National High School Center

betterhighschools.org

Linking Research and Resources for Better High Schools

Preparing High School Students for Successful Transitions to Postsecondary Education and Employment

This issue brief is offered by the National High School Center, a central source of information and expertise on high school improvement issues that does not endorse any interventions or conduct field studies. Funded by the U.S. Department of Education, the National High School Center serves the Regional Comprehensive Centers in their work to build the capacity of states across the nation to effectively implement the goals of No Child Left Behind relating to high schools. The National High School Center is housed at the American Institutes for Research and partners with other leading education research organizations such as Learning Point Associates, National Center for Educational Achievement (NCEA), WestEd, and MDRC, the organization responsible for the primary authorship of this report. *The contents of this report were developed under a grant from the U.S. Department of Education. However, those contents do not necessarily represent the policy of the U.S. Department of Education, and you should not assume endorsement by the Federal Government.*

National High School Center
betterhighschools.org

Preparing High School Students for Successful Transitions to Postsecondary Education and Employment

ISSUE BRIEF AUTHOR

Michael Bangser
MDRC

August 2008

ISSUE BRIEF

At-a-Glance

Preparing High School Students for Successful Transitions to Postsecondary Education and Employment

by Michael Bangser of MDRC

KEY ISSUE

Students' high school experiences often do not prepare them adequately for postsecondary education and the world of work. Special attention should be paid to increasing the rigor, relevance, and engagement of the high school curriculum, including for students who have traditionally faced barriers to successful postsecondary transitions.

Primary Finding

A number of promising approaches are available to improve transitions from high school. However, effective implementation of these approaches will require sustained financial support along with appropriate investments in technical assistance and professional development.

TAKE-AWAYS

State Level

- Align high school curricula, graduation standards, and assessments with the expectations of postsecondary educational institutions and employers.
- Hold high schools accountable for increasing the percentage of graduates who complete a curriculum that prepares them for postsecondary education and

INTRODUCTION

In the current information- and technology-based economy, a high school diploma is no longer sufficient as a terminal degree. Most of the fastest-growing jobs that pay reasonably well require at least some postsecondary education[1] (Carnevale & Desrochers, 2003). However, due to what is often characterized as a leaky educational pipeline, too many students fail to complete high school and make a successful transition to postsecondary education and careers.

Nationally, almost 30% of students do not graduate from high school with a regular diploma (Swanson, 2004). Many of the students who do graduate decide to combine work with various forms of postsecondary education during a period when their career plans are still evolving (Haimson & Deke, 2003; McDonough, 2004). Whatever specific paths young people pursue, it is increasingly clear that the skills needed for work often mirror those required for admission to and success in postsecondary education (ACT, 2006; Carnevale & Desrochers, 2003).

This Issue Brief reviews lessons from studies of selected policies and programs designed to improve students' preparation for postsecondary pathways. Special emphasis is placed on ways to help those who traditionally face substantial barriers to success, including low-income students, African American and Latino students, and students with disabilities.

THE CHALLENGE

Students' high school experiences too often fail to prepare them for postsecondary education or for the rigors of work in an information-based economy.

Surveys consistently show that many high school graduates do not meet employers' standards in a variety of academic areas, as well as in employability skills such as attendance, teamwork and collaboration, and work habits. (National Association of Manufacturers, 2005; Peter D. Hart Research Associates, 2005). In addition, many students enter postsecondary education needing remedial coursework. Even when they receive remediation, these students are less likely to earn a degree or certificate than students who do not need remediation (Wirt et al., 2004).

State Level

today's information-based workforce demands.

- Create governance mechanisms and financial incentives to align K–12 and postsecondary planning and budgets.
- Provide feedback to high schools by creating a system for tracking students across the K–12 and postsecondary education systems and into the workplace.
- Develop financial aid policies that provide incentives not only to attend but also to complete postsecondary education.

District and School Levels

- Intervene early, when students are developing their college and career aspirations.
- Emphasize rigor and high expectations for all students, along with appropriate counseling and other supports.
- Integrate strong academic content into career-focused classes.
- Collaborate with postsecondary institutions, economic development agencies, and employers to help create smoother transitions to college and the workforce.

Transitions from high school to postsecondary education and employment can be particularly challenging for students with disabilities. Although there has been an increase in postsecondary attendance (especially at community colleges) by students with disabilities, their enrollment rate is still well below that of their peers in the general population. The employment rate of students with disabilities soon after leaving high school also remains well below that of their same-age peers (Wagner et al., 2006). Moreover, students with disabilities are faced with fragmented services, limited program accessibility, and training that too often focuses on low-paying jobs (National Council on Disability, 2007). (Strategies to promote successful postsecondary transitions for students with disabilities are presented throughout this Issue Brief but particularly in the section beginning on page 14.)

IMPLEMENTATION LESSONS AND CHOICES

Varied strategies have been implemented to prepare high school students for postsecondary education and employment. Table 1 includes examples of some specific programs; however, this Issue Brief focuses on cross-cutting lessons that decisionmakers should consider in tailoring programs and policies to their specific state and local circumstances.[2] This information can be supplemented by referring to more detailed discussions in the Additional Resources listed at the end of this publication.

Preliminary Program Design Issues

Those responsible for designing policies and programs to prepare students for successful postsecondary transitions should first address three overarching questions:

1. When should the intervention start? Interventions that begin in the junior or senior year can be too late—certainly for those students who have already dropped out but also for those who have aspirations for postsecondary education but have not passed the required courses. By beginning earlier, it is possible to engage students when they should be developing initial postsecondary education and career aspirations accompanied by an appropriate academic plan (McDonough, 2004).

Students need to pass core ninth-grade courses in English, math, science, and social studies if they are to remain on track for high school graduation (Allensworth & Easton, 2005; Schneider, 2006). If students do not pass key "gatekeeper courses" such as Algebra I on time, it can be difficult to complete the full sequence of coursework needed for postsecondary education, particularly in 4-year colleges (Paul, 2005; Schneider, 2006). Students must understand the importance of taking and passing the early courses, and schools must provide sufficient access to these courses along with the necessary supports to help students pass them.[3]

TABLE 1

Characteristics of Selected Interventions To Promote Successful Transition to Postsecondary Education and Employment

Dual-Credit Programs

Examples:

Dual enrollment

- Courses are taken in high school that are equivalent to those taken at a postsecondary institution.
- Credit is awarded on both the high school transcript and the transcript of the sponsoring postsecondary institution.

Early college high schools

- Students earn up to an associate's degree or 2 years of credit toward a baccalaureate degree while in high school.
- The middle grades are included, or there is outreach to middle-grade students, to promote academic preparation and awareness of the Early College High School option.

Middle college high schools

- Secondary schools, usually grades 10–12, are located on or adjacent to college campuses.
- Students can take high school and college courses; they receive a high school diploma and can earn college credits.

Tech Prep

- Combines a minimum of 2 years of secondary education with a minimum of 2 years of postsecondary education in a nonduplicative, sequential course of study.
- Integrates academic, vocational, and technical instruction, and uses work-based and worksite learning where appropriate.
- Leads to an associate or baccalaureate degree in a specific career field.

