

Annotated Bibliography

Removing Roadblocks to Rigor

Linking Academic and Social Supports to Ensure College Readiness and Success

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Introduction

Evidence suggests that our nation's schools are failing to provide too many American students with the necessary preparation to succeed in higher education or compete in a globalized economy. As a result, most experts agree that increasing academic rigor is an essential component of the next wave of education reform. However, this goal can only be achieved if accompanied by effective support services to assist students in meeting the demands of more rigorous courses. Academic and social support plays a significant and complementary role in student achievement.

The purpose of this annotated bibliography is to identify and summarize research on the scope, characteristics and impact of academic and social support services for students. Several reports on academic rigor have also been included to establish a context for the importance of social and academic support. The bibliography is divided into five sections:

- 1) Defining academic rigor;
- 2) Academic and social support in middle and high school;
- 3) Postsecondary academic and social support services;
- 4) Academic and social support for key transitions in the education pipeline; and
- 5) Providing academic and social support out of school.

Relevant research found in peer-reviewed journals, major policy reports, public opinion surveys, and other seminal work is summarized in each section. The bibliography does not provide an exhaustive list of every program or strategy, but rather illustrates the rich diversity of academic and support strategies being used to help students undertake a rigorous course of study. It includes work published in the past 15 years with an emphasis on more contemporary sources.

Defining Academic Rigor

ACT. (2006). *Aligning Postsecondary Expectations and High School Practice: The Gap Defined Policy Implications of the ACT National Curriculum Survey Results 2005–2006*. Iowa City, IA: ACT.

This report examines the gap between academic preparation in high school and the requirements of college-level coursework. Based on data collected through the ACT National Curriculum Survey, which was distributed to 6,800 middle and high school students, 10,800 high school teachers, 1,200 high school guidance counselors, 12,992 postsecondary professors and 3,873 postsecondary remedial course instructors, researchers present the following findings: 1) postsecondary instructors have far more targeted and specific expectations for college coursework than what high school teachers view as important for college coursework; 2) remedial-course teachers' ratings of mathematics and reading skills tend to align more closely with those of postsecondary instructors than with those of high school teachers; 3) while most high school teachers across subject areas believe that meeting their state's standards prepares students for college-level work, most postsecondary instructors disagree; 4) high school teachers believe that today's high school graduates are less well prepared for postsecondary education and work than graduates in previous years, while postsecondary instructors perceive no difference; 5) there are specific differences between high school instruction and postsecondary expectations in every major curriculum; and 6) the ACT's Educational Planning and Assessment System (EPASTM) tests are aligned with the content and skills that postsecondary educators identify as important for college readiness. Researchers recommend that educators take the following action steps: 1) align the high school curriculum with postsecondary expectations; 2) focus state standards on the essentials for college and work readiness; 3) define course standards; 4) measure student progress with college readiness assessments; 5) establish core course requirements for high school graduation; 6) begin measuring college readiness in early grades; 7) teach higher-level reading skills across the high school curriculum; 8) guarantee that students attain the skills necessary for effective writing; 9) ensure that students learn scientific process and inquiry skills; and 10) monitor student progress.

ACT. (2007). *Rigor at Risk: Reaffirming Quality in the High School Core Curriculum*. Iowa City, IA: ACT.

This study is based on data collected from large samples of students (>100,000) in the nation's schools who participated in the ACT's college readiness programs and/or took the ACT exam. Researchers also analyzed the curricula at 382 high schools that have recently shown greater-than-average increases in ACT mathematics or science test scores and results from the National Curriculum Survey, which is distributed to more than 20,000 educators across grades 7–14. Researchers found that only one-quarter of ACT-tested 2006 high school graduates who took a core curriculum were prepared to take credit-bearing, entry-level college courses in all four subject areas. In addition, they found that secondary and postsecondary educators differ greatly in how well they believe their state's standards prepare students for college-level work and about the depth and breadth of essential state standards needed to prepare students for college (high school teachers rated a much larger number of topics and skills as being "important" or "very important" for college success than did college instructors). The report recommends that courses with the same name should have a common standard of quality, and courses within a discipline should be vertically aligned. At minimum, high school graduation requirements should include: 1) four years of English; 2) at least three years of mathematics,

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including rigorous courses in Algebra I, geometry, and Algebra II; 3) three years of science, including rigorous courses in biology, chemistry, and physics; and 4) three years of social studies. Researchers also recommend the following five “Action Steps” for educators: 1) specify the number and kinds of courses that students need to take to graduate from high school ready for college and work; 2) align high school course outcomes with state standards that are driven by the requirements of postsecondary education and work; 3) provide teacher support; 4) expand access to high-quality, vertically aligned core courses; and 5) measure results at the course level.

Adelman, C. (2006). *The Toolbox Revisited: Paths to Degree Completion From High School Through College*. Washington, DC: U.S. Department of Education.

Using data from the National Education Longitudinal Study of 1988 (NELS:88/2000), Adelman examines the factors that lead to bachelor’s degree attainment. Revisiting some of the findings that he documented in his previous work, Adelman reports that the highest level of math reached in high school continues to be a key marker in pre-collegiate momentum, with the tipping point of momentum toward a bachelor’s degree now firmly above Algebra II. In addition, Adelman finds that students who completed the following courses—at minimum—had a 95 percent chance of completing their four-year degrees: 1) 3.75 or more Carnegie units of English; 2) 3.75 or more Carnegie units of mathematics with the highest mathematics being calculus, pre-calculus, or trigonometry; 3) 2.5 or more Carnegie units of science; 4) laboratory science (biology, chemistry, and physics); 5) more than 2.0 Carnegie Units of foreign languages; 6) more than 2.0 Carnegie Units of history and social studies; 7) 1.0 or more Carnegie Units of computer science; 8) more than one Advanced Placement course; 9) no remedial English; and 10) no courses in remedial mathematics. In addition, Adelman calculates the ratios of participation in what he calls “gateway” courses between those who ultimately earned degrees and those who did not—6:1 in American literature, 4:1 in general chemistry, and more than 3:1 in pre-calculus, micro/macro-economics, introduction to philosophy, and world civilization. Entering a postsecondary institution directly from high school, earning 20 or more credits in the first calendar year of enrollment, and performing well enough in that first calendar year to fall in the top 40 percent of a GPA distribution were also found to be statistically significant predictors of college completion. Other predictors include summer-term credit generation, meeting the challenge of college-level mathematics, effort required to yield a rising GPA, and most of all, remaining continuously enrolled. Notably, Adelman concludes that “the academic intensity of the student’s high school curriculum still counts more than anything else in pre-collegiate history in providing momentum toward completing a bachelor’s degree.”

Conley, D. T. (2005). *What We Must Do to Create a System That Prepares Students for College Success*. San Francisco, CA: WestEd.

In this article, Conley argues for the necessity of meaningful K-16 alignment in academic coursework to ensure that students who complete grade-level work are prepared to advance, offering numerous suggestions for policy-makers, high schools, colleges, students and parents. Suggestions for policy-makers include: 1) redesign high school graduation tests to provide diagnostic information to students on their college readiness; 2) revise or augment state assessment systems to measure more complex cognitive skills by adding requirements for classroom-based assessment of student work samples; 3) require high schools to describe how their curriculum is sequenced in a fashion that develops the habits of mind that are crucial to college success and lifelong learning; 4) encourage pilot projects to develop seminar-like courses for high school seniors; and 5) mandate that high school and postsecondary faculty meet to agree on the knowledge and skills students must master. Conley recommends that colleges and universities: 1) ensure that faculty collaborate more with high school teachers and colleges to clearly identify the content of placement tests, the cut scores being used,

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and the justification for both; and 2) use placement test redesign as a tool to better define the purposes of their general education requirements. Suggestions for high schools include: 1) provide environments in which students are constantly measuring their performance and progress against clear outcomes and standards in order to gauge where they are lacking and where they have succeeded; 2) emphasize portfolios of student work, teacher-led student critiques of college readiness, challenging projects and assignments that require students to develop the habits of mind associated with postsecondary success; 3) assist students by identifying content that can be mastered independently and encourage them to do this work outside of class so that class time is focused on the types of value-added learning experiences that help students integrate, consolidate, and build on basic understandings. Suggestions for students include: 1) focus on developing the necessary knowledge and skills as identified by standards linking high school and college coursework; and 2) seek and engage in courses and educational experiences that provide the knowledge, cognitive skills, and habits of mind essential to postsecondary success.

Conley, D. T. (2007). *Toward a More Comprehensive Conception of College Readiness*. Eugene, OR: Educational Policy Improvement Center.

Conley makes a case for the importance of a common definition of college readiness. He asserts that a student can be considered as meeting the standards for college readiness if he or she can demonstrate the following: 1) consistent intellectual growth and development over four years of high school resulting from the study of increasingly challenging, engaging and coherent academic content; 2) deep understanding of and facility applying key foundational ideas and concepts from the core academic subjects; 3) strong grounding in the knowledge base that underlies the key concepts of the core academic disciplines; 4) facility with a range of key intellectual and cognitive skills and capabilities that can be broadly generalized as the ability to think; 5) reading and writing skills and strategies sufficient to process the full range of textual materials commonly encountered in entry-level college courses, and to respond successfully to the written assignments commonly required in such courses; 6) mastery of key concepts and ways of thinking found in one or more scientific disciplines sufficient to succeed in at least one introductory-level college course that could conceivably lead toward a major; 7) comfort with a range of numeric concepts and principles sufficient to take at least one introductory level college course that could conceivably lead toward a major that requires additional proficiency in mathematics; 8) ability to accept critical feedback including critiques of written work and oral arguments; 9) skills to assess objectively one's level of competence in a subject and to devise plans to complete course requirements in a timely fashion and with a high degree of quality; 10) ability to study independently and with a study group on a complex assignment requiring extensive out-of-class preparation that extends over a reasonably long period of time; 11) comfort with interaction with a wide range of faculty, staff, and students, including among them many who come from different backgrounds and hold different points of view; and 12) understanding of the values and norms of colleges, and within them, disciplinary subjects as the organizing structures for intellectual communities. Conley includes the following recommendations for educators who want to foster college readiness: 1) create a culture focused on intellectual development; 2) specify core knowledge and skills for college; 3) provide necessary supports to students; and 4) provide necessary supports for teachers. Each of his recommendations is elaborated upon in this report.

