Education Commission of the States

The Progress of Education Reform 2007

Dropout Prevention

Vol. 8, No. 1, July 2007

What's Inside

- State policy approaches aimed at keeping students in school
- The indicators most closely associated with dropping out
- Cost/benefit analysis of initiatives that improve graduation rates

Research Sheds Light on the Students Most at Risk of Dropping Out – and How to Keep Students on the "Graduation Track"

Improving high school graduation rates has in recent years become a growing concern to state and local policymakers for a number of reasons: the reduced economic opportunities and increased social costs for individuals without a high school diploma; the economic consequences, such as reduced tax revenues; and the need for more college graduates. The U.S. Chamber of Commerce has projected, for example, that 90% of the fastest-growing jobs will require some form of postsecondary education – not a likely proposition for high school dropouts.

Pressure also is emerging from other sources. No Child Left Behind (NCLB) requires high schools to factor in graduation rates in calculating whether a high school has made adequate yearly progress (AYP) or is subject to sanctions for failing to do so. And in one survey after another, high school students themselves report that they hope to finish high school and go to college – but without a high school diploma, these young people are relatively unlikely to earn a postsecondary credential. State longitudinal data systems are providing more accurate information than ever on the number of young people dropping out – with these figures often much higher than previously believed. Finally, an increasing number of states are using a more accurate method of calculating graduation rates, the method proposed in the National Governors Association "Graduation Counts Compact" (the number of students graduating within four years with at least a standard diploma, divided by the number of first-time entering 9th graders four years earlier, plus transfers in, minus transfers out) – again, generating lower (but more accurate) graduation rates than former methodologies.[1]

This issue of ***The Progress of Education Reform*** summarizes the findings of five recent studies that address:

- Early (6th-grade) predictors for dropping out of school
- Ninth-grade predictors of risk in an urban environment
- School characteristics linked to higher graduation rates
- Economic benefits of several programs that positively influence high school completion rates
- A synthesis of the research on dropping out and the importance of state data systems to support dropout prevention efforts.

[1] Bridget Curran, Implementing Graduation Counts: State Progress to Date, National Governors Association, 2006. http://www.nga.org/Files/pdf/0608GRADPROGRESS.pdf

Did you Know?

Three out of four of the inmates in state prisons, nearly 59% of federal prisoners, and 69% of jail inmates are high school dropouts.

Alliance for Excellent Education, 2006

Did you Know?

An overwhelming proportion of Medicaid recipients and a substantial proportion of welfare recipients (including those receiving food stamps, housing assistance and Temporary Assistance for Needy Families [TANF]) are high school dropouts.

Center for Benefit-Cost Studies, Teachers College, Columbia, 2007

While a common assumption is that students drop out of school because of their social background and school behaviors, the findings from these studies demonstrate that schools can exert important organizational effects on students' decisions to drop out or stay in school. The research included here holds a number of implications for policy:

Monitor and intervene early to reduce the number of dropouts

Pay attention to the middle grades. The large numbers of students who fall off the graduation track early in the middle grades clearly require substantial and sustained supports to become engaged in schooling and successfully pass their courses.

Establish interventions for failing students before their second year of high school. Also, consider implementing higher level measures of progress at a higher level of performance – such as whether students are acquiring the skills they will eventually need to do well in advanced classes, or to prepare for college or work.

Pay attention to engagement and support

Target attendance, behavior and student engagement based on the level of student need. For example, the model suggested in ***Preventing Student Disengagement***. involves school-wide reforms aimed at the most common problems, and more targeted efforts for students who need additional and/or more clinical types of supports.

Look at the individual – in terms of individual students who are at high risk of failure, rather than assuming certain types of students will fail in high school. Also, students are less likely to drop out of schools where relationships between teachers and students are more positive. Although schools have little control over who attends them, the adults who work in the schools are able to consciously alter how they interact with their students.

Consider comprehensive school reforms (e.g., Talent Development Middle Grades model) that attempt to improve student engagement through many mutually supporting mechanisms.

Ensure a strong academic focus

A curriculum with more challenging courses and fewer remedial or nonacademic courses is associated with holding students in high school until graduation.

Don't ignore school structure

Smaller (but not too small) school size is generally better. Organizational trust and commitment to a common purpose are associated with smaller schools.

Preventing Student Disengagement and Keeping Students on the Graduation Track in High-Poverty Middle-Grades Schools: Early Identification and Effective Interventions

(Robert Balfanz, Johns Hopkins University; Lisa Herzog, Philadelphia Education Fund; Douglas MacIver, Johns Hopkins University, 2007)
http://www.mgforum.org/News/MembersSpeak/Article-MacIver.pdf

Following nearly 13,000 Philadelphia students over a number of years, researchers found that 60% of students in the study who dropped out of high-poverty schools could be identified by one or more of four indicators in 6th grade:

- Failing English
- Failing math
- Attending school 80% of the time or less
- Receiving at least one out-of-school suspension.

