

An Early Warning System



By promptly reacting to student distress signals, schools can redirect potential dropouts onto the path to graduation.

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The alarm has sounded. The United States has a high school graduation crisis. The crisis does not stem, however, from any precipitous drop in the percentage of students who graduate. In fact, graduation rates are about as high as they have ever been. What makes current graduation rates alarming is a reality of the new U.S. economy: It is practically impossible for individuals lacking a high school diploma to earn a living or participate meaningfully in civic life. Adding to the urgency is evidence of disproportionately low graduation rates among low-income and minority youth. Recent estimates suggest that between one-third and one-half of minorities do not earn a high school

diploma (Education Week, 2007).

Policymakers and educators have tended to view dropping out of high school in two contradictory ways. On the one hand, they view it as predictable, given the high dropout rates in certain demographic categories and geographic locations. At the same time, they view the experiences that precede a specific student's dropping out as mysterious, difficult to predict, and idiosyncratic. Some students unaccountably "become bored with school"; "fall in with the wrong crowd"; or experience a jarring life event, such as a pregnancy or a parent's unemployment, that precipitates their dropping out of school.

Our research suggests that, on the contrary, many students who drop out

of high school send strong distress signals for years. These students are metaphorically waving their hands and asking for help. By paying attention, schools and districts can develop interventions that can help keep potential dropouts on track to graduation.

Policymakers and educators face several challenges in devising these early intervention strategies. The first is to figure out which signals to look for and when to look for them. These signals form an early warning system that schools can use to identify students who are at risk of dropping out. The second challenge is to develop a set of structures and practices within schools that enable educators to review data and pinpoint those students who are sending signals. The third challenge is to determine the help that students need, on the basis of the signals they send and their responses to previous interventions.

Early Indicators

During the past 25 years, a great deal of research has focused on why students



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drop out. This research typically uses data from complex surveys or in-depth interviews with students, none of which are commonly available to schools and school districts. We wondered whether the ordinary data that school districts keep in student records could operate as a crystal ball of sorts to predict which students might drop out.

We began our research in Philadelphia, using data on several cohorts of students that became available to us when we established a number of Talent Development High Schools and Middle Grades Programs in the city. Johns Hopkins developed these school models, and the Philadelphia Education Fund was the local reform partner. Schools implementing the Talent Development model were located in areas with low graduation rates.

The school district data that we examined included test scores, report card grades, behavior marks, attendance records, special education status, English language learner status, and demographic categories. We identified the following indicators using Philadel-

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phia data. However, we have been able to replicate them with slight modifications in other cities, such as Boston and Indianapolis.

Signals in the Middle Grades

A high percentage of dropouts send distress signals in the middle grades, long before they actually drop out of school. We followed an entire cohort of students in Philadelphia who entered the 6th grade in September 1996—approximately 14,000 students—to determine their dropout status six years later. Then, going back to the 6th grade

data, we looked for any signals—a poor course grade, a low test score—that would give students *at least* a 75 percent probability of dropping out of high school. We chose the 75 percent threshold because it enables schools and districts to focus their scarce resources on students who are at high risk of dropping out.

In Philadelphia, we found that a 6th grader with even one of the following four signals had at least a three in four chance of dropping out of high school:

- A final grade of *F* in mathematics.
- A final grade of *F* in English.
- Attendance below 80 percent for the year.
- A final “unsatisfactory” behavior mark in at least one class.

Students with more than one signal—for example, failing mathematics *and* missing a lot of school—had an even higher probability of dropping out within six years. But we also found that some students sent just one signal, indicating that various factors can culminate in dropping out. Students with failing course grades may struggle with academic skills and motivation, those with inconsistent attendance may find little support for schooling at home, and those with poor behavior marks may have social and emotional challenges that require attention. The signals that have the greatest predictive power relate to student action or behavior in the classroom, rather than to a particular status, such as receiving special education services.

In a separate analysis, we looked at indicators for a cohort of 8th graders. For these students, too, a failing course