Pathways to College Network. (2007). *Academic Rigor at the Heart of College Access and Success*. Boston, MA: Pathways to College Network: College Readiness Issue Brief. Retrieved on August 1, 2008 from: <http://www.pathwaystocollege.net/pdf/rigor.pdf>.

This policy brief emphasizes the importance of providing students with a rigorous curriculum in preparation for more advanced coursework. According to the Pathways to College Network, a well-designed, coherent, and

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rigorous curriculum allows all students to achieve mastery of core academic skills and opens the door to both college participation and skilled workforce employment. The brief identifies the following course pattern as having been defined as “rigorous” by various educational stakeholders, such as the State Scholars Initiative, High Schools That Work, College Board, and the ACT: 1) four years of English; 2) four years of mathematics (including Algebra I and II, geometry, and preferably at least one other advanced mathematics course such as trigonometry, pre-calculus, calculus, or statistics; 3) three years of laboratory science such as biology, chemistry, and physics; 4) three years of social studies; and 5) two years of a world language. Action-steps for states, superintendents and principals, and teachers/counselors are also presented.

Rainwater, T., Mize, D. A., & Brooks, N. S. (2008). *Education Beyond the Rhetoric: Making “Rigor” Something Real* Policy brief presented at The State Scholars Initiative National Summit on Academic Rigor and Relevance.

This conference paper calls attention to the need for educators and policy-makers to define academic rigor in schools. Though they do not present suggestions for specific courses of content, Rainwater, Mize and Brooks assert that a rigorous education is not measured simply by the number of courses taken or grades earned, but by the extent to which these courses actually prepare students for the world of work and college. This paper identifies four features of a default curriculum designed to provide students with the necessary preparation to succeed in college and work: 1) a “rigorous” course of study, not a minimum one; 2) statewide implementation plan; 3) provided to every student; and 4) with the consent of their parents and in conjunction with notification to the school, include an opt out choice. Researchers conclude with the following suggestions for educators and policy-makers: 1) define rigor; 2) develop one rigorous standard for all students; 3) create state policy (data systems and assessment policies) that specifically support rigor along with externally validated assessments; and 4) provide teachers and administrators with professional development opportunities related to curriculum, standards and assessment.

Academic and Social Support in Middle and High School

ACT. (2005). *Early College Planning Pays Big Dividends: Louisiana: Iowa City, IA: ACT.*

This case study examines the impact of the ACT's Educational Planning and Assessment System (EPAS) on student outcomes in Louisiana. EPAS provides an assessment system that measures student readiness along a continuum of college readiness benchmarks and allows teachers, counselors, and students themselves to track academic progress from 8th-12th grades on skills that are related and linked to college preparation. Since implementing the program in Louisiana, researchers have found that student participation in EPAS has increased, student performance is improving overall, college readiness has increased, and more students are planning to enter some form of postsecondary education. Despite positive findings, researchers include some causal references (for example, more students enrolling in college in the state is not necessarily the result of the introduction of EPAS) and data source and methodology for this case study are unclear.

ACT. (2006). *Breaking Barriers: A Case Study of Two High-Performing Schools: Iowa City, IA: ACT.*

Researchers at the ACT conducted two case studies of "high-performing" schools to identify the school-level factors that contribute to student success. They chose the Thornton Fractional North High School in a southeastern suburb of Chicago with about 1,600 students (64 percent of whom are African American, 19 percent Hispanic and 15 percent white) and Dumas High School in small rural town in Arkansas with about 400 students (69 percent African American, 25 percent white and 5 percent Hispanic). After identifying the numerous ways in which these schools provided academic and social support for students, the report includes the following recommendations for educators seeking to improve student achievement: 1) emphasize the importance of postsecondary education for all students; 2) ensure that the school curriculum provides the foundational skills and knowledge needed for college and work; 3) cultivate an experienced and committed faculty; 4) provide students with a variety of academic support, career exploration, and career training programs; 5) monitor student progress throughout high school; and 6) encourage parental involvement and community support.

ACT. (2007). *Setting Students' Sights on College: Chicago Public Schools: Iowa City, IA: ACT.*

This case study illustrates the impact of the Educational Planning and Assessment System (EPAS) on students in Chicago Public Schools. EPAS provides an assessment system that measures student readiness along a continuum of college readiness benchmarks and allows teachers, counselors, and students themselves to track academic progress from 8th-12th grades on skills directly related and linked to college preparation. Researchers at the ACT conclude that Chicago students increased scores on the ACT in every subject in 2006 as compared to those from 2002. In addition, the number of students requesting assistance with educational or occupational plans increased by 900 between 2002 and 2006, which the researchers assert is an indication of increased awareness and valuing of post-high school planning. The data sources for this case study are unclear as is the method of analysis.

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American Youth Policy Forum. (1998). *High School Puente*. Washington, DC: Raising Minority Academic Achievement American Youth Policy Forum.

This mixed-methods study evaluated the influence of participation in the Puente program. Puente works with cohorts of 25-30 students who are identified by teachers and administrators for eligibility. These students enroll in special ninth and tenth grade English classes that focus on writing and literature, with an emphasis on Latino literature and cultural awareness. In eleventh and twelfth grades, Puente students receive intensive, college-prep counseling, which ensures that students are placed in college preparatory classes, that any deficiencies are quickly noted and that students receive the necessary grades for high school success and college admission. For the quantitative component of this study, the evaluators collected data from 75 Puente students across several representative sites and compared it to data collected from a control group of 75 non-Puente students. The study also used surveys, school, community and classroom observations, and formal and informal conversations with administrators, teachers, counselors, parents and students. The results of this evaluation include the following: 1) Puente students were more likely to take the PSAT in grades 9-10 and the ACT or SAT in grades 11-12; 2) more Puente than non-Puente students (44% vs. 35%) completed the University of California requirements; 3) according to statewide data, Puente students applied to the University of California at a much higher rate than their peers (24% vs. 8%); 4) 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%); 5) Puente students in the matched sample attended four-year colleges at nearly double the rate of non-Puente students (43% vs. 24%); 6) the Puente program appeared to have no effect on participants' GPAs, relative to non-Puente students in a matched comparison group; and 7) Puente students reported knowing more about what was needed to go on to college and reported more influence of counselors, teachers and even parents than non-Puente students.

Ascher, C., & Maguire, C. (2007). *Beating the Odds: How Thirteen NYC Schools Bring Low-Performing Ninth-Graders to Timely Graduation and College Enrollment*. Providence, RI: Annenberg Institute for School Reform at Brown University.

The thirteen Beat the Odds (BTO) schools described in this report were identified in an earlier quantitative analysis using New York City Department of Education 2001-2002 data (variables considered in this selection included four-year high school graduation rates, graduates' rate of enrollment in the City University of New York and first-year academic success at the City University of New York). Researchers conducted interviews with administrators, counselors, and other relevant staff to understand how these schools were able to beat the odds and to suggest ways that the success of these schools could be maintained and scaled up. They found that BTO high schools use four key strategies: 1) rigorous academic standards, including ground rules for both academic effort and behavior and the availability of Advanced Placement courses and/or opportunities to earn credit at nearby colleges; 2) networks of timely supports provided by adults in advisories and regular reviews of student transcripts to track students' academic progress, credit accumulation, and areas of need (they also communicate with parents and offer afterschool tutoring, Saturday school, and lunchtime classes); 3) college expectations and access, including providing prominent visual and physical space devoted to college-going, available full- or part-time college counselors, annual college and career fairs and visits to colleges; and 4) effective use of school- and district-generated data used to track student progress, identify student weaknesses and strengths, provide feedback on curricula, and shape academic interventions. Based on the data, the authors offer the following suggestions for high school improvement: 1) improve school resources; 2) give schools greater control over enrollment; 3) provide schools a stronger system of support and accountability; and 4) develop a city-wide office of post-secondary education (Chicago and Philadelphia are two examples of cities that have already done this).

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Bedsworth, W., Colby, S., & Doctor, J. (2006). *Reclaiming the American Dream*. San Francisco, CA: The Bridgespan Group.

This report reveals the factors that influence low-income, high school students' ability to gain access to and succeed in higher education. Researchers used data from the National Educational Longitudinal Study of 1988 (NELS: 88) and narrowed their sample to low-income students (defined by eligibility for free lunch) who graduated from high school academically prepared (defined as "somewhat qualified" or better on the NELS college qualification index). They find that the most important indicators of whether or not a student will succeed in college are: 1) understanding the link between education and career aspirations; 2) having a cohort of peers planning for college together; 3) expecting a college-preparatory curriculum; and 4) taking steps to make college affordable. Important indicators include: 1) general expectations of college-going among student and influential adults; and 2) parental involvement that makes college real to the student. Less important indicators include: 1) procedural assistance alone; and 2) parental involvement absent a clear college link. Researchers argue that their findings confirm the importance of a college-going culture in schools, which they define as schools functioning with the expectation that their ultimate goal is to prepare students for college. The report concludes with numerous recommendations for federal and state policy-makers, school districts, schools, and community-based organizations. Most notable, the report advocates for instituting federal policies that make college affordable for low-income students and providing the school-level infrastructure to support the transition to a college-ready curriculum.