Behavior and attendance also are crucial. Students who failed 6th-grade math or English and who had received poor behavior marks that year were more likely to drop out than those who failed one of those subjects but were not cited for bad behavior. And, add the authors, "it is not just major infractions like fighting **but also sustained mild misbehaviors like not paying attention, not completing assignments, or talking back in class which indicate critical levels of student disengagement**." [emphasis added]

Can effective interventions in high-poverty middle schools help students get back on the graduation track? Yes. Five indicators which make a strong impact on middle grades achievement are:

1. Teacher support
2. Teacher and peer expectations
3. Parental involvement
4. The extent to which students feel the math they are studying will be useful to them later in life
5. Students' intrinsic interest in math.

Comprehensive school reform models may be effective in providing middle-grades students with these five interrelated supports. To further ensure early adolescent students stay on "the graduation track," the researchers propose a three-stage intervention program that involves: (1) school-wide reforms to address 75% of the problem behaviors (including poor attendance); (2) individually-targeted shepherding efforts for the 15-20% of students who need additional supports beyond the school-wide reforms; and (3) intensive efforts involving specialists (counselors, social workers, etc.) for the 5-10% of students who need more clinical types of supports.

On-Track Indicator as a Predictor of High School Graduation

(Elaine Allensworth and John Q. Easton, Consortium on Chicago School Research, June 2005)
http://ccsr.uchicago.edu/content/publications.php?pub_id=10

Students who are "on-track" at the end of grade 9, regardless of student background, are significantly more likely than their peers to graduate from high school within four years. A student is counted as on-track at the end of the freshman year if both of the following criteria are met:

1. The student has accumulated five full course credits (the minimum needed to be promoted to grade 10)
2. The student has no more than one semester F (one-half of a full credit) in a core subject (defined in this study as English, math, science or social studies).

The more credits students earn freshman year, the more likely they are to graduate in four years. There is a particularly large gap in graduation rates between students who earn six or more credits and those who earn fewer; and a somewhat smaller gap between those who earn five or more credits and those who earn fewer.

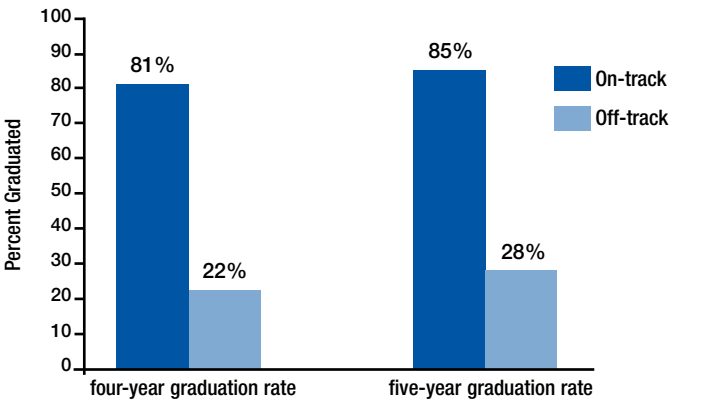
The number of core course failures, like the number of full credits earned, is highly predictive of who will eventually graduate.

Students who enter high school with strong achievement test scores are more likely to be on-track than lower-scoring students, although low-scoring students can and do perform well in their coursework, and this performance is likely to lead to high school graduation. At the same time, even when students enter high school with high test scores, they are unlikely to graduate if they do not make a successful transition to high school.

Being on-track is related to students' background characteristics, but these background characteristics do not predetermine who will be off-track, nor who will graduate.

Four- and Five-Year Graduation Rates by Whether On-Track at the End of the Freshman Year

Students entering high school in September 1999



Note: Students who dropped or transferred out of Chicago Public Schools before the end of the school year are not included in these calculations. If students who dropped out during their first year were included, the off-track graduation rates would be 20 percent (four-year) and 25 percent (five-year). The on-track rates would remain the same.
(Consortium of Chicago School Research, 2005)