Career and Technical Education (Under the Carl D. Perkins Career and Technical Education Act of 2006—Perkins IV)

- The new Act provides an increased focus on the academic achievement for career and technical education students, strengthens the connections between secondary and postsecondary education, and improves state and local accountability.

Career Academies

- "School-within-a-school" structure normally serves 30–60 students per grade from grades 9 or 10 through grade 12.

- Academic and occupational curricula are combined around a career theme, such as health or business and finance.
- Employer partnerships provide career awareness activities and work internships related to the career theme.

Federally Funded College Preparatory Programs

Examples:

- TRIO programs—educational opportunity outreach programs, including Upward Bound and Talent Search, designed to motivate, support, and prepare students from disadvantaged backgrounds for college.
- GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs)—a discretionary grant program of the U.S. Department of Education that provides states with funding to create local partnerships serving cohorts of students beginning no later than grade 7 and extending through high school.

Other College Preparatory Programs

Examples:

- AVID (Advancement Via Individual Determination)—a grade 4 through 12 system to prepare students in the academic middle for 4-year college eligibility through the use of advanced in-school courses, an AVID-specific curriculum and elective, and tutors.
- Project GRAD (Graduation Really Achieves Dreams)—an integrated approach that includes scholarships for students meeting achievement and participation goals, summer institutes on college campuses, parental and community involvement, social services and academic enrichment programs at the school site, and interventions at "feeder schools" of participating high schools.
- Career Beginnings—promotes college enrollment and better job skills through collaborations among colleges, public schools, and businesses. The program utilizes summer jobs, workshops, classes, and counseling to assist juniors and seniors who have average academic performance with their career plans and applications to college.

Scholarship and Financial Aid Programs
A range of programs that combine some or all of the following elements:

- Public and/or private funding[4]
- Broad-based eligibility or a focus on economically disadvantaged students
- Academic or other requirements such as a threshold grade point average (GPA), graduation from a high school in the state, or attendance at a postsecondary institution in the state.
- Commitment of college scholarship funds early (such as in the middle grades) or later in high school.
- Stand-alone financial aid or accompanying academic, mentoring, and other supports.
- Tuition tax credits as well as scholarship assistance.

2. Broad-based or targeted approaches? In allocating limited resources, policymakers and administrators must decide, for example: (a) the proper balance between whole school reforms that reach all or most students, and more targeted efforts for specific categories of students; and (b) whether to prepare students for particular career or educational paths, or to provide them with maximum flexibility to take advantage of a range of options.

In making these choices, policymakers and administrators should consider the following:

- Sometimes, a special intervention improves postsecondary outcomes for at-risk students, but not for higher performing students who would have done just as well without it. This was true for employment outcomes in a study of Career Academies (Kemple, 2004) and for 4-year college attendance in a study of Upward Bound (Myers et al., 2004), both of which are discussed further in the companion Research Brief. It may, however, be helpful for these programs to serve students with a range of abilities; otherwise, teachers and students might have lower expectations of the programs, seeing them as weaker, remedial efforts (Moore & Myers, 2004; Oakes & Saunders, 2007).
- Concerted outreach may be needed to overcome preconceptions (by staff and students alike) about the nature of certain courses and the types of students they serve. For example, operators of dual-credit programs, which give students high school and college credit simultaneously and which have traditionally enrolled mostly higher performing students, could use outreach methods such as mailings, school fairs, and counselor referrals to attract a broader range of participants (National High School Center, 2007).
- Many students with disabilities are unaware of their full potential. It is important to expose these students early to resources and information that help them develop the decisionmaking and self-advocacy skills that they will need during the transition process and after high school (National Council on Disability, 2007).
- Blending career-oriented and academic courses could help students avoid premature career decisions, while enabling them to see the practical application of academic subject matter (Oakes & Saunders, 2007). Grounding the curriculum in a specific career can lend helpful focus and context to the instruction but should not be cast as a permanent choice, because students often change their plans (Haimson & Deke, 2003).

3. How comprehensive? Stand-alone interventions, such as tutoring, may be insufficient for students with multidimensional needs. For these students, a comprehensive combination of rigorous coursework along with counseling, ongoing assessment, financial aid, and other supports may be necessary, especially to keep struggling students and students with disabilities on track for high school graduation and postsecondary success (Lerner & Brand, 2006; National Council on Disability, 2007; The Education Trust, 2005).

Curricula and Instruction

High school curricula need to be rigorous, relevant, and engaging to prepare students for successful postsecondary activities.

High expectations and rigor. Students—including those with previously low achievement levels—who take more rigorous, academically intense programs in high school enroll and persist in postsecondary education at higher rates than similar students who pursue less challenging courses of study (Adelman, 2006; Oakes & Saunders, 2007). In addition, many students who enter the workforce immediately upon high school graduation now need the same level of skills and knowledge as students entering college (Kline & Williams, 2007). Therefore, it is important to create a culture of high standards with consistent, schoolwide messages about the standards needed for postsecondary success (Schneider, 2006; The Education Trust, 2005).

A number of factors, notably high expectations and efficient use of class time (The Education Trust, 2005), can contribute to a course's level of rigor. In the case of dual-credit and other programs that link high schools with local colleges, the level of rigor might be influenced by the course's location (whether at the college or the high school), the type of instructor (a college or a high school teacher), prerequisites, course length, and mix of high school and college students in the class. It is important to distinguish in these programs between courses that are "college like" and courses that are truly "college level" (Lerner & Brand, 2006; National High School Center, 2007).

Expanded access to Advanced Placement (AP) courses is another means of increasing rigor. Six states (Alabama, Georgia, Kentucky, Maine, Nevada, and Wisconsin) have received grants to expand disadvantaged students' participation in AP courses, and the Texas Advanced Placement Incentive Program has reportedly led to teachers viewing more students as ready for AP coursework (see www.collegeboard.com; www.nga.org).

Alignment. Concern that students' high school experiences are disconnected from the expectations of postsecondary educational institutions and employers has prompted calls to transform the kindergarten through grade 12 (K–12) system into a more integrated kindergarten through college (K–16) or preschool through college (P–16) system. This change would engage governors, education officials at both the K–12 and college levels, business executives, and others working together to improve the alignment of high school curricula with the expectations of postsecondary education and work. One response is the American Diploma Project, in which states have committed to an ambitious agenda with four goals:

- Aligning high school standards with postsecondary and workplace expectations.
- Upgrading high school course requirements so that students take a college- and work-ready curriculum.
- Streamlining assessment systems so the tests that high school students take serve as readiness tests for college and the workforce.
- Holding both high schools and postsecondary institutions accountable for student success.

Achieve, Inc. (2007*b*) reports a number of specific examples of state developments in these areas:

- Thirteen states have end-of-course testing in place to ensure rigor.
- Rhode Island and Delaware plan to review all district high school curricula to confirm that they are aligned with state standards (an approach that might be more feasible in small states).
- Seven states (Delaware, Georgia, Indiana, New York, North Carolina, Oklahoma, and Texas) hold high schools accountable for increasing the percentage of graduates who complete college- and work-ready curricula.

Indiana, Texas, and Louisiana are among the states that make a college preparatory curriculum the default requirement for all high school students. For example, effective in the fall of 2007, Indiana's Core 40 curriculum includes a balanced sequence of rigorous courses in the core subjects of English/language arts, mathematics, science, and social studies, as well as physical education/health and wellness and electives. To graduate with fewer than the Core 40 courses, a student must complete a formal opt-out process with parental consent (www.indianacore40scholars.org).