Berger, A. R., Adelman, N., Cole, S., Hall, C., Evan, A., Hersh, L., et al. (2007). *Evaluation of the Early College High School Initiative: Select Topics on Implementation*. Washington, DC: American Institutes for Research and SRI International.

This report is the third annual national evaluation of the Bill & Melinda Gates Foundation's Early College High School Initiative (ECHSI), the basis for which includes the following set of Core Principles, which requires that ECHSs: 1) serve students from populations typically underrepresented in postsecondary institutions; 2) are designed so that students can earn "up to" two years of college credit; 3) compress students' time to a postsecondary degree; 4) include middle grades and/or provide outreach to middle-grade students; and 5) demonstrate the attributes of highly effective high schools. Qualitative and quantitative data was collected from interviews, focus groups and classroom observations from a sample of 24 ECHSs, 17 intermediaries (grantee organizations, which receive funding to work with school districts, community organizations, high schools, and colleges to open ECHSs) as well as publically available data and an online school-level survey. Researchers studied the implementation of the program's "3R's"—rigor, relevance, and relationships in the classroom—at both the high school and college levels. Findings for the ECHSs included the following: 1) ECHSs continued to focus on serving students underrepresented in postsecondary institutions; 2) ECHSs were moving toward integrating some college courses for some students (though the number of available college credits and the percentage of students enrolled varied considerably by school); 3) ECHSs were focused on outreach to prepare students in middle school grades, and more schools were including these grades in their programs; 4) ECHS high school classes showed evidence of the 3R's, although rigorous instruction was elusive, particularly in mathematics classes; 5) rigorous, relevant, and relationship-based instruction was less evident in students' college classes than in the high school classes; 6) ECHSs took the lead in supporting students socially and academically, even in college classes; 7) ECHSs established positive climates for students, though some sites were challenged to fully develop a college-going culture when their location made connections with the college environment difficult; and 8) ECHSs had a higher average percentage of students scoring proficient on their states' assessments than did other high schools in the districts in which they are located. The report also includes findings for partners and intermediaries, as well as suggestions for future research.

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Burch, P. (2007). *Supplemental Education Services under NCLB: Emerging Evidence and Policy Issues.* Tempe, AZ and Boulder, CO: Education Policy Research Unit and Education and the Public Interest Center.

The Supplemental Education Services (SES) provision of the No Child Left Behind Act (NCLB) of 2001 requires school districts to pay the cost of third-party, after-school tutoring services for eligible students. Based on her analysis of program evaluation literature and the provisions of the law, Burch highlights the major limitations in the current law and implementation of SES, including low participation rates, limited services available for English Language Learners and special education students, and the inability of states and districts to monitor program quality. Furthermore, the author establishes that it is unclear how SES might affect academic achievement, because existing research offers little information about specific conditions that support positive outcomes. Burch provides the following recommendations for policy-makers: 1) redesign the law to address the core problem of local administrators lacking fiscal resources and expertise to successfully administer SES programs; 2) commission federally funded, comprehensive evaluations to determine: (a) to what degree SES may affect student achievement, and (b) to what extent at-risk student populations have access to SES services; 3) investigate the feasibility and desirability of reallocating Title I funds from SES programs to existing successful state and local reform efforts; and 4) examine and reconsider NCLB's apparent tension between the high-stakes accountability imposed on schools and the more limited measures for holding SES providers accountable for their contributions to student achievement.

Calaff, K. P. (2008). *Supportive Schooling: Practices That Support Culturally and Linguistically Diverse Students' Preparation for College.* *NASSP Bulletin* 92(2), 95-110.

This qualitative study was designed to understand what factors contribute to the college preparation of Latino immigrant students at one extraordinary high school. Data were collected over five months from nine Latino students at a well-respected public high school who were also participants in a college preparation program offered through a local university. Calaff conducted student interviews, parent interviews, focus group sessions, participant observation in the school, and a review of school and program records and documents. The author found that students benefited from steps taken in their high school to "level the playing field" and from teacher beliefs and expectations that their Latino students were capable of completing college preparatory work regardless of their linguistic, socio-cultural, and socioeconomic backgrounds. The high school in this study supported students by creating an academic ladder to reach the high expectations set for all students, embracing students' diverse linguistic and cultural heritage and connecting students with adults in the school who cared about them. According to Calaff, her findings suggest that one of the ways that schools can raise Latino achievement is by setting high academic standards and creating a safety net through creative scheduling and course blocking to bolster achievement.

Camblin, S. J. (2003). *The Middle Grades: Putting All Students on Track for College.* Honolulu, HI: Pacific Resources for Education and Learning.

The focus of this briefing paper is to help middle school principals and teachers close the opportunity gap for underserved students. The paper provides reasons why the middle grades are so critical to postsecondary preparation, background information on the opportunity gap that exists for underserved students, examples of effective practices, and recommendations for building school capacity to increase student performance for college access. These recommendations include the following: 1) focus on the needs of early adolescents; 2) hold high expectations for all students; 3) provide challenging coursework and curriculum for all students; 4) utilize small teams of teachers; 5) practice interdisciplinary teaching; 6) recommend academic counselors

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and advisory programs; 7) vary instructional techniques (examples include hands-on, life-related, enrichment activities, integrated instruction, and cooperative learning); 8) emphasize all instructional strategies, especially small groups and supportive adults; 9) use linguistic and cultural materials that link the home and school; 10) expand support programs; 11) provide help for parents; 12) think systemically, creating school-wide knowledge and focus; 13) reflect on beliefs and evaluate teaching practices; 14) see learning as the interaction among teachers, students, activities, and educational materials; and 15) inclusive practices for all students and families in the classroom and in the school.

Chait, R., Muller, R. D., Goldware, S., & Housman, N. G. (2007). *Academic Interventions to Help Students Meet Rigorous Standards State Policy Options*. Washington, DC: Institute for Educational Leadership.

This report provides a review of various academic support strategies to help students meet rigorous course requirements. Based on the relevant academic and program evaluations, the researchers identified five strategies for academic intervention: 1) accelerated instruction (dual enrollment, Early College High Schools); 2) extended learning time (includes shadow classes, catch-up courses, block scheduling, and after-school and/or summer programs); 3) personalized learning environments (small learning communities in large school or new small learning communities, individual learning communities, connecting academic content to real-world problems like in career academies); 4) dropout prevention and recovery programs; and 5) incorporating literacy instruction into the curriculum (state programs typically provide professional development to participating schools, use reading coaches or experts to work with teachers to improve instruction, and incorporate a school-wide emphasis on literacy across the curriculum). The authors conclude that interventions cannot be effective in isolation of a broader agenda to transform school culture. The following recommendations are included as state policy options to help students meet rigorous standards: 1) provide accelerated learning grants to support partnerships between districts and institutions of higher education; 2) target high-need districts and schools for extended learning time programs; 3) develop ninth grade transition programs to ensure ninth graders are prepared to succeed in high school; 4) expand access to promising school models for high-need districts; 5) develop, evaluate, and expand access to contextualized curricula in high-need districts; 6) fund programs that are academically rigorous and focus on the dual goals of college and work preparation; 7) develop and assess strategic, systemic approaches for addressing both dropout prevention and dropout recovery; 8) establish funding models for supporting dropout recovery programs; 9) expand state-wide literacy programs built on research about effective reading instruction; 10) provide professional development in literacy instruction; and 11) institute literacy standards for high school students and provide ongoing assessment.

Cushman, K. (2006). *First in the Family: Advice About College from First-Generation Students: Your High School Years*. Providence, RI: Next Generation Press.

This book includes advice from 13 first-generation college students to their peers who are or may be considering college. The seven chapters address the following topics: 1) the importance of believing that you are college material; 2) understating why you want a higher education; 3) how to find information about and aim for college; 4) how friends, parents, teachers and others can offer support; 5) how to defy stereotypes and low expectations; 6) how to keep your social and emotional balance; and 7) how to stay organized and meet deadlines. The book also includes a list of useful resources and a planning check-list to help students follow the advice.

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Fashola, O. S., & Slavin, R. E. (1998). *Effective Dropout Prevention Programs for Students Placed at Risk. Journal of Education for Students Placed at Risk, 3(2), 159-183.*

This paper draws from a review of two dropout prevention and four college access programs that either fully or partially met authors' criteria (programs were considered to meet the criteria based on effectiveness and replicability; evaluations must also have some sort of control group to be included). Researchers find that dropout programs usually focus on one of two strategies: 1) providing students with quality elementary and middle school experiences to address precursors to dropping out; or 2) identifying key hurdles to school success and helping students overcome them (for example, getting students to complete Algebra II, which has been identified as a key step for college enrollment). Successful programs can also employ the following support strategies: 1) personalize the high school experience for at-risk students with an expectation that increasing attachment to adults at school or giving students high-status roles within school will reduce dropout rates (mentions that some programs give students hats or badges as markers that they can identify with); 2) give students a sense of purpose of completing school and make long-term consequences more apparent in daily activities; 3) place students on college campuses early to give them a realistic idea of what college will be like; 4) provide students opportunities for satisfying social interactions with a subgroup of students who plan to go to college; and 5) establish opportunities for students to earn money while enrolled in school. The authors conclude that dropout programs can be effective if implemented correctly.