The Costs and Benefits of an Excellent Education for All of America's Children

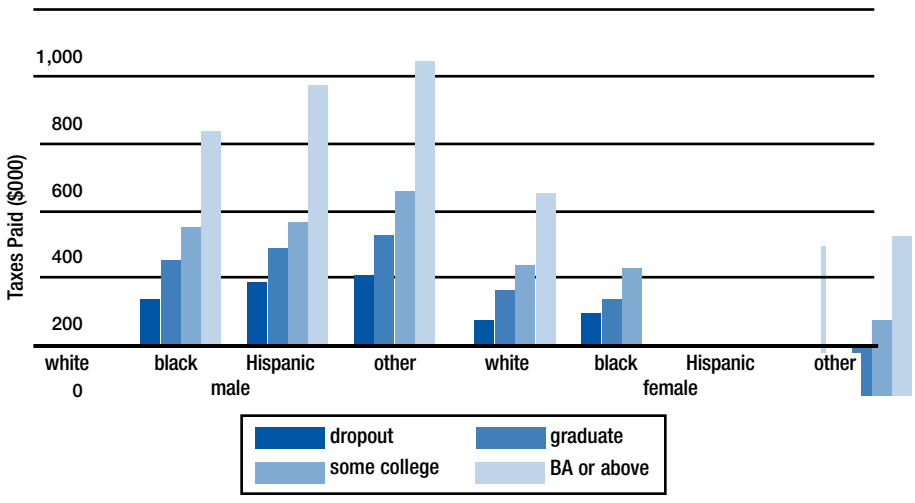
(Henry Levin, Teachers College, Columbia University; Clive Belfield, City University of New York; Peter Muenning, Columbia University; Cecilia Rouse, Princeton University; January 2007)
http://www.cbcse.org/media/download_gallery/Leeds_Report_Final_Jan2007.pdf

Noting that the present cohort of 20-year-olds in the U.S. includes more than 700,000 dropouts, the authors consider the costs and benefits of implementing five interventions found to have a significant positive impact on high school graduation rates. These interventions, listed below from greatest to lowest impact for every 100 students to whom the services are provided, include:

- ***The Perry preschool program*** – 1.8 years of a center-based program for 2.5 hours per weekday; child:teacher ratio of 5:1; home visits; and group meetings of parents (19 extra graduates per 100)
- ***First Things First***, a comprehensive school reform program (16 extra graduates per 100)
- ***Grades K-3 class size reduction*** from 25 to 15 students per teacher (11 extra graduates per 100)
- ***The Chicago child-parent center program*** – center-based preschool program with parental involvement, outreach and health/nutrition services; based in public schools (11 extra graduates per 100)
- ***A 10% increase in teacher salaries*** (five extra graduates per 100).

The authors calculate the lifetime public benefits of graduating from high school – such as lower government expenditures on crime, welfare and health and greater tax receipts – and measure the costs of these educational interventions against the benefits that would accrue. They conclude that, even in a conservative estimate, each new high school graduate results in $209,000 of government revenues and reduced government costs. Considering the $82,000 investment in providing the additional educational supports and services for each of these new high school graduates, the net economic benefit is more than twice the cost of the intervention.

Lifetime Tax Payments by Education Level



Sources: Current Population Survey (March 2003 and 2004); TAXSIM (NBER, Version 6).
Notes: Figures are adjusted for differences in incarceration rates by education level (but not GED status).
Income tax payments are calculated as the average of assuming all males are single and all males are household heads.
Sales and property taxes are 5% of income tax payments. Discount rate is 3.5%.
(Center for Benefit-Cost Studies, Teachers College, Columbia University, 2007)

Other Resources

The ECS Research Studies Database
The database includes vetted research on a number of high school-related topics, including dropout prevention and the importance of grade 9 in high school student success. http://www.ecs.org/rs

The Silent Epidemic: Perspectives of High School Dropouts
This national survey of young dropouts (age 16-25) notes the self-reported reasons they left school – and what they say schools can do to keep other students from dropping out.
http://www.civicenterprises.net/pdfs/thesilentepidemic3-06.pdf

Making Good on a Promise: What Policymakers Can Do to Support the Educational Persistence of Dropouts
This report sheds new light on who drops out, dropouts' eventual educational attainment (many complete a GED and seek to earn a postsecondary credential), and what policymakers can do to keep students in the graduation pipeline – as well as help them back into the system if they do drop out.
http://www.jff.org/Documents/MkingGoodProm.pdf

Issue Brief – What Students Need, Part 1: Drop Out Prevention and Recovery
This brief, written for the Louisiana High School Redesign Commission, recommends elements of an adequate state-level dropout prevention strategy.
http://www.edroundtable.state.in.us/meetings/2005docs/December%202005/LA%20IssueBrief2.Dropout.pdf

Dropout Risk Factors and Exemplary Programs
Analyzing 44 dropout trend studies, the authors identify the risk factors that substantially increase the likelihood a student will drop out and point to exemplary, research-based programs that address the identified risk factors.
http://www.dropoutprevention.org/resource/major_reports/communities_in_schools.htm

One-Third of a Nation: Rising Dropout Rates and Declining Opportunities
This report analyzes various programs designed to serve students at risk of dropping out, and notes the importance – and dearth – of guidance counselors and other staff who can talk to students about their struggles with school and how to resolve the issues underlying those problems.
http://www.ets.org/Media/Education_Topics/pdf/onethird.pdf

Dropping Out of High School: The Role of School Organization and Structure

(Valerie E. Lee and David T. Burkam, University of Michigan, 2003)

Much research on dropping out of high school has been aimed at identifying the students who drop out – yet relatively little attention has been focused on the attributes of the schools these students choose to leave. Lee and Burkam investigate the contribution schools inadvertently make to students' decisions to drop out during their last two years of high school, focusing on the impact of three school characteristics:

- School structure, especially size and sector (whether the school is public, religious, elite private, etc.)
- Academic organization (particularly the rigor of the curriculum)
- Social organization (especially the quality of relationships between students and teachers).