Washington State's Transition Mathematics Project (TMP) is a statewide public–private partnership that provides information and support to prepare students for successful transitions to postsecondary education in mathematics. For example, TMP works to align 11th- and 12th-grade curricula with introductory college curricula and placement tests, to build teachers' capacity to carry out this program, and to communicate high mathematics expectations to students (see www.hecb.wa.gov).

Teachers' professional development. Teachers in schools that serve disadvantaged populations are often less experienced and less knowledgeable about the subjects they teach than are teachers in more affluent communities (Jerald, 2002). Some steps to consider in response to these concerns include:

- Providing teachers with well-designed, established curricula rather than expecting them to create their own.
- Providing training in advance through undergraduate, graduate, or continuing education courses as well as ongoing coaching of teachers.
- Encouraging teachers to work together to align curricula with standards, create lesson plans, and discuss ways to make classroom activities more engaging.
- Enlisting department-wide support.
- Providing pre-service and in-service training that prepares teachers for the real-life resource constraints and student learning needs in schools that enroll high numbers of low-performing students (Herlihy & Quint, 2006; McDonough, 2004).

Integration of academic and technical content. Recognition that career and technical education (CTE) should include challenging academics is reflected in the Carl D. Perkins Career and Technical Education Act of 2006 and in efforts by a growing number of states (NGA Center for Best Practices, 2007). Yet CTE teachers often feel that they have received insufficient training on how to integrate academic and technical content (Silverberg et al., 2004).

Useful ideas can be drawn from an effort in which mathematics teachers were paired with and supported CTE teachers but did not team teach or teach the mathematics themselves. The project evaluators concluded, among other things, that CTE programs should:

- Develop a "community of practice" among a critical mass of teachers, with the mathematics teachers committing to provide regular support to CTE teachers before and after classes.
- Identify opportunities for CTE teachers to teach mathematics concepts as they naturally occur within the CTE curriculum.
- Provide mathematics and CTE teachers sufficient time to engage fully with each other and to develop a collegial relationship.
- Consistently emphasize to students that mathematics is an essential workplace skill (Stone et al., 2006).

The integration of career-focused and academic content is not necessarily limited to students specifically in CTE classes. Proponents of the Multiple Pathways approach, for example, believe that all students would benefit from a rigorous combination of academic and career-focused learning, along with preparation for civic participation (Oakes & Saunders, 2007).

Counseling, Assessment, and Other Supports

High schools can provide a range of supports to complement students' academic preparation for college and the workforce.

Early and ongoing counseling for students and their families. Counselors can be particularly influential with students from disadvantaged backgrounds; important elements include the provision of information on college costs, financing options, and courses required for college admission (McDonough, 2004). A college-going culture should be instilled for incoming ninth-grade students (The Education Trust, 2005) and is enhanced if counselors have reasonable caseloads,

are held accountable for college enrollment, and receive specific training in college counseling (McDonough, 2004). Counselors who work with students with disabilities should be trained to help identify postsecondary institutions that offer appropriate support services and to develop the documentation that will be needed for students to receive necessary accommodations. In schools with limited resources and high counselor caseloads, mentoring programs or drop-in offices staffed by college students or other community volunteers can be helpful (Schneider, 2006).

Assessment. Counseling should be supported by assessment data as part of a concerted "early warning system," beginning in ninth grade, that identifies struggling students and ensures that they get the additional help they need (The Education Trust, 2005). The early and regular assessments should be tied to measures of college and workplace readiness. For example, mathematics testing programs in Kentucky, North Carolina, and Ohio offer students, beginning in their sophomore year, feedback on whether students are on track to succeed in college-level mathematics.

Although, according to Achieve, Inc. (2007*a*), states have made limited progress in aligning high school assessments with the demands of postsecondary education and the workplace, notable examples include:

- California's Early Assessment Program (a collaboration among the State Board of Education, California Department of Education, and the California State University system) and the Texas Assessment of Knowledge & Skills (which is aligned with statewide curricula) are assessment tests taken by students in the 11th grade that are used for freshman placement in higher education.
- Colorado, Idaho, Illinois, Kentucky, Maine, and Michigan have incorporated SAT and/or ACT college admissions tests into their state assessment systems for all students, not just the college-bound students.
- New York's end-of-course Regents Exams are used both for high school accountability and for college placement.

The approaches used in these states reduce confusion about what is required for students to be ready for college-level work and also reduce the number of tests that students need to take. Achieve, Inc. (2007*a*) does, however, recommend that assessments that incorporate college placement exams should also include additional questions or performance measures to ensure alignment with the full range of advanced concepts and skills needed for successful postsecondary transitions. For example, Maine and Michigan include items supplementing the regular questions on the SAT and ACT, respectively. Maine has worked with the College Board to develop supplemental items in statistics and data, which are part of the state's standards but not extensively assessed on the SAT (Achieve, Inc., 2007*b*).

Career awareness and workplace readiness. Exposure to the world of work can be important because high school students often lack information on the educational requirements for particular jobs (Schneider, 2006). Relevant activities include, for example, paid and unpaid internships, guest lecturers from the business community, career days, youth apprenticeships, and job shadowing. Students report that one-on-one contacts with employers onsite are more helpful than group worksite tours or school-based activities (Haimson & Deke, 2003).

The increased post-high school earnings for young men participating in Career Academies appeared to be linked to career awareness sessions and internships that provided participants with helpful work experience and job references. This work experience should be structured to complement, not substitute for, students' academics (Kemple, 2004).

Other supports and incentives. Additional steps to help keep students engaged and learning include:

- A positive relationship with a caring adult mentor, which can be provided individually or in groups; by teachers, other school staff, college students, or members of the community; and either in the school or outside the school (Lerner & Brand, 2006).

- "Advisories," used as an alternative to regular homeroom periods, that include small, supportive groups led by school staff who develop a personal relationship with students (Herlihy & Quint, 2006).
- Small learning communities, in which students sharing the same cadre of core-subject teachers in a personalized environment come to feel that their teachers know and care about them (Herlihy & Quint, 2006).
- Notification in middle school or early high school that financial aid for postsecondary education will be available if students meet certain conditions, as in Indiana's Twenty-First Century Scholars Program and Oklahoma's Higher Learning Access Program, both of which are targeted to low-income students. State-funded early-commitment scholarship programs can be complemented with academic and other supports, partnerships with businesses and foundations, and later "hands on" help with college and financial aid applications, as well as visits to college campuses to shadow students at host institutions (Blanco, 2005; Constantine et al., 2006).
- Early practice and counseling on the content of college placement exams supplemented with SAT/ACT preparation classes and payment of students' test fees. For example, the Northwest Education Loan Association has conducted SAT preparation classes for low-income students in the Seattle area (www.nela.net). ACT's PLAN program helps students measure their current academic development, explore career and training options, and make plans for their remaining high school and postsecondary years. The "pre-ACT" test is typically administered in the fall of the sophomore year and provides an estimate of the student's predicted scores on the actual ACT test (www.act.org/plan).
- Early forums for students with disabilities and their parents to increase their knowledge of the resources and accommodations that are important for a successful transition to postsecondary education and employment (National Council on Disability, 2007).