Gándara, P., Larson, K., Rumberger, R., & Mehan, H. (1998). *Capturing Latino Students in the Academic Pipeline. Berkeley, CA: Center for Latino Research, University of California, Berkeley.*

This report examines the impact of three outreach programs that are designed to serve Latino students. The Achievement of Latinos Through Academic Success program (ALAS) targets the lowest-achieving Latino students who are at the greatest risk of dropping out of high school. The Advancement Via Individual Determination program (AVID) targets underachieving students with above-average test scores who have the potential to take more demanding college preparatory courses in high school. Puente targets students with varied levels of achievement with the aim of ensuring that they finish high school and go on to college. Based on analyses of data from these programs, the researchers findings include the following: 1) taken together, data on mobility, attendance, failed classes, and graduation credits indicate that the ALAS program had a substantial and practical impact on students who received the intervention; 2) AVID students whose parents' median annual income fell below \$19,999 enroll in four-year colleges in equal or higher proportion to students whose parents' median annual income was between \$20,000 and \$65,000; 3) more AVID students whose parents had less than a college education enrolled in four-year colleges than students from the control group with college-educated parents; 4) Puente students were more likely to stay in school, and in the same school, than non-Puente students; and 5) Puente students took and passed more college preparatory courses than students in the control group.

George, P., & Aronson, R. (2003). *How Do Educators' Cultural Belief Systems Affect Underserved Students' Pursuit of Postsecondary Education? Honolulu, HI: Pacific Resources for Education and Learning.*

George and Aronson identify evidence from the research literature that suggests that educators often hold preconceived notions about students based on their own beliefs about the role that race, ethnicity, or socioeconomic status plays in student achievement. The authors assert that these beliefs can affect educators' expectations of students' ability to learn and influence the kinds of opportunities that they provide for students to achieve. Based on a review of the literature, the authors make numerous suggestions for

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educators who wish to mitigate the impact of their cultural belief systems on underserved students including: 1) create opportunities for educators and students to get to know each other better on a personal basis; 2) realize that small learning communities can take many forms, from organizational/structural reconfiguration to curriculum changes to simply a friendlier school climate; 3) provide opportunities for all students to achieve by fostering self-confidence, and highlighting student strengths rather than weaknesses; 4) give students fewer options to opt out of a rigorous curriculum that includes algebra, geometry, calculus, biology, chemistry, physics, and a foreign language; 5) provide test preparation for the PSAT, SAT, and ACT and encourage all students to take these tests (if finances are a factor, districts should make the commitment to pay the testing fee for students); 6) create bridges between schoolwork and life to emphasize the relationship of education to success in later life; 7) increase the number of minority teachers at all levels of education; 8) acknowledge the negative impact that educators' low expectations, based on racism or stereotyping, can have for underserved students; 9) provide outlets for students to develop peer networks that provide support for ethnic identity while also supporting high achievement; 10) utilize mentors (mentors can play many roles, including offering tutoring and academic assistance, providing motivation to meet educational goals, model for positive behavior, and helping students focus on a career and taking the steps toward that career); 11) focus guidance and counseling on underserved students and their families who are unfamiliar with how to prepare for further education; and 12) improve the home-school-community connection to focus on promoting postsecondary education. While drawn from the academic literature, not all of these suggestions have been evaluated for effectiveness.

Jones, R. (2003). *Pre-College Academic Programs and Interventions*. Boston, MA: Pathways to College Network, TERI.

This document highlights and describes numerous pre-college programs. Jones provides the following information on each program in bullet-points: 1) date founded; 2) location; 3) description; 4) intervention (often uses words like “tutoring” or “mentoring”); 5) cohort served; 6) key components; 7) funding; and 8) evaluation reference. This report is organized according to type, including school-to-work, minority assistance, service learning, financial assistance, and comprehensive academic/support services (national, statewide, citywide). Not all programs have been evaluated, and those that have been evaluated were not necessarily evaluated according to rigorous standards.

Kennelly, L., & Monrad, M. (2007). *Approaches to Dropout Prevention: Heeding Early Warning Signs with Appropriate Interventions*. Washington, DC: National High School Center.

This paper presents guidelines for educators who wish to build early warning systems to identify students (primarily in grades 6-9) who are at risk of dropping out of middle and/or high school. Kennelly and Monrad conclude that early warning systems should use student- and school-level data that can track students over time to identify risk factors by individual student, aggregate risk factors by school and type of school, rates of decline in academic achievement and engagement (as indicated by attendance and behavior), and school-level outcomes (on track by grade, off-track recovery rates, graduation rates). Early warning systems should offer a systemic analysis of student characteristics, risk factors, outcomes, and impact of intervention. Researchers also identify several “Key Indicators” for students who are at risk of dropping out. These students receive poor grades in core subjects, possess low attendance rates, fail to be promoted to the next grade, and are disengaged in the classroom. This paper concludes with seven action steps for school leaders interested in developing an early warning system: 1) establish a data system that tracks individual student attendance, grades, promotion status, and engagement indicators, such as behavioral marks, as early as fourth grade; 2) determine criteria for who is considered off-track for graduation and establish a continuum of appropriate interventions; 3) track ninth grade students who miss 10 or more days of school in the first 30 days; 4) monitor

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first quarter freshman grades, paying particular attention to failures in core academic subjects; 5) review fall semester freshmen grades, paying particular attention to failures in core academic subjects; 6) monitor end-of-year grades, as the end-of-year grades will provide further information about failure rates and reveal grade point averages, a strong predictor of dropping out; and 7) track students who have failed too many core subjects to be promoted to tenth grade.

Lee, V. E., Smith, J. B., Perry, T. E., & Smiley, M. A. (1999). *Social Support, Academic Press and Student Achievement: A View from the Middle Grades in Chicago*. Chicago, IL: Chicago Annenberg Research Center.

This mixed-methods study utilizes data collected from middle-school students in the Chicago Public Schools to identify the environmental factors that foster student success. Data include a large sample of sixth and eighth grade reading and math scores on the 1997 Iowa Basic Skills Assessment, 28,318 student surveys, over 5,000 teacher surveys, school observations, interviews, and document analysis at 23 Chicago schools. Controlling for student- and school-level background characteristics, researchers found a statistically significant, positive relationship between strong social support, academic press and an increase in test scores. Recommendations for educators who seek to improve middle-school achievement include setting and communicating high expectations for student learning, delineating clear responsibilities for students in raising their own achievement, providing professional development for teachers aimed at improving quality of instruction, pressing students towards more quality work and higher-order thinking, developing incentive systems to reward student achievement, and using assessment systems to provide teachers feedback. This report also emphasizes the role social supports play in fostering academic motivation, building confidence, making academic achievement attainable, and providing psychological comfort that allows students to take risks, admit errors, ask for help and experience failure along the way to educational success.

Makkonen, R. (2004). *Advisory Program Research and Evaluation*. *Horace*, 20(4).

Makkonen reviews large-scale studies and school-based evaluations of advisories as well as the literature on issues related to advisories, such as school culture and students' participation in school activities. The author suggests that few quantitative, systemic studies have been conducted on advisories, and there is little comprehensive data on related outcomes. In addition, advisory is rarely a school's sole strategy for supporting students and fostering personalization so it can be difficult to isolate the impact of this intervention. Despite this, Makkonen concludes that the overall research on advisories is generally optimistic. He identifies promising findings from the literature, such as the fact that students who feel that they are part of a supportive school environment are less likely to have poor attendance and drop out and that healthy relationships between teachers and students appear to facilitate academic achievement.

McDonough, P. M. (2005). *Counseling and College Counseling in America's High Schools*. Alexandria, VA: National Association for College Admission Counseling.

This paper reviews the research findings specific to what students need to do when preparing for college (with a focus on the application process), the history of school counseling, counselors' work and availability, research evidence on good college counseling, and professional associations for counselors. One of the main conclusions that McDonough draws from the literature is that repeated studies have found that improving counseling would have a significant impact on college access for low-income, rural, and urban students as well as students of color. Specifically, counselors who actively support middle school students and their families

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in preparing for college, as opposed to simply disseminating information, increase students' chances of enrolling in a four-year college. Counselors can help high school juniors and seniors and their parents by: 1) reducing anxiety about college; 2) providing application profile enhancement in the form of test coaching, essay assistance, proofing and effective means of self-presentation; 3) helping students realize the wide range of college options and find the best personal match; 4) presenting students in the most effective ways in letters of recommendation; and 5) maintaining professional networks with college admissions officers. McDonough also addresses the wide gaps in college enrollment rates between prep schools and public schools and notes that students from wealthy families are more likely to attend schools where counselors are more committed and able to provide them with information about college. In addition, the author notes that although most Americans assume that counselors are helping students prepare for college or assisting students in enrolling in college, this charge is not written into any existing accountability system, leadership performance evaluation, or K-12 job description.

National Association of Secondary School Principals. (2004). *Breaking Ranks II: Strategies for Leading High School Reform*. Reston, VA: National Association of Secondary School Principals.