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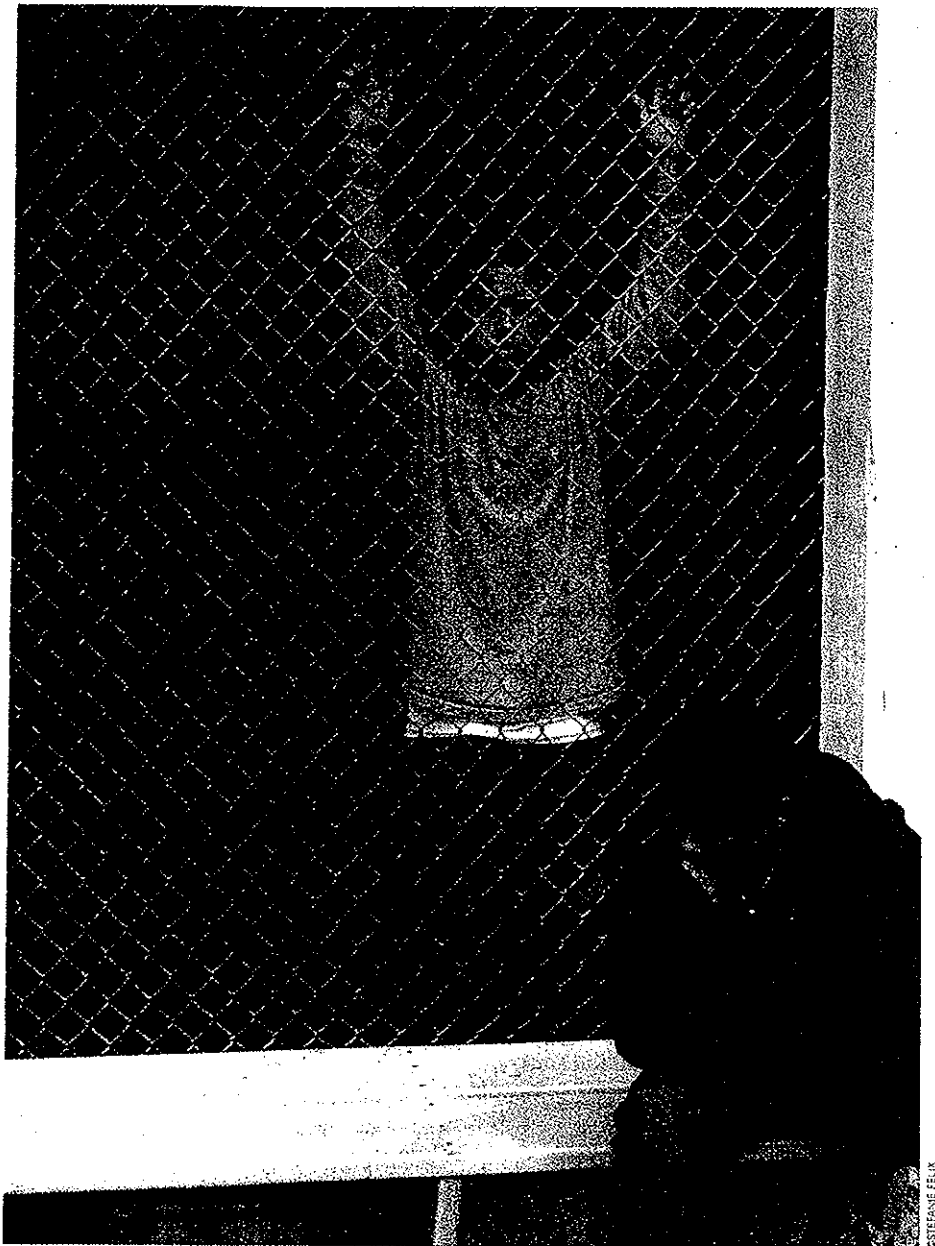
grade in mathematics or English or an attendance rate of less than 80 percent during the year were highly predictive of dropping out. In fact, more than 50 percent of the students who ultimately dropped out sent one or more of these signals during 8th grade, meaning that more than half of the dropouts in the cohort could have been identified even before they entered high school.

Although all distress signals should be taken seriously in the middle grades, schools should pay special attention to students who send a signal in 6th grade. The earlier a student first sends a signal, the greater the risk that he or she will drop out of school.

Signals in High School

Ninth grade is a treacherous year for students, particularly those in large urban districts. Even students who were doing moderately well in the middle grades can be knocked off the path to graduation by the new academic demands and social pressures of high school. Among students who sent their first serious distress signal in 9th grade, those who earned fewer than two credits or attended school less than 70 percent of the time had at least a 75 percent chance of dropping out of school. Most of these students did not drop out immediately but attempted 9th grade courses for another one or two years before finally giving up on school altogether.

Eighty percent of the dropouts we studied in Philadelphia had sent a signal in the middle grades or during the first year of high school. The majority of U.S. high school dropouts are enrolled in such large urban districts (Balfanz & Legters, 2004). Consequently, an effective early warning system could identify—at least by 9th grade—the vast majority of future dropouts nationwide.



What Can Schools Do?

Our experience with urban middle schools and high schools suggests that several strategies can help keep students on the path to graduation.

Intervening in the Middle Grades

Philadelphia is currently piloting a middle grades program—Keeping Middle Grades Students on the Gradua-

tion Path—that seeks to develop tools and practices for responding to early indicators that signal potential dropouts. Developed through the joint efforts of the School District of Philadelphia, the Philadelphia Education Fund, and the Johns Hopkins University Center for the Social Organization of Schools, the program is based on two fundamental assumptions: (1) that students' signals

transforming public education + keep kids on track to graduation + beyond

are surface indicators of deeper academic problems, behavioral issues, or responses to the home or school environment that schools need to identify and address; and (2) that only a small percentage of students will need the most intensive and costly interventions. For the majority of students, lower-cost schoolwide strategies that seek to prevent the problems will suffice.

Schools can identify strategies for addressing each signal—such as course failure, poor attendance, and behavior issues—using a three-tiered school-

dance program might sign an attendance contract or attend a conference at school with family members; the student may then receive a brief daily check-in from a school staff member. This adult might acknowledge that the student is in school and mention that he or she looks forward to seeing the student the next day and will call home if the student does not show up.

Finally, the third tier of intensive interventions is reserved for the 5–10 percent of students who need small-group or one-on-one supports. A student with severe attendance problems might be

These signals form an early warning system that schools can use to identify students who are at risk of dropping out.

based model for prevention and intervention. The top tier consists of effective whole-school preventative measures. In urban districts that struggle with high dropout rates, these whole-school measures can keep an estimated 70–80 percent of the students on track to graduation during the middle grades. For example, a school might institute a schoolwide attendance program that highlights the importance of attendance; tracks attendance daily at the classroom level; has an adult in the building respond to the first absence of each student; and provides weekly recognition and monthly social rewards (such as pizza parties or field trips) to students with perfect or near-perfect attendance.

The second tier of targeted interventions is aimed at the 10–20 percent of students who require additional focused supports. A student who continues to miss school despite a schoolwide atten-

assigned to a team of adults at the school (including, for example, a counselor, an assistant principal