Collaboration and Joint Accountability

States, school districts, and individual high schools can all play key roles in promoting collaborations that facilitate successful transitions to postsecondary education and employment. For example:

Collaborations with postsecondary institutions. As noted earlier, joint planning between high schools and colleges helps ensure that high school curricula and assessments are aligned with postsecondary requirements. Also, the National Association of System Heads and the Education Trust have put together a network of state university systems and K–12 leaders to foster K–16 systems in their states (www2.edtrust.org).

High schools and community colleges often cooperate in various forms of dual-credit programs. High schools and their students benefit when community colleges offer laboratory and other courses not available at the high school, while participating community colleges benefit from a pipeline of current and future students (Bailey & Karp, 2003; Lerner & Brand, 2006). Efficient dual-credit systems may improve postsecondary outcomes by shortening the time it takes for students to earn a degree, thereby reducing the cost of postsecondary education (Bailey et al., 2002). Although dual-credit programs hold strong promise, additional research is needed to confirm their impact on postsecondary outcomes (Lerner & Brand, 2006).

Collaboration with employers and economic development agencies. Youth apprenticeships, internships, and job shadowing can be helpful components of an overall program. The experience of Career Academies suggests the benefits of carefully structured partnerships between high schools and employers, as well as having the school designate a full-time staff member to serve as a liaison to employers (Kemple, 2004).

CTE and other programs should establish effective working relationships with private industry, economic development agencies, and workforce investment boards. These efforts can be strengthened by carefully identifying growth

industries, as has been done in Maryland, where state agencies have joined with employers to design and validate high-growth industry clusters (NGA Center for Best Practices, 2007). IBM's Entry Point program places students with disabilities into summer internships and camps that focus on providing training to students beginning in middle school. These experiences often lead to regular employment. In Jacksonville, Florida, the High School/High Tech Program exposes students with disabilities to careers in high tech industries through field trips and mentoring opportunities (National Council on Disability, 2007).

Data and accountability. Documentation of, and accountability for, transitions from high school are complicated by the difficulty of tracking students across disconnected education systems and into the workplace. The fact that records in the K–12 and postsecondary systems are often not linked impedes creation of a high-quality data system spanning the K–16 continuum.

The Data Quality Campaign is a concerted effort to address the challenges of constructing longitudinal data systems to help track student progress and determine the value-added of specific schools and programs. The Campaign suggests 10 essential elements for an effective longitudinal data system, including, for example:

- Unique student identifiers to connect student demographic, enrollment, program participation, transcript, test score, and graduation data across key databases across years.
- A teacher identifier system with the ability to match teachers to students.
- A state data audit system assessing data quality, validity, and reliability.

The Data Quality Campaign's Web site (www.dataqualitycampaign.org) provides detailed information on individual states' efforts in these areas. Although important challenges remain, such as defining core data elements, addressing issues under the Families Educational Rights and Privacy Act (FERPA), and linking systems, a number of states have made great strides. For example, Florida has the capacity to track students' progress through the state's education system and into the workforce (Achieve, Inc. 2007*b*; Callan et al., 2006). Arkansas, Louisiana, Massachusetts, and Texas report that they can track students from kindergarten through college graduation (Achieve, Inc., 2007*b*). Kentucky reports on high school graduates' college preparation and participation, including comparative information at the school, district, and state levels on ACT and AP test taking and success (www.dataqualitycampaign.org).

Finances

Decisions on financing of interventions to promote successful transitions should consider the following factors:

Relative costs. Some choices described in this Issue Brief could require additional expenditures—for instance, for supplementary supports, smaller counselor caseloads, and accelerated credit options such as AP and dual-credit programs—but the benefits may be worth the additional upfront cost (see State of Florida, Office of Program Policy Analysis and Government Accountability, 2006).

Financial incentives to foster a K–16 system. States can combine K–12 and postsecondary per-pupil reimbursements into a K–16 innovation fund, as in North Carolina's Innovative Education Initiatives Act (National Governors Association, 2003). Broader financial incentives for an integrated K–16 system might require holding high schools and colleges jointly accountable for outcomes, as well as merging what are now typically separate K–12 and higher education executive and legislative structures that oversee budget decisions (Venezia et al., 2005).

Multiple interests. Stakeholders at the federal, state, and local levels, as well as college and school administrators and parents, all have particular perspectives—and occasionally competing interests that need to be balanced. For example,

it can be complicated in dual-credit programs to determine how to reimburse participating high schools and colleges fairly while not paying twice for the same students or placing financial burdens on students (Lerner & Brand, 2006). In North Carolina and Michigan, high schools and colleges share the cost of dually enrolled students (National High School Center, 2007).

Covering a range of costs. Low-income students may not be able to bear even minimal costs for program participation. Financial assistance might, therefore, need to cover such items as laboratory fees, test fees, textbooks, and transportation (Lerner & Brand, 2006).

Structuring scholarship assistance. The factors listed under Scholarship Incentive Programs in Table 1 will all have implications for the number of students who can be supported with available funding. Public funding should create incentives for both the student and the college to emphasize *completion* of the degree, not only initial enrollment. For example, limiting financial aid to only a portion of students' college tenure could be shortsighted.

Investments in quality implementation. Intensive program development and continuous improvement efforts are often needed to ensure program quality. Despite the inevitable budgetary pressures, it can be worthwhile to enlist outside expertise for technical assistance and professional development as one way to promote effective program implementation (e.g., Grubb & Stern, 2007; Quint, 2004). Watered-down versions of promising interventions might not produce the expected results.

SUCCESSFUL TRANSITIONS FOR STUDENTS WITH DISABILITIES

As is the case with other students, those with disabilities are a diverse population with multidimensional needs. Many of the lessons described earlier in this Issue Brief will benefit all students, while the section below places particular emphasis on meeting the needs of students with disabilities.

IDEA 2004 [section 614(d)(1)(A)(i)(VIII)] requires that students age 16 or older have Individualized Education Programs (IEPs) that include appropriate measurable postsecondary goals, based on age-appropriate transition assessments. States are required to report on the "[p]ercent of youth aged 16 and above with an [IEP] that includes coordinated, measurable, annual IEP goals and transition services that will reasonably enable the student to meet postsecondary goals [(20 U.S.C. 1416(a)(3)(B)]." Transition requirements under IDEA 2004 include, in summary [section 614(d)(1)(A)(i)(VIII)]:

- An assessment process that focuses on identifying one or more postsecondary goals for students.
- Specification of one or more postsecondary goals in the areas of education/training, employment, and/or independent living, as appropriate.
- Specification of one or more annual IEP goals that are directed to assist students to meet their postsecondary goals.
- Specification of transition services in the IEP (including instruction, community experiences, and other activities as appropriate) that are designed to facilitate the transition from school to anticipated postschool environment(s) and the achievement of postsecondary goals.