This report outlines three sets of recommendations and tools for high school principals who wish to increase student achievement. The first set of recommendations focuses on the development of a professional learning community, wherein leadership throughout the institution refocuses its work on supporting students. The second set focuses on how to provide every student with meaningful adult relationships. Finally, the third set speaks to the development of personalized learning, where students see their learning as meaningful and relevant, as well as rigorous and challenging. This report also includes seven cornerstone strategies for improving student success: 1) Core Knowledge (establish the essential lessons that a student is required to learn in order to graduate, and adjust the curriculum and teaching strategies to realize that goal); 2) Connections with Students (increase the quantity and improve the quality of interactions between students, teachers, and other school personnel by reducing the number of students for which any adult or group of adults is responsible); 3) Personalized Planning (implement a comprehensive advisory program that ensures each student has frequent and meaningful opportunities to plan and assess his or her academic and social progress); 4) Adapting to Differences (ensure teachers use a variety of instructional strategies and assessments to accommodate individual learning styles); 5) Flexible Use of Time (implement schedules flexible enough to accommodate teaching strategies consistent with the ways students learn most effectively); 6) Distributed Leadership (institute structural leadership changes that allow for meaningful involvement in decision-making by students, teachers, family members, and the community and support effective communication with these groups); and 7) Continuous Professional Development (align comprehensive, ongoing professional development program and individual Personal Learning Plans of staff members with the content knowledge and instructional strategies required to prepare students for graduation).

National Center for Education Statistics. *Intervention: Achievement for Latinos through Academic Success. What Works Clearinghouse, (December 26, 2006 ed.)*. Retrieved on August 13, 2008 from <http://ies.ed.gov/ncee/wwc/reports/dropout/alas/>.

This summary of the research literature on the Achievement for Latinos Through Academic Success (ALAS) program was taken from the What Works Clearinghouse (WWC). ALAS caters to middle school students and their parents. Each student is assigned a counselor who monitors attendance, behavior, and academic achievement. Counselors also serve as student advocates, provide feedback and coordination among students, families, and teachers. Students in the program are trained in problem-solving skills, and parents are trained in parent-child problem solving, how to participate in school activities, and how to contact teachers

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and school administrators to address issues. Only one ALAS evaluation met the WWC quality standards. This study included 94 high-risk Latino students entering seventh grade in one urban junior high school in California. The study examined the impact of ALAS on high school persistence and academic progress in the ninth and eleventh grades. The program was found to have potentially positive effects on staying in school and potentially positive effects on progressing in school at the end of the intervention (ninth grade). Information about eleventh grade outcomes was not included in the WWC summary.

National Center for Education Statistics. *Intervention: Talent Search. What Works Clearinghouse, (December 26, 2006 ed.). Retrieved on July 16, 2008 from http://ies.ed.gov/ncee/wwc/reports/dropout/talent_search/research.asp.*

This summary provides a review of the research literature on Talent Search, a federally funded program that promotes high school graduation and college attendance among disadvantaged students through more than 400 projects sponsored by institutions of higher education, public and private agencies or organizations, and some secondary schools. Two studies of Talent Search met What Works Clearinghouse evidence standards with reservations—one was conducted in Texas and the other in Florida. Together, the studies included about 5,000 Talent Search participants, as well as a comparison sample of more than 70,000 students created through propensity score matching. The Texas and Florida studies examined the program's effects on the likelihood that students received a high school diploma or General Educational Development (GED) certificate within five years of entering ninth grade. The Texas study indicated that Talent Search participants completed school at a significantly higher rate than comparison group students (86% compared with 77%). The Florida study indicated that Talent Search participants completed school at a significantly higher rate than comparison group students (84% compared with 70%).

National High School Alliance. (2005). *A Call To Action: Transforming High School Youth for All.* Washington, DC: Institute of Educational Leadership.

This national report provides a framework of six core principles for educators and policy-makers who wish to improve the quality of high schools. The following six principles are meant to be interactive: 1) personalized learning environments; 2) academic engagement of all students; 3) empowered educators; 4) accountable leaders; 5) engaged community and youth; and 6) integrated system of high standards, curriculum, instruction, assessments, and support. Each core principle has numerous action steps for implementation. Recommendations include strategies to structure school size and schedules so that all students and all teachers are engaged in small learning environments, differentiate instruction and provide supports that meet the varied learning needs of multiple student populations and build students' capacity to critique their own work and learning process.

National Postsecondary Education Cooperative. (2007). *Deciding on Postsecondary Education: Final Report.* Washington, DC: National Postsecondary Education Cooperative.

The purpose of this study was to provide key information regarding how high school students make decisions about postsecondary education. Researchers at Westat completed a literature review, conducted 11 focus groups with 90 participants in eight states and reviewed state college search and information websites. They found that parents, guidance counselors, mainstream media, college brochures, and institutions are primary sources of information about college for potential students. Parents play the strongest role in the college choice and decision-making processes for traditional-aged students, regardless of socioeconomic status

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(SES) or ethnic and racial category. Researchers also found that the direct effect of financial constraints does not inhibit enrollment as much as the indirect effect of low SES status, (e.g., students' development, social network, educational experience, aspirations, and academic preparation). They conclude that marketing information to students and parents about college is extremely important, especially for low-income, first-generation students.

Sunderman, G. L. (2007). *Supplemental Educational Services under NCLB: Charting Implementation*. Los Angeles, CA: The Civil Rights Project/Proyecto Derechos Civiles, University of California Los Angeles.

This brief examines trends in the implementation of the NCLB Supplemental Educational Services (SES) program from 2002-03 to 2006-07. It is based on data collected in Arizona, California, Georgia, Illinois, New York, and Virginia and from 11 districts within those states that enrolled large numbers of minority and low-income students, including the nation's three largest public schools districts: Los Angeles Unified School District, the Chicago Public Schools, and the New York City Public Schools. Sunderman outlines core SES requirements, implementation trends and equity implications of NCLB sanctions. She concludes that the number of students eligible for SES has increased and that this increase is related to an increase in the number of schools identified for improvement and required to offer SES. However, the percentage of eligible students actually electing to receive services leveled off or decreased after 2003-04. Sunderman recommends that, until there is better evidence of the effectiveness of these programs, SES programs should no longer be required and that funds set aside for SES programs should be used to support state school improvement efforts and the implementation of a school's improvement plan.

The Education Trust. (2005). *Gaining Traction, Gaining Ground: How Some High Schools Accelerate Learning for Struggling Students*. Washington, DC: The Education Trust.

This report presents the differences between high-impact schools and average-impact schools that cater to low-income students in order to understand what sets high-impact schools apart and identify the necessary—but not sufficient—conditions for increasing academic achievement for low-income students. The authors surveyed administrators, teachers and students, reviewed school documents (schedules, student transcripts, assignments etc.) and conducted multi-day site visits, extensive classroom observations, and focus groups with students and teachers in both types of schools. Based on this data, they recorded numerous differences between high- and average-impact schools in the following 5 spheres: 1) culture; 2) academic core; 3) support services; 4) teachers; and 5) time and other resources. One of the overarching conclusions of this study is that high-impact schools focus on preparing students for life, including college and career readiness, while average-impact schools focus on preparing students for graduation. The authors note that high-impact schools do a better job of maintaining a consistent delivery of services, including rigorous classroom instruction and providing students with information about college and careers.

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Barefoot, B. O., & Fidler, P. P. (1996). *The 1994 National Survey of Freshman Seminar Programs: Continuing Innovations in the Collegiate Curriculum.* Columbia, SC: University of South Carolina National Resource Center for the Freshman Year Experience and Students in Transition.

The purpose of this study was to understand more about the design, implementation and impact of freshmen seminars on college campuses across the country. Researchers administered the 1994 National Survey on Freshman Seminars at 1,003 accredited two- and four-year institutions. Researchers also surveyed Provosts and Vice Presidents of Academic Affairs at 2,460 institutions. Based on these results, the authors identify five different kinds of freshmen seminars (note: these types are not mutually exclusive as hybrids are common): 1) extended orientation seminars (provide students information to help them get around and use college resources); 2) academic seminars with generally uniform academic content across sections (usually focus on “higher order” academic skills such as critical thinking); 3) academic seminars that focus on particular topics; 4) professional or discipline-based seminars; and 5) basic study skills seminars. The report includes case studies of these five types of seminars offered at Longwood College, Union College, Carleton College, Wharton School, and Santa Fe Community College. Notably, researchers also found that most freshman seminars had 25 or fewer students. Of the students who completed surveys, 49 % said that they were satisfied with their seminars, 46.3 % felt seminars increased persistence to sophomore year, 44.4 % reported satisfaction with their institution, 44.4 % reported increased use of campus services, 39.2 % reported improved academic skills or grades, 38.6 % increased number of friends through seminars, 37.8 % increased content knowledge, 29.8 % increased contact with faculty, 27.9 % increased campus involvement, and 24.7 % felt that seminars increased their persistence towards graduation.

Cushman, K. (2006). *First in the Family: Advice About College from First-Generation Students: Your College Years.* Providence, RI: Next Generation Press.

This book includes advice from 16 first-generation college students about how to navigate the transition to higher education and succeed in the first year. The ten chapters address the following topics: 1) college is a journey of discovery; 2) college can be a culture shock; 3) how to take charge of your academic choices; 4) the importance of making relationships that help you do well in college; 5) how to manage your time and resources; 6) why your critical college skills can only get better; 7) the ways in which college is a social and emotional experience; 8) how and why you develop a new identity while at college; 9) ways in which friends and family may also change while you are at college; and 10) how and why to help other students like you to follow in your footsteps to college. The book also includes a list of useful resources.