Findings:

- ***Math coursetaking and achievement matter***. Nearly 18% of students in the study who dropped out had taken no math their first two years of high school. Grade 10 math achievement was a strong indicator, as was students' grade point average in math for grades 9 and 10.
- ***Math curriculum counts***. The rigor of the math courses offered correlates with dropout rates. Schools offering fewer basic math courses (below the level of Algebra I) or offering calculus demonstrated lower dropout rates. Students in schools offering calculus were 56% less likely to drop out.
- ***School size matters***. Large high schools (between 1,500 and 2,500 students) had greater percentages of students dropping out (12%) than medium or very large schools (both roughly 7%). Small schools (serving 600 or fewer students) had the fewest dropouts, though most of these schools in the study were Catholic or independent schools. The authors speculate that very large schools reported lower dropout rates because students had dropped out before their last two years of high school, when they could be included in the study. They also note that school size alone is not likely to influence students' decision to drop out, but other positive organizational features – such as student-teacher relationships – come into play here.
- ***Student-teacher relationships are key***. Students in schools reporting more positive student-teacher relations were less likely to drop out than their peers in schools with less positive student-teacher relations. Student-teacher relations, however, did not have an equal impact on schools of all sizes. Small- or medium-size public or Catholic schools reporting positive student-teacher relations saw a huge impact in the odds of students' dropping out. Yet in large or very large high schools the impact of positive student-teacher relations vanished, possibly because organizational disadvantages from the large enrollments outweighed any benefits gained from positive student-teacher relations.

State Policy Options

What's a state policymaker to do to stem the dropout tide? Below are just some of the policy and program approaches states are taking, each with its underlying rationale.

Increasing rigor of the high school curriculum. While it may sound counterintuitive, both research and practice bear out that when all students are expected to complete a challenging high school curriculum (and have access to the additional supports they need), young people rise to the challenge and graduation rates increase. The ECS *Highlights of Local Initiatives* database provides information on San Jose, California's initiative to require all students to complete a college-ready curriculum.

http://mb2.ecs.org/reports/Report.aspx?id=876

Increasing the upper compulsory school age. Some research suggests that raising the upper compulsory school age, the so-called "dropout age," is associated with higher high school completion rates. Meanwhile, recent dropouts cite "too much freedom" as one of the reasons they left school before graduating. An ECS database tracks the growing number of states raising the upper school-going age to 18.

www.ecs.org/compulsoryattendance

Early college high schools. Early college high schools, in which students simultaneously complete a high school diploma and an associate's degree (or up to two years' credit toward a four-year degree), are demonstrating success in serving students traditionally most likely to drop out of high school. The Early College High School Initiative Web site provides more information about these programs. A soon-to-be-released ECS database will provide details on state-level early college policies and programs, while a companion policy brief will set forth the components of a comprehensive state-level early college high school policy.

http://www.earlycolleges.org

Identifying Potential Dropouts: Key Lessons for Building an Early Warning Data System

(Craig D. Jerald, for Achieve and Jobs for the Future, June 2006)

What should one consider when creating a dropout prevention system that accurately identifies the students at greatest risk of dropping out? The author recommends policymakers conduct their own localized longitudinal studies, develop an early warning data system based on the feedback from the studies, then implement intervention initiatives. According to the author, an early warning data system does not require a significant amount of money, an advanced student tracking system, nor a wait of many years. Records of previous student cohorts in the jurisdiction can be analyzed to determine what fate is likely to befall future cohorts.

The author's recommendations for components of early warning systems:

- A unique student identification number that allows an individual student to be tracked by grade level, from elementary to middle to high school
- Accurate enrollment information on each student, including entry and exit by school attended
- Student demographic information, including eligibility for the federal free and reduced-price lunch program, race/ethnicity, gender and age
- Student transcript information, including courses attempted, courses completed, grades, credits earned and any instances of being retained in a grade
- Student attendance
- Student behavior, grades or discipline records
- Student graduation and dropout information.

This issue of ***The Progress of Education Reform*** was made possible by a grant from the GE Fund. It was written by Jennifer Dounay, an ECS policy analyst. If you have any questions regarding this or other high school policy issues, please contact her at jdounay@ecs.org or 303.299.3689.

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