In addition, Indicator 14 requires states to report on the percentage of students with IEPs who, within 1 year of leaving high school, have been competitively employed, or attended some type of postsecondary education, or both. A complete listing of transition requirements is available at http://idea.ed.gov/download/statute.html and idea.ed.gov/explore/view/p/%2Croot%2Cdynamic%2CTopicalBrief%2C17%2C. The National Secondary Transition

Technical Assistance Center has developed a checklist and is preparing training materials for states to use in carrying out their responsibilities (www.nsttac.org/content/i13/i13aprchecklist.pdf). In addition, a comprehensive report by the National Council on Disability reviews the issues and existing knowledge related to the employment of people with disabilities. The report presents new information on the perspectives of employers, people with disabilities, and the disability specialist on the key factors that either limit or facilitate employment (National Council on Disability, 2007).

Transition planning for students with disabilities should particularly reflect the following considerations:

A different postsecondary environment. Although nondiscrimination statutes, such as the Americans with Disabilities Act and Section 504 of the Rehabilitation Act, apply to postsecondary educational institutions and employers, the comprehensive and individualized provisions of IDEA—including the requirement of an IEP—do not. In colleges, for example, students will find higher expectations for independence and fewer opportunities for direct contact with faculty (Eckes & Ochoa, 2005).

In addition to ensuring that students and their families are fully informed of these differences, a balance must be struck between supporting students' current needs and preparing them for the more demanding environments that they will enter. Students' high school experiences should gradually be adjusted to fit what they will encounter in postsecondary activities (Jones, 2002; Stodden & Conway, 2002). To the extent possible, the transition planning process should reflect an assessment of the specific postsecondary education or workplace environments that the students will encounter.

Early and active participation by students in transition planning. The transition process should begin early in high school and embody student-focused planning that enables them to participate actively in the process. Decisions should be based on the students' goals and interests. This process requires that students be provided with opportunities to become aware of options, to reflect on them in setting short- and long-term goals, and to assess the progress that is being made toward achieving their goals (Kohler & Field, 2003). During the transition process, students should work with a variety of individuals, including psychologists, general and special educators, administrators, counselors, and parents—and also reflect on their progress during the past year (Kohler & Field, 2003).

The transition services that students will receive must be documented each year in the IEP, beginning at age 16 (or younger if that is determined to be appropriate). In addition, under IDEA 2004, if a student whose eligibility for special education terminates due to graduation with a regular diploma or because he or she exceeds the age of eligibility, the school district must provide a summary of the student's academic achievement and functional performance, including recommendations on how to assist the student in meeting postsecondary goals. This "summary of performance" is vital documentation in the transition to postsecondary education and employment, under IDEA 2004 [section 614(c)(5)].

Development of self-determination, self-advocacy, and other skills. When students with disabilities enter postsecondary education or employment, they will be expected to play an increased role in identifying necessary supports. This underscores the importance of including the development of self-determination and self-advocacy skills as part of the high school transition planning process (Kohler & Field, 2003).

Students with disabilities may also need to develop other educational, employment, and life skills. This should be done in both school-based and community settings and include identification of the accommodations or supports that students will need (Kohler & Field, 2003). Work experience, combined with postschool supports, academic skills, social skills, and job search skills, can improve employment outcomes (Benz et al., 1997; National Council on Disability, 2007). Kohler and Field (2003) noted that work experience and completion of student-identified transition goals were associated with high school graduation and employment.

ISSUE BRIEF

Family and community involvement in an inclusive transition planning process. In addition to student participation, the transition planning process should also include parents and other family members, educators representing multiple disciplines (for instance, special and general education teachers, and school counselor), a transition specialist (Eckes & Ochoa, 2005), and community stakeholders such as employers with an interest in the transition planning (Kohler & Field, 2003; National Council on Disability, 2007). Family involvement can increase higher education attendance and assessment scores, improve students' self-esteem and confidence, and reduce dropout rates (Blackorby & Wagner, 1996). Additionally, Phelps and Hanley-Maxwell (1997) note that families' skills in coping with students' support needs will influence both progress towards educational outcomes and overall success in the adult community.

Family engagement can be enhanced by direct, routine communications such as face-to-face conferences, telephone contacts, open houses, teacher notes, and classroom visits (Kohler & Field, 2003). Practices that focus on family involvement—such as empowerment and training—facilitate family members' participation and increase their abilities to work effectively with others in the transition planning process (Kohler & Field, 2003).

A coordinated, collaborative effort among community agencies. Transition goals are more likely to be achieved when schools and communities build capacity together to serve students' transition needs (Benz et al., 1995; Devlieger & Trach, 1999). Kohler and Field (2003) and the National Council on Disability (2007) found that effective collaboration among organizations in the public and private sectors offers opportunities for individual students, while also addressing community issues that influence student services. Implementing an integrated system is instrumental in sustaining student-focused planning and student development practices, such as work experiences and student involvement in planning (Kohler & Field, 2003; National Council on Disability, 2007).

Effective collaborations, such as that between Milwaukee County's Division of Disability Services and the Milwaukee Public Schools, should be established with appropriate community agencies, including providers of transportation as well as rehabilitation and human services (National Council on Disability, 2007). These collaborations are especially important because students and parents may be unfamiliar with the terminology and operating procedures used by multiple adult-serving agencies. Hart, Zimbrich, and Whelley (2002) recommend that states and localities adopt student- and family-centered strategies that include:

- Interagency cooperation to coordinate services (including the use of transition specialists) and to streamline eligibility, intake, and referral procedures.
- Clear and uniform mechanisms for information sharing and communication across agencies, including Web-based information clearinghouses and use of accessible language that reflects cultural competence.
- Resource mapping and pooling of case management and other resources across disciplines.
- Identifying and addressing service gaps with input from students and their families.

Appropriate use of technology. There should be careful planning for the provision and/or transfer of technology, as needed. The transition process should include identification of funding sources for the technology, as well as timely training for students in the use of the technology (Mull & Sitlington, 2003).

CONCLUSION

Policymakers and administrators face choices in structuring interventions to promote successful transitions from high school. A number of promising approaches are available to support students' preparation for the educational and workplace demands of the new economy. To maximize the effectiveness of these approaches, special attention should

be paid to increasing the rigor, relevance, and engagement of the high school curriculum, including for students who have traditionally faced barriers to successful postsecondary transitions.

REFERENCES

Achieve, Inc. (2007*a*). *Aligned expectations?* A closer look at college admissions and placement tests. Washington, DC: Author. Retrieved February 5, 2008, from http://www.achieve.org/files/Admissions_and_Placement_FINAL2.pdf.

Achieve, Inc. (2007*b*). *Closing the expectations gap 2007.* Washington, DC: Author. Retrieved February 5, 2008, from http://www.achieve.org/files/ Admissions_and_Placement_FINAL2.pdf.

Achieve, Inc. (2004). *Ready or not: Creating a high school diploma that counts.* Washington, DC: Author. Retrieved February 5, 2008, from http://www.achieve.org/node/552.

ACT, Inc. (2006). *Ready for college and ready for work: Same or different?* Iowa City, IA: Author. Retrieved February 5, 2008, from http://www.act.org/path/policy/pdf/ReadinessBrief.pdf.

Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college.* Washington, DC: U.S. Department of Education. Retrieved February 29, 2008, from http://www.ed.gov/rschstat/research/pubs/toolboxrevisit/toolbox.pdf.