Engle, J., Bermeo, A., & O'Brien, C. (2006). *Straight from the Source: What Works for First Generation College Students.* Washington, DC: The Pell Institute for the Study of Opportunity in Higher Education.

Based on focus groups with 135 first-generation college students in Texas who had participated in federal TRIO programs, this report defines the following three steps as critical for first-generation students to successfully

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transition from high school to college: 1) raising aspirations for college; 2) navigating the college admission process; and 3) easing the initial transition to college. Researchers advise that educators get the message about college out to all students as early as possible, better prepare students for college academically and provide more support to students once they are in college. The report includes numerous recommendations for how educators can support first-generation students in each step, including developing stronger links between pre-college programs and state college access campaigns, drastically reducing high student-counselor ratios, and directing students toward postsecondary institutions with good support services.

Engle, J., & O'Brien, C. (2007). *Demography Is Not Destiny: Increasing the Graduation Rates of Low-Income College Students at Large Public Universities*. Washington, DC: The Pell Institute for the Study of Opportunity in Higher Education.

The study examines the necessary conditions for improving graduation rates at large public institutions that cater to significant populations of low-income students. Data were collected from 14 public four-year institutions with large numbers of Pell Grant recipients. Ten of these schools demonstrated higher-than-expected graduation rates given their incoming student population and institutional characteristics, while the other four demonstrated lower-than-expected graduation rates. Researchers controlled for student characteristics using regression analysis to isolate the effects of institutional policies and practices. They found that institutions with higher-than-expected graduation rates distinguished themselves in the following ways: 1) designated faculty or staff members as “first responders” to students’ needs, helping students navigate these complex institutions; 2) experienced high levels of student involvement and engagement in campus activities and programs, which personalize the college experience for students; 3) offered well-developed first-year programs (such as freshman orientation programs, freshman success courses, freshman interest groups, and first-year learning communities) and made student participation mandatory or encouraged; 4) initiated instructional improvement efforts in “gatekeeping” introductory courses, particularly in mathematics, such as reducing class sizes or keeping class sizes “small” through supplemental instruction; 5) implemented early warning and advising systems to monitor student progress and intervene when necessary; 6) provided ample academic and social support services and made proactive efforts to coordinate services with advising systems, to advertise services widely, and to train faculty and staff about available services; 7) offered special programs for at-risk student populations that incorporate many of the “best practices” in the retention literature; 8) benefited from administrators who create an institutional culture that promotes student success, providing adequate resources to fund programs, and offering rewards to faculty and staff for getting involved in retention effort; 9) identified a central person, office, or committee that coordinates undergraduate education and/or retention activities across academic and student affairs; and 10) emphasized using retention data in decision-making processes.

Engstrom, C. M., & Tinto, V. (2008). *Learning Better Together: The Impact of Learning Communities on the Persistence of Low-Income Students*. *Opportunity Matters*, 1, 5-21.

This mixed-methods study examines how learning communities impact low-income student persistence in college. Researchers analyzed the results of 3,907 surveys (the surveys were modified versions of the Community College Survey of Student Engagement) collected from students in 13 institutions with academic learning communities that serve under-prepared students. Case studies were conducted at three of these institutions, where researchers performed observations and 49 interviews with students. Quantitative analyses of the data found that students in the learning communities were significantly more engaged than students in the comparison groups along all measures of engagement (classroom, classmates, and faculty), were significantly more positive in their perceptions of the encouragement they experienced on campus, and

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were significantly more positive in their estimation of their intellectual gains. Students in learning communities were also significantly more likely to persist, even after being in a learning community was taken into account. The authors conclude that these findings suggest that there is something specific about being in a learning community that promotes the persistence of academically under-prepared community college students. Based on analyses of the qualitative data, researchers found that learning community faculty employed four key strategies to create a true “community of learners”: 1) using active and collaborative pedagogies that engaged students with their peers; 2) collaborating with other faculty to develop an integrated, coherent curriculum; 3) integrating campus services and programs into the learning community experience; and 4) developing personal connections and relationships with students in which they encouraged students to meet high expectations while offering high levels of support.

Karp, M. M., O’Gara, L., & Hughes, K. L. (2008). *Do Support Services at Community Colleges Encourage Success or Reproduce Disadvantage? An Exploratory Study of Students in Two Community Colleges*. New York, NY: Community College Research Center Teachers College, Columbia University.

Using interview data from students at two colleges in the northeast, this study examines the ways that student support services in community colleges inadvertently perpetuate and legitimate disadvantage. The authors find that although support services are open to all students, only those who come to college with pre-existing social and cultural resources take advantage of them. They also found a disconnect between the belief by college staff that campus support services were well-publicized and student interviews that indicated that students with relatively low levels of social and cultural capital had trouble accessing even the most basic services. Finally, they found that because support services are presented as open-access, students who do not use these services and fail to progress toward a degree interpret their failure as personal, rather than structural. It should be noted that this study was exploratory and included a small sample at only two institutions.

Klein, S., Benjamin, R., Shavelson, R., & Bolus, R. (2007). *The Collegiate Learning Assessment: Facts and Fantasies*. *Evaluation Review*, 31, 415-440.

This report provides a discussion of several issues surrounding the Collegiate Learning Assessment (CLA), an innovative new assessment tool for postsecondary institutions. This paper includes the following components: 1) what the CLA does and does not measure; 2) how dependably it measures what it claims to measure; and 3) how it can be distinguished from other direct and indirect measures of student learning. Though this paper would benefit from a methodology section, the researchers evaluate the CLA in depth, draw on literature to frame their discussion and conclusions and use data from the Integrated Postsecondary Education Data System (IPEDS) to supplement their analysis. They note that what is groundbreaking about the CLA is that it is designed to assess holistically “real-world” tasks that educators, students, and the public consider important outcomes of college education. To complete these tasks, students must demonstrate critical thinking, analytic reasoning, problem solving, and communication skills. The CLA relies entirely on open-ended measures and does not break up complex tasks to report separate ability scores. Researchers discuss potential problems with the CLA, including the limitations of a value-added model, using SAT scores to approximate ability, sample bias, and complications with computers scoring the writing section of the assessment. Despite these issues, the authors contend that the CLA is a reliable assessment for measuring learning outcomes of postsecondary institutions.

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Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006). *What Matters to Student Success: A Review of the Literature*. Washington, DC: National Postsecondary Education Cooperative.

This report summarizes major theoretical findings from sociological, organizational, psychological, cultural and economic research literature regarding the factors that contribute to student success in postsecondary education. Researchers synthesize their major findings into four key areas: 1) student background and precollege experiences; 2) students' postsecondary activities emphasizing engagement in educationally purposeful activities; 3) postsecondary institutional conditions that foster student success; and 4) desired outcomes of college and postsecondary indicators of success. The authors find that: 1) the trajectory for academic success in college is established long before students matriculate; 2) family and community support are indispensable to a student's rising educational aspirations, preparing for college and persisting in college; 3) the right amount and kind of money matter to student success (too little can make it impossible for students to pay college bills; too much loan debt can discourage students from persisting); 4) most students, especially those who have been identified as "at-risk" benefit from early interventions and sustained attention at educational transition points; 5) students who find something or someone worthwhile to connect with in the postsecondary environment are more likely to engage in educationally purposeful activities during college and achieve their educational objectives; 6) institutions that focus on student success and create a student-centered culture are better positioned to help their students attain their educational objectives; and 7) because we value what we measure, assessment and accountability efforts should focus on what matters to student success.

Lumina Foundation for Education. (2007). *Lumina Foundation Lessons: Places – And Faces – That Foster Student Success*. Indianapolis, IN: Lumina Foundation for Education.

This publication provides a snapshot of 15 institutions in Indiana and their efforts to create or enhance programs to improve student success in the first and second years of college. It highlights several postsecondary support strategies, including the merits of summer transition and fall orientation programs, ways to overcome the challenges of attracting busy low-income students (many of whom work 20-30 hours per week) to utilize services, the importance of reaching out to and partnering with high schools, the benefits of collaborative instruction, and professional development for faculty. An essay by John Gardner, Executive Director of the Policy Center on the First Year of College, is also included. Gardner offers ten points for practitioners to consider.

Myers, R. D. (2003). *College Success Programs*. Boston, MA: Pathways to College Network, TERI.

This report presents college retention programs that have demonstrated their effectiveness in retaining and graduating traditionally underrepresented college students through ongoing, longitudinal, qualitative, and quantitative evaluations. Programs included in this paper have demonstrated measurable academic achievement that was equal to, or better than, the campus-wide student population. Meyers used data from the Educational Resources Information Center (ERIC), the Library of Congress, the Department of Education Library; the databases First Search, OCLC and Article First, and resources from the Pell Institute. She also researched the web sites of the institutions whose retention programs were highlighted in articles. Based on this research, Meyers identified numerous components of comprehensive retention programs and discusses the following postsecondary support structures: 1) learning communities; 2) linked courses (courses that complement one another in different disciplines, like interdisciplinary writing); 3) freshman interest groups (three freshman courses linked around a theme, usually academic major, and include peer-advising and

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seminars);

4) coordinated studies (type of learning community based on full-time interdisciplinary learning and curriculum); 5) learning clusters (a cohort of students takes the exact same schedule); 6) federated learning communities (students take three theme-based courses in addition to a three-credit seminar taught by a “Master Learner,” who is a professor from a different discipline); 7) orientation programs (common characteristics of successful programs include total campus commitment, orientation activities prior to beginning classes, pre-matriculation and early registration programs, pre-fall programs, combined designs, freshman orientation activities, orientation courses, academic enhancement services and programs, learning communities, mentoring, program evaluation and improvement methods); 8) freshman seminar programs; 9) summer bridge programs; 10) mentoring programs; and 11) culturally conscious programs. This report includes many examples of college retention programs and details on the support services that they offer.

