students has significantly impacted the program's success. Exposure to college-level work on college campuses gives disadvantaged students a vision of themselves undertaking and succeeding in postsecondary education.

Despite the somewhat rigorous study designs employed by these programs in an effort to understand what principles of practice exist in their program practices and are most effective, none can yet determine which program components have the biggest impact on the students. Are all the components making a difference? Or are only a few of the components carrying the students into college? This is a fundamental question which remains unanswered in the evaluation of pre-collegiate academic development programs, and limits greater understanding of the potential links that can be made with school reform efforts.

Synthesis and Conclusions

It is crucial that students obtain early information about preparing for college, engage in constructive learning activities, and enroll in courses that prepare them to succeed in postsecondary institutions. However, in attempting to develop these skills and gain this exposure, educationally and economically disadvantaged students face a complicated set of challenges in their homes, communities, and schools which can limit their opportunity to engage in curriculum that builds their intellectual capacity. Unfortunately, too little is known about how best to promote student capacity through pre-collegiate academic development programs to effectively gauge the appropriate links between these programs and the school reform efforts that engage schools in transforming themselves into sites of intellectual and creative engagement. What is the role, for example, of families in these

pre-collegiate academic development programs, and what can we learn about how parents are engaged by these programs that can help schools address the “disappearing parent” of the middle and high school years? Equally important, what can be learned about curricular approaches in these programs and how they might align with standards-based reform efforts in schools? What costs are associated with these interventions, and what are the implications? In order to not leave more questions than answers, we provide the principles of practice and exemplary programs outlined in this paper as a means of developing a framework for the case studies and field work that can help address such questions.

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