Allensworth, E., & Easton, J. Q. (2005). *The on-track indicator as a predictor of high school graduation.* Chicago: Consortium on Chicago School Research. Retrieved January 15, 2008, from http://ccsr.uchicago.edu/content/publications.php?pub_id=10.

Bailey, T., Hughes, K., & Karp, M. M. (2002). *What role can dual enrollment programs play in easing the transition between high school and postsecondary education?* Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education. Retrieved December, 15, 2007, from www.ed.gov/about/offices/list/ovae/pi/hs/bailey.doc.

Bailey, T., & Karp, M. M. (2003). *Promoting college access and success: A review of credit-based transition programs.* Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education. Retrieved December 20, 2007, from http://www.ed.gov/about/offices/list/ovae/pi/cclo/crdbase.doc.

Benz, M. R., Lindstrom, L. E., & Halpern, A .S. (1995). Mobilizing local communities to improve transition services. *Career Development for Exceptional Individuals, 18*, 21–32.

Benz, R. B., Yovanoff, P., & Doren, B. (1997). School-to-work components that predict post-school success for students with and without disabilities. *Exceptional Children, 63*(2), 151–165.

Blackorby, J., & Wagner, M. (1996). Longitudinal postschool outcomes of youth with disabilities: Findings from the National Longitudinal Transition Study. *Exceptional Children, 62*(5), 399–414.

Blanco, C. (2005). *Early commitment financial aid programs: Promises, practices, and policies.* Boston: Pathways to College Network. Retrieved January 25, 2008, from http://www.pathwaystocollege.net/pdf/EarlyCommitment.pdf.

Callan, P. M., Finney, J. E., Kirst, M. W., Usdan, M. D., & Venezia, A. (2006). *Claiming common ground: State policymaking for improving college readiness and success.* San Jose, CA: The National Center for Public Policy and Higher Education. Retrieved January 10, 2008, from http://siher.stanford.edu/documents/pdfs/Claim%20Comm%20Grnd%20Rpt%20FINAL%2003%2029%2006.pdf.

Carnevale, A., & Desrochers, D. (2003). *Standards for what? The economic roots of K–16 reform.* Princeton, NJ: Education Testing Service. Retrieved January 8, 2008, from http://www.transitionmathproject.org/assets/docs/resources/standards_for_what.pdf.

Constantine, J., Seftor, N., Martin, E. S., Silva, T., & Myers, D. (2006). *A study of the effect of the talent search program on secondary and postsecondary outcomes in Florida, Indiana and Texas: Final report from phase II of the national evaluation.* Princeton, NJ: Mathematica Policy Research. Retrieved January 15, 2008, from http://www.mathematica-mpr.com/publications/PDFs/talentseach3state.pdf.

Devlieger, P. J., & Trach, J. S. (1999). Mediation as a transition process: The impact on post-school employment outcomes. *Exceptional Children, 65,* 507–523.

Eckes, S., & Ochoa, T. (2005). Students with disabilities: Transitioning from high school to higher education. *American Secondary Education, 33*(3), 6–20.

Grubb, W. N., & Stern, D. (2007). *Making the most of career-technical education: Options for California.* Berkeley, CA: Policy Analysis for California Education. Retrieved December 10, 2007, from http://pace.berkeley.edu/reports/PB.07-1.pdf.

Haimson, J., & Deke, J. (2003). *Preparing for productive careers: Students' participation in and use of career-focused learning activities.* Princeton, NJ: Mathematica Policy Research. Retrieved January 10, 2008, from http://www.mathematica-mpr.com/publications/PDFs/prepprodfull.pdf.

Hart, D., Zimbrich, K., & Whelley, T. (2002). *Challenges in coordinating and managing services and supports in secondary and postsecondary options.* Minneapolis, MN: National Center on Secondary Education and Transition. Retrieved February 1, 2008, from http://www.ncset.org/publications/printresource.asp?id=719.

Herlihy, C., & Quint, J. (2006). *Emerging evidence on improving high school student achievement and graduation rates: The effects of four popular improvement programs.* Washington, DC: American Institutes for Research, National High School Center. Retrieved January 20, 2008, from http://www.betterhighschools.org/docs/NHSC_EmergingEvidenceBrief_111606Final.pdf.

Individuals with Disabilities Education Act of 2004, Public Law No. 108-446, 20 U.S.C. §1400 et seq. (2004).

Jerald, C. (2002). *All talk, no action: Putting an end to out-of-field teaching.* Washington, DC: Education Trust, Inc.

Jones, M. (2002). *Providing a quality accommodated experience in preparation for and during post-secondary school.* Minneapolis, MN: National Center on Secondary Education and Transition. Retrieved January 5, 2008, from http://www.ncset.org/publications/viewdesc.asp?id=198.

Kemple, J. (2004). *Career academies: Impacts on labor market outcomes and educational attainment.* New York: MDRC. Retrieved January 8, 2008, from http://www.mdrc.org/publications/366/full.pdf.

Kline, C., & Williams, E. (2007). *Transitioning out of high school: A quick stats fact sheet.* Washington, DC: National High School Center. Retrieved June 6, 2008, from http://www.betterhighschools.org/docs/NHSC_TransitionsOutFactSheet.pdf.

Kohler, P. & Field, S. (2003). Transition-focused education: Foundation for the future. *Journal of Special Education, 37*(3) 174–184.

Lerner, J. B.. & Brand, B. (2006). *The college ladder: Linking secondary and postsecondary education for success for all students.* Washington, DC: American Youth Policy Forum. Retrieved January 8, 2008, from http://www.aypf.org/publications/The%20College%20Ladder/TheCollegeLadderlinkingsecondaryandpostsecondaryeducation.pdf.

McDonough, P. M. (2004). *The school-to-college transition: Challenges and prospects.* Washington, DC: American Council for Education. Retrieved January 8, 2008, from http://www.acenet.edu/bookstore/pdf/2004_IPtransitions.pdf.

Moore, M., & Myers, D. (2004). Translating results from impact studies into changes in operating programs: Improving Upward Bound through targeting more at-risk students. In G. Borman & M. Boulay (Eds.), *Summer learning: Research, policies and programs* (pp. 83–198). Mahwah, NJ: Lawrence Erlbaum Associates.

Mull, C., & Sitlington, P. (2003). The role of technology in the transition to postsecondary education of students with learning disabilities: A review of the literature. *Journal of Special Education, 37*(1) 26– 32.

Myers, D., Olsen, R., Seftor, N., Young, J., & Tuttle, C. (2004). *The impacts of regular Upward Bound: Results from the third follow-up data collection.* Washington, DC: Mathematica Policy Research. Retrieved January 8, 2008, from http://www.mathematica-mpr.com/publications/PDFs/upboundimpact.pdf.

National Association of Manufacturers, Manufacturing Institute's Center for Workforce Success, and Deloitte Consulting. (2005). *2005 skills gap report: A survey of the American manufacturing workforce.* New York: Deloitte Development LLC. Retrieved January 8, 2008, from http://www.nam.org/2005skillsgap.

National Council on Disability. (2007). *Empowerment for Americans with disabilities: Breaking barriers to careers and full employment.* Washington, DC: Author. Retrieved February 1, 2008, from http://www.ncd.gov/newsroom/publications/2007/pdf/ncd94_Employment_20071001.pdf.