Perna, L. W., & Thomas, S. L. (2006). *A Framework for Reducing the College Success Gap and Promoting Success for All*. Washington, DC: National Postsecondary Education Cooperative.

In this paper, Perna and Thomas develop a conceptual model of student success to guide policy-makers, practitioners and researchers. The researchers reviewed literature in economics, education, psychology and sociology from 1995-2005 that examined 10 indicators of student success (educational aspirations, academic preparation, college access, college choice, academic performance, transfer, persistence, post-bachelor degree enrollment, income, and educational attainment) that represent four key transitions in a longitudinal student success process (college readiness, college enrollment, college achievement, and post-college attainment). This conceptual model is unique in that it recognizes the following six points: 1) student success is a longitudinal process; 2) multiple theoretical approaches inform an understanding of student success; 3) student success is shaped by multiple levels of context; 4) the relative contribution of different disciplinary and area perspectives to understanding student success varies; 5) multiple methodological approaches contribute to knowledge of student success; and 6) student success processes vary across groups.

Purcell, F. B. (2006). *Urban Scholars: A Best Practice in College Readiness*. *Connection: The Journal of the New England Board of Higher Education*, XXI(1), 20-21.

The purpose of this article is to make a case for the necessity of policies and programs that make transferring from two- to four-year colleges (a process Purcell calls “two-four year transfer”) more accessible. The author notes that the number of New England community college students is rising and will likely continue to rise. She asserts that a regional online transfer system could alleviate the confusion and stress that students and their advisors routinely face when trying to determine how course credits would be applied to transfer institutions. She also highlights promising practices, such as Vermont’s policy of allowing all grades earned at a public institution to be displayed on a single transcript.

The College Board. (2007). *The College Keys Compact: Getting Ready, Getting In and Getting Through College by Expanding Options for Low-Income Students*. New York, NY: The College Board.

This compact outlines steps that College Board is willing to take with K-12 and postsecondary partners, including eliminating fees for low-income students and investing in Public Service Announcements (PSA) on the importance of college. The report includes numerous examples of programs and institutions that offer students academic and social support services. The College Board also offers multiple suggestions for K-12 and postsecondary partners including: 1) expand the rigor of high school courses and establish

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a college-preparatory curriculum as the default program for all; 2) mount college awareness programs and pay attention to parents; 3) provide professional development for teachers, counselors, and administrators around admissions and financial aid practices; 4) enter into partnerships with higher education institutions to support recruiting fairs, campus visits, and fee waivers; 5) monitor progress and share data; 6) colleges should integrate academic support with teaching and learning by expanding tutoring, supplemental instruction, study skills introduction, and the development of learning communities; and 7) colleges should reward faculty who engage with low-income students as mentors and advisers and to expand the number of statewide agreements that permit two-year graduates of approved transfer programs to earn a bachelor's degree without unnecessary duplication of coursework. These recommendations have not been evaluated to determine their effectiveness.

Tinto, V., & Pusser, B. (2006). *Moving From Theory to Action: Building a Model of Institutional Action for Student Success*. Washington, DC: National Postsecondary Education Cooperative.

Drawing from a review of past academic research on student persistence and success, Tinto and Pusser conclude that institutional leaders and policy-makers should consider linked strategies when crafting policy to effectively enhance postsecondary student access, persistence and success. They offer the following recommendations for change-makers: 1) create linked P-16 systems to align primary and secondary school standards with postsecondary requirements; 2) create databases that can follow students throughout all educational levels; 3) support teacher development in primary and secondary schools; 4) provide educational development for under-prepared students; 5) create outreach programs directed at traditionally underrepresented students; 6) improve course articulation between two- and four-year institutions; 7) conduct early and continuous evaluation and assessment of student preparation for postsecondary access and success; 8) place a high priority on achieving goals that delineate which students the policies intend to serve, how the students will be better served by the proposed policies, and how the policies will affect institutions, other students and stakeholders; 9) design policies that address the myriad of contextual factors (defined here as demographics, culture, available resources and existing policies) that affect a student's probability of success; 10) design policies that are consonant with the prevalent political context and normative understandings of an inclusive set of stakeholders and can be implemented with the infrastructure and resources at hand; and 11) generate the support of broad coalitions of postsecondary stakeholders across multiple sectors of the educational system including students, families and communities.

Academic and Social Support for Key Transitions in the Education Pipeline

Roderick, M., Nagaoka, J., Vanessa, C., Moeller, E. with Roddie, K., Gilliam, J., and Patton, D. (2008). *From High School to the Future: Potholes on the Road to College.* Chicago, IL: Consortium on Chicago School Research, University of Chicago.

This mixed-method report identifies the barriers to enrolling in postsecondary education for high school students in the Chicago Public Schools (CPS). Data include surveys completed by CPS seniors about their college plans and activities, as well as records from CPS's postsecondary tracking system, which monitors successive cohorts of CPS graduates as they progress to college. Researchers also present several qualitative case studies, each of which highlights a student who struggled at a different point in the postsecondary planning process. These case studies draw on a longitudinal, qualitative study of 105 CPS students in three high schools. The following findings are presented based on the quantitative and qualitative data: 1) CPS students who aspire to complete a four-year degree do not effectively participate in the college application process (note: Latino students had the most difficulty managing college enrollment); 2) attending a high school with a strong college-going culture shapes students' participation in the college application process; 3) filling out a FAFSA and applying to multiple colleges shape students' likelihood of being accepted to and enrolling in a four-year college; 4) approximately one-third of CPS students who aspire to complete a four-year degree enroll in a college that matches their qualifications; and 5) among the most highly qualified students, discussions about how postsecondary planning and strong connections to teachers are particularly important in shaping the likelihood of enrolling in a match school.

Kezar, A. *Summer Bridge Programs: Supporting All Students.* ERIC Digest. Retrieved August 3, 2008 from <http://www.ericdigests.org/2001-1/summer.html>.

This report draws from program evaluations and academic literature on summer bridge programs primarily targeted towards first-generation college students. The author finds that, in general, model programs are individualized, have strong faculty support and involvement, are tied to the institutional mission, have partnerships with area K-12 schools, are supported by senior administration, use small group collaborative learning, build community, and conduct student assessment /evaluation. Kezar also identifies several academic and social support strategies that are employed by successful bridge programs, including providing tutoring in subjects like reading and math and emphasizing study skills such as time management, individual learning style, study strategies, and expectations for college work. The report includes a discussion of different types of bridge programs.

McDonough, P. M. (2004). *The School-to-College Transition: Challenges and Prospects.* Washington, DC: American Council on Education.

Drawing from a comprehensive review of the academic literature on the barriers that limit access to higher education for students, McDonough finds that the following priorities offer the most promise for shrinking the

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college access gap: 1) lower financial barriers to college affordability; 2) ensure better academic preparation for college; 3) encourage counselors to advise students for college and focus schools on their college preparatory mission; 4) increase the quality and quantity of college entrance and financial aid information; 5) engage families as college preparation partners and 6) create more equitable admission policies. The report suggests that postsecondary leaders take the following steps to narrow the college access gap now: 1) align placement exams or other college readiness indicators with K–12 standards or exit tests; 2) contribute to teacher professional development to improve the rigor of high school classes; 3) improve school counseling for college; 4) clarify the student aid system; 5) make early commitments to middle and high school students who commit to the college track; and 6) develop intervention programs, either individually or in collaboration with other colleges, schools districts, or other statewide partners. McDonough also stresses that outreach programs are not a systemic solution and that their programmatic offerings should be integrated into the school environment.

Tafel, J., & Eberhart, N. (1999). *Statewide School-College (K-16) Partnerships to Improve Student Performance*. Denver, CO: State Higher Education Executive Officers.

This report presents findings from a fifty-state survey of state higher education coordinating and governing boards. The survey asked policy-makers about their existing efforts to prepare K-12 students for college, support student preparation through college admissions policies and practices, and ensure successful postsecondary education experiences for those students who are underprepared upon entry to colleges and universities. Researchers also conducted site visits in Colorado, Georgia, Maryland, Ohio, Washington, and Wisconsin to investigate two issues: 1) the alignment of K-12 reform efforts and college admissions; and 2) efforts to reduce postsecondary remediation and strengthen the preparation of students for successful collegiate experiences. The review asserts that these statewide approaches will initiate coordinated programs and structures to reduce postsecondary remediation. The authors further find that more than two-thirds of states have some type of pre-college outreach program designed to prepare students for college level work. This report also presents the following recommendations for state policy-makers who wish to implement P-16 programs: 1) establish goals and build consensus; 2) create a statewide organizational framework; 3) find incentives to sustain partnerships; 4) develop comprehensive data systems to identify gaps and inform new policy; 5) establish a communication system to disseminate information and encourage public engagement; and 6) identify substantive issues that require immediate attention.

Pathways to College Network. (2007). *Social Support: An Essential Ingredient to Success*. Boston, MA: Pathways to College Network College Readiness Issue Brief. Retrieved August 1, 2008 from <http://www.pathwaystocollege.net/pdf/support.pdf>.