National Governors Association. (2003). *Ready for tomorrow: Helping all students achieve secondary and postsecondary success.* Washington, DC: Author. Retrieved January 8, 2008, from http://www.nga.org/cda/files/0310READY.pdf.

National High School Center. (2007). *Findings from the Early College High School Initiative: A look at best practices and lessons learned regarding a dual enrollment program.* Washington, DC: American Institutes for Research, National High School Center. Retrieved January 20, 2008, from http://www.betterhighschools.org/docs/NHSC_EarlyCollegeHighSchool_032107.pdf.

NGA Center for Best Practices. (2007). *Retooling career technical education.* Washington, DC: Author. Retrieved January 8, 2008, from http://www.nga.org/Files/pdf/0706TECHED.pdf.

Oakes, J., & Saunders, M. (2007). Multiple pathways: High school reform that promises to prepare all students for college, career, and civic responsibility. *Multiple perspectives on multiple pathways: Preparing California's youth for college, career, and civic responsibility.* Los Angeles: University of California. Retrieved February 5, 2008, from http://www.idea.gseis.ucla.edu/publications/mp/reports/pdfs/mp02_OakesandSaunders.pdf.

Paul, F. G. (2005). Grouping within Algebra I: A structural sieve with powerful effects for low-income, minority, and immigrant students. *Educational Policy, 19*(2)262–282.

Peter D. Hart Research Associates. (2005). *Rising to the challenge: Are high school graduates prepared for college and work? A study of recent high school graduates, college instructors and employers.* Retrieved January 15, 2008, from http://www.achieve.org/files/pollreport_0.pdf.

Phelps, L. A., & Hanley-Maxwell, C. (1997, Summer). School-to-work transitions for youth with disabilities: A review of outcomes and practices. *Review of Educational Research 67*(2), 197–226.

Quint, J. (2006). *Meeting five critical challenges of high school reform: Lessons from research on three reform models.* New York, NY: MDRC. Retrieved January 8, 2008, from http://www.mdrc.org/publications/428/full.pdf

Schneider, B. (2006). *Forming a college-going community in U.S. public high schools.* East Lansing, MI: Michigan State University. Retrieved March 12, 2008, from http://www.gatesfoundation.org/nr/downloads/ed/researchevaluation/CollegeGoing.pdf.

Silverberg, M.,Warner, E., Fong, M., & Goodwin, D. (2004). *National Assessment of Vocational Education: Final report to Congress.* Washington, DC: U.S. Department of Education, Office of the Under Secretary, Policy and Program Studies Service. Retrieved January 8, 2008, from http://www.ed.gov/rschstat/eval/sectech/nave/navefinal.pdf.

State of Florida, Office of Program Policy Analysis & Government Accountability (2006). *Acceleration programs provide benefits but the costs are relatively expensive.* Retrieved January 28, 2008, from http://www.oppaga.state.fl.us/reports/pdf/0624rpt.pdf.

Stern, D., Wu, C., Dayton, C., & Maul, A. (2007). Learning by doing career academies. In D. Neumark (Ed.), *Improving school-to-work transition* (pp. 134–168). New York: Russell Sage Foundation.

Stodden, R. A., & Conway, M. A. (2002). *Supporting youth with disabilities to access and succeed in postsecondary education: Essentials for educators in secondary schools.* St. Paul, MN: National Center on Secondary Education and Transition. Retrieved January 8, 2008, from http://www.ncset.org/publications/issue/NCSETIssueBrief_1.5.pdf.

Stone, J. R., Alfeld, C., Pearson, D., Lewis, M. V. & Jensen, S. (2006). *Building academic skills in context: Testing the value of enhanced math learning in CTE.* St. Paul, MN: University of Minnesota, National Research Center for Career and Technical Education. Retrieved January 8, 2008, from http://www.nccte.org/publications/infosynthesis/r&dreport/MathLearningFinalStudy.pdf.

Swanson, C. (2004). *Who graduates? Who doesn't? A statistical portrait of public high school graduation, class of 2001.* Washington, DC: The Urban Institute. Retrieved January 8, 2008, from http://www.urban.org/publications/410934.html.

The Education Trust. (2005). *Gaining traction, gaining ground: How some high schools accelerate learning for struggling students.* Washington, DC: Author. Retrieved on February 1, 2008, from http://www2.edtrust.org/NR/rdonlyres/6226B581-83C3-4447-9CE7-31C5694B9EF6/0/GainingTractionGainingGround.pdf.

Venezia, A., Callan, P. M., Finney, J. E., Kirst, M. W., & Usdan, M. D. (2005). *The governance divide: A report on a four-state study of improving college readiness and success.* San Jose, CA: The National Center for Public Policy and Higher Education. Retrieved January 8, 2008, from http://www.highereducation.org/reports/governance_divide/governance_divide.pdf.

Wagner, M., Newman, L., Cameto, R., Levine, P., & Garza, N. (2006). *An overview of findings from wave 2 of the National Longitudinal Transition Study-2 (NLTS2).* (NCSER 2006-3004). Menlo Park, CA: SRI International. Retrieved January 8, 2008, from http://www.nlts2.org/reports/2006_08/nlts2_report_2006_08_complete.pdf.

Weidenthal, C., & Kochlar-Bryant, C. (2007). An investigation of transition practices for middle school youth. *Career Development for Exceptional Individuals, 18,* 147–157.

Wirt, J., Choy, S., Rooney, P., Provasnik, S., Sen, A., & Tobin, R. (2004). *The condition of education 2004.* (NCES 2004-077). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office. Retrieved February 1, 2007, from http://www.arkleg.state.ar.us/data/HigherEdRemediation/submissions/Remediation%20and%20Graduation%20NCES%202004.pdf.

ADDITIONAL RESOURCES

Extensive resources are available online for readers interested in more detailed discussion of the topics addressed in this Issue Brief. Among these resources are:

Overview of the Transitions From High School

Bangser, M. (2008). *Evaluating the impact of strategies to promote successful transitions from high school.* Washington, DC: American Institutes for Research, National High School Center.

Lerner, J. B., & Brand, B. (2006). *The college ladder: Linking secondary and postsecondary education for success for all students.* Washington, DC: American Youth Policy Forum. Retrieved February 5, 2008, from http://www.aypf.org/publications/The%20College%20Ladder/TheCollegeLadderlinkingsecondaryandpostsecondaryeducation.pdf.

McDonough, P. M. (2004). *The school-to-college transition: Challenges and prospects.* Washington, DC: American Council for Education. Retrieved February 5, 2008, from http://www.acenet.edu/bookstore/pdf/2004_IPtransitions.pdf.

The Pathways to College Network Web site. Retrieved February 8, 2008, from http://www.pathwaystocollege.net.

Editorial Projects in Education, Inc. (2007). Diplomas count: Ready for what? Preparing Students for college, career, and life after high school. *Education Week, 26*(40). Retrieved February 5, 2008, from http://www.edweek.org/ew/toc/2007/06/12/index.html.

Resources for States

The American Diploma Project Web site. Retrieved February 8, 2008, from http://www.achieve.org.

The National Governors Association (NGA) and its Center for Best Practices and Honor States Program have produced Issue Briefs and other helpful materials, including:

Conklin, K. (2005). *Improving the high school-to-college transition through leadership and governance.* Retrieved February 5, 2008, from http://www.nga.org/cda/files/0504HIGHSCHOOLTRANSITION.pdf.

Conklin, K., & Smith, S. (2004). *Stronger fiscal incentives can improve high school and postsecondary outcomes.* Washington, DC: National Governors Association. Retrieved February 5, 2008, from http://www.nga.org/Files/pdf/0407HIGHSCHOOL.pdf.

Ewell, P., & Boeke, M. (2007). *Critical connections: Linking states' unit record systems to track student progress.* Washington, DC: Center for Higher Education Management Systems. Retrieved February 14, 2008, from http://www.luminafoundation.org/publications/Critical_Connections_Web.pdf.

National Governors Association. (2003). *Ready for tomorrow: Helping all students achieve secondary and postsecondary success.* Washington, DC: Author. Retrieved February 5, 2008, from http://www.nga.org/cda/files/0310READY.pdf.

National Governors Association Center for Best Practices. (2007). *Retooling career technical education.* Washington, DC: Author. Retrieved February 5, 2008, from http://www.nga.org/Files/pdf/0706TECHED.PDF.

The American Association of State Colleges and Universities provides a summary of state policies to strengthen high school curricula, from the perspective of the American Association of State Colleges and Universities:

The American Association of State Colleges and Universities Web site. Retrieved on February 8, 2008, from: http://www.aascu.org/policy_matters/pdf/v3n7.pdf.

Dual Credit/Dual Enrollment

National Alliance of Concurrent Enrollment Partnerships Web site. Retrieved February 8, 2008, from http://www.nacep.org.

Community College Research Center at Teachers College of Columbia University Web site. Retrieved February 8, 2008, from http://www.tc.columbia.edu/centers/ncpr.

The Early College High School Initiative Web site, which is coordinated by Jobs for the Future. Retrieved February 8, 2008, from http://www.earlycolleges.org.

Middle College National Consortium Web site. Retrieved February 8, 2008, from http://www.lagcc.cuny.edu/mcnc.

The National Tech Prep Network Web site. Retrieved February 8, 2008, from http://www.cord.org/ntpn.

Career and Technical Education

The U.S. Department of Education's Office of Vocational and Adult Education funds both the National Research Center for Career and Technical Education and the National Dissemination Center for Career and Technical Education:

The National Research Center for Career and Technical Education Web site. Retrieved February 8, 2008, from http://www.nccte.org.

The Association for Career and Technical Education, which is dedicated to the advancement of education that prepares youths and adults for successful careers:

The Association for Career and Technical Education Web site. Retrieved February 8, 2008, from http://www.acteonline.org.

The California Center for College and Career ConnectEd Toolkit, with resources on how to connect academic and CTE instruction in a multiple pathways approach:

The California Center for College and Career ConnectED Toolkit Web site. Retrieved February 8, 2008, from http://www.connectedcalifornia.org/toolkit/index.php.

National Governors Association Center for Best Practices. (2007). *Retooling career technical education.* Washington, DC: Author. Retrieved February 5, 2008, from http://www.nga.org/Files/pdf/0706TECHED.pdf.

Meeder, H. (2008). *The Perkins Act of 2006: Connecting career and technical education with the college and career readiness agenda.* Washington, DC: Achieve, Inc. Retrieved February 8, 2008, from http://www.achieve.org/node/984.

Career Academies

Career Academies Support Network offers comprehensive staff development and technical assistance for small learning communities and career academies:

Career Academies Support Network Web site. Retrieved February 8, 2008, from http://casn.berkeley.edu.

The National Career Academy Coalition, a national network of existing and emerging career academies:

The National Career Academy Coalition Web site. Retrieved February 8, 2008, from http://www.ncacinc.org.

The Association for Career and Technical Education Web site. Retrieved February 8, 2008, from: www.acteonline.org.

College Preparatory Programs
The U.S. Department of Education has information on programs such as Upward Bound, Talent Search, and GEAR UP.

The U.S. Department of Education's Web site. Retrieved February 8, 2008, from www.ed.gov.

The Advancement Via Individual Development College Prep Program Web site. Retrieved February 8, 2008, from http://www.avidonline.org.

Scholarship Incentive Programs
The Lumina Foundation for Education has a number of helpful resources, including:

Davis, J. S. (2001). *Designing a state student grant program: A framework for policy-makers.* Indianapolis, IN: The Lumina Foundation for Education. Retrieved February 8, 2008, from http://www.luminafoundation.org/publications/synopsis/studentgrantprogram.pdf.

State Student Assistance Commission of Indiana, 21st Century Scholars Program Web site. Retrieved February 8, 2008, from http://www.scholars.in.gov.

Georgia Student Finance Commission, HOPE Scholarship Program Web site. Retrieved February 8, 2008, from http://www.gsfc.org/hope.

Oklahoma Higher Education Student Center Web site. Retrieved February 8, 2008, from http://www.okhighered.org/student-center/financial-aid/grants.shtml.

The Multiple Pathways Approach
UCLA's Institute for Democracy, Education, and Access' Web site. Retrieved February 8, 2008, from http://idea.gseis.ucla.edu/publications/mp/index.html.

Transitions for Students With Disabilities
National Transitional Longitudinal Study Web site. Retrieved February 8, 2008, from http://www.nlts2.org.

National Secondary Transition Technical Assistance Center Web site. Retrieved February 8, 2008, from http://www.nsttac.org.

National Post-School Outcomes Center Web site. Retrieved February 8, 2008, from http://www.psocenter.org.

ThinkCollege Web site. Retrieved February 8, 2008, from http://www.thinkcollege.net.

National Dissemination Center for Children with Disabilities Transition 101 Web site. Retrieved February 8, 2008, from http://www.nichcy.org/resources/transition101.asp.

www.idea.ed.gov (see especially the section on secondary transitions)

National Collaborative on Workforce and Disability for Youth Web site, funded by the Office of Disability Employment Policy of the U.S. Department of Labor. Retrieved February 8, 2008, from: http://www.ncwd-youth.info.

Pacer Center Web site, especially for parents. Retrieved February 8, 2008, from http://www.pacer.org/tatra.

ISSUE BRIEF

ENDNOTES

[1] In this Issue Brief, the term "postsecondary education" refers to a range of activities including 2- and 4-year colleges as well as programs offering technical certificates, apprenticeships, and other advanced training.

[2] Although this Issue Brief draws primarily on operating experience and studies of program implementation, the challenge of determining the actual impact of these interventions on improving postsecondary success is discussed in a companion Research Brief: Bangser, M. (2008). *Evaluating the impact of strategies to promote successful transitions from high school.* Washington, DC: American Institutes for Research, National High School Center.

[3] Under the Individuals with Disabilities Education Act (IDEA) 2004, students with disabilities are supposed to start transition planning by age 16, although research suggests that this process should start even sooner (Weidenthal & Kochlar-Bryant, 2007).

[4] Examples of primarily state-sponsored programs include Indiana's 21st Century Scholars Program, Georgia's HOPE Scholarships, and Oklahoma's Higher Learning Access Program. Primarily privately-sponsored programs include Project GRAD and I Have a Dream. Scholarships also play an important role in federally funded programs such as GEAR UP.