This brief calls attention to the important role social support plays in the academic success of underserved students. Various strategies for providing social support in schools are discussed including how to promote a more personalized learning environment through mentorship and advisories and using disaggregated data to identify at-risk students early and make appropriate interventions. The brief also discusses the role of peers in academic achievement (presents evidence that students with a majority of friends who plan to attend college are significantly more likely to enroll). Action steps for policy-makers, middle and high school principals, and teachers and counselors are included.

Academic and Social Support for Key Transitions in the Education Pipeline

Schneider, B. (2008). *College Choice and Adolescent Development Psychological and Social Implications of Early Admission.* Alexandria, VA: National Association for College Admission Counseling.

This paper explores the psychological and social implications of the recent push for students to begin investigating their college options and narrow their college search in their junior year of high school. Drawing from a review of the literature on youth development and psychology, the author examines how adolescent development corresponds with and impacts the college decision-making process during high school. She also investigates the societal implications of the unequal distribution of support services and resources, which may impact students' college choices and shape the applicant pools for different types of colleges. Schneider outlines the different aspects of adolescent development including: cognitive, physical, emotional, ambitions, and social relationships. She then argues that early decision programs (college admissions programs under which students apply to a single college at the beginning of their senior year and commit to matriculate, if accepted) may be incompatible with what we know about adolescent development from the academic literature. She also discusses the challenges that these programs present to counselors and the costs of these programs to students. Schneider concludes that too much emphasis on college admissions in the midst of adolescent identity-formation may inhibit creativity and discovery at a crucial stage in adolescent development and wellbeing.

Shkolnik, J. (2008). *Positive Research Study on Early College High Schools.* Retrieved July 19, 2008 from <http://thecollegepuzzle.blogspot.com/2008/07/positive-research-study-on-early.html>.

This is a brief summary of a study on Early College Schools (ECS), which use a variety of models for providing college courses to high school students, including: 1) high school teachers with adjunct status teach the courses at the high school; 2) college faculty teach high school students at the high school; 3) college faculty teach a group of high school students on a college campus; and 4) high school students, either individually or in small groups, attend traditional college courses. A survey administered to the population of ECSs and a student survey administered at a sample of 20 ECSs (both administered during the 2006-07 school year) found that the majority of ECSs (92%) offer college courses, and that most ECS students (65%) had taken a college class. In addition, students were increasingly likely to take college courses as they progressed through high school; 47% of ninth graders reported having taken a course, steadily increasing to 84% of seniors.

Providing Academic and Social Support Out of School

Durlak, J. A., & Weissberg, R. P. (2007). *The Impact of After School Programs That Promote Personal and Social Skills.* Chicago, IL: Collaborative for Academic, Social and Emotional Learning.

Focusing on students ages 5–18, Durlak and Weissberg examined the impact of after school programs on the personal and social skills of participants. They reviewed 73 evaluations of after school programs and only considered reports that included control groups and/or controlled for the possible influence of several methodological features. Based on the data, the researchers conclude that when it comes to enhancing personal and social skills, effective programs are SAFE, or sequenced, active, focused and explicit. Two of these criteria are related to process—the presence of a sequenced set of activities to achieve skill objectives (sequenced) and the use of active forms of learning (active). The other two criteria are related to content—the presence of at least one program component focused on developing personal and social skills (focus) and the targeting of specific personal or social skills (explicit). Durlak and Weissberg also found that participants in afterschool programs that use evidence-based skill training approaches improve significantly in three major areas: 1) feelings and attitudes; 2) indicators of behavioral adjustment; and 3) school performance.

Farbman, D., & Kaplan, C. (2006). *Time for a Change: The Promise of Extended-Time Schools for Promoting Student Achievement.* Boston: Massachusetts 2020.

This report details the work of a handful of “extended-time schools” in Massachusetts, which the researchers describe as schools where the conventional schedule is replaced by one that is responsive to the needs of students and teachers. Data for this study was collected from eight schools that met the following criteria: 1) more than 50 percent of the student body qualified for free or reduced lunch; 2) the school is located in a city with a population greater than 50,000; and 3) the school incorporated unique approaches to using additional time; and 4) the school showed positive learning outcomes. The research team conducted a one- or two-day site visit, class observations, interviews, and focus groups with administrators, teachers, students, and parents. According to the report, research suggests that extended time schools offer five distinct benefits: 1) with longer days and longer class periods, classroom learning is less rushed; 2) with more time, teachers can delve more deeply into subject matter because they are no longer pressed to squeeze as much content as possible into a single lesson; 3) a longer day enables schools to build in time reserved for teachers to engage in common planning and on-site professional development, which has the greatest impact on teachers’ competence and, in turn, on students’ proficiency; 4) in a high-stakes environment, schools often decide they must devote the bulk of their limited time to teaching English language arts and mathematics, however, more time usually means that schools can also focus on including other subjects in the school day; and 5) more time allows for greater interaction between teacher and student. The researchers also stress that it is not extended time alone that drives success. Extended time is a resource for educators to make their work more effective.

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Grossman, J. B., Price, M. L., Fellerath, V., Jucovy, L. Z., Kotloff, L. J., Raley, R., et al. (2002). *Multiple Choices After School: Findings from the Extended-Service Schools Initiative*. Philadelphia, PA: Public/Private Ventures.

Researchers used a mixed-methods approach to estimate the impact of 10 cities that benefited from the Wallace-Reader's Digest Fund's Extended-Service Schools (ESS) Initiative, which supported the creation of 60 afterschool programs in 20 communities around the country. Data for this study included interviews with staff, partners, students, parents and key city officials, as well as computerized attendance records, questionnaires to fourth and eighth grade students, telephone surveys and multiple site observations. Among other findings, the researchers observed that demand for the program was substantial, that students participated for 20 days in a typical semester and that higher-needs and older students were more difficult to attract to afterschool programs. The report highlights the following policy implications: 1) locating the programs in schools serving low-income families was an effective means of targeting low-income children, however, special efforts are required if programs are going to be able to attract older youth and the most high-needs students in those schools; 2) choices about program requirements and content influence which children and youth enroll in the afterschool activities and how often they attend; 3) to provide a range of developmental supports and opportunities to children and youth, afterschool programs should offer a variety of activities staffed by skilled leaders; 4) cost depends as much on program choices, opportunities and local conditions as on the number of children served; 5) as afterschool programs multiply, the challenge of raising both cash and non-cash funding is likely to increase due to competition for limited resources; and 6) policymakers need to shift their thinking to expanding the set of options available in a community.

Harvard Family Research Project. (2007). *Research Update: Highlights from the Out-of-School Time Database*. Cambridge, MA: Harvard Graduate School of Education.

This research brief draws from 13 different program evaluations to provide a review of the variety of services offered by after school programs. A summary shows that these programs promote summer learning, partner with schools (one evaluation found that learning suffered without this kind of partnership), provide opportunities for relationships with mentors, and encourage independent reading. The brief emphasizes "evidence-based training approaches." It also says that programs should provide services that are sensitive to the needs and anxieties of working parents in order to ensure sustained participation of youth.

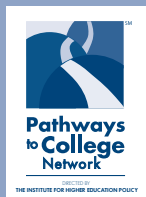
Harvard Family Research Project. (2008). *What is Complementary Learning?* Cambridge, MA: Harvard Graduate School of Education.

The topic of this brief is complementary learning, a systemic approach to intentionally integrate both school and nonschool supports that can better ensure that all children have the skills they need to succeed. According to the Harvard Family Research Project, a complementary learning approach provides and aligns the following beneficial opportunities: 1) out-of-school time activities (including sports, arts, and mentoring programs); 2) community-based and cultural institutions; 3) colleges and university programming; 4) effective school practices; 5) supportive families and opportunities for family engagement; 6) early childhood programs; and 7) health and social services. This brief asserts that complementary learning also aligns resources to maximize efficiency, creates a web of opportunity, provides disadvantaged children enriching opportunities that may be the norm for middle class children, and promotes success from birth through adolescence so that all children are ready to enter school and ready to exit. The evidence for these assertions is not included in the brief.

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Little, P. M. D., Wimer, C., & Weiss, H. B. (2008). *After School Programs in the 21st Century: Their Potential and What It Takes to Achieve It*. Cambridge, MA: Harvard Family Research Project.

Drawing on seminal research and evaluation studies of after school programs, this paper examines: 1) whether participation in after school programs makes a difference; and if so, 2) what conditions appear to be necessary to achieve positive results? The authors note that the existing research on the quality of after school programs is primarily descriptive and evidence on this issue is largely dependent on correlational studies or expert opinion. However, based on the limited research that is available, they identify three primary and interrelated factors that are critical for creating positive settings that can achieve positive youth outcomes: 1) access to and sustained participation in the program; 2) quality programming and staffing; and 3) strong partnerships among the program staff and the other places where students are learning, such as their schools, their families, and other community institutions. The authors conclude that quality after school programs foster inquiry, critical thinking, and engagement in learning. Because of this, after school programs are uniquely poised to support in-school learning and development without replicating the school day.



The Pathways to College Network is an alliance of over 30 national organizations that advances college opportunity for underserved students by raising public awareness, developing new research that is both innovative and actionable, and promoting evidence based policies and practices across the K-12 and higher education sectors. Pathways' work focuses on the education pipeline from middle school through college graduation in four key areas: Academic Readiness for College, College Access and Information, Financial Aid and Affordability, and College Success. Our website provides a comprehensive collection of college access and success studies and other resources to inform policy, practice and research. Pathways is directed by the Institute for Higher Education Policy, a nonprofit organization in Washington, DC. Visit our website for more information: www.pathwaystocollege.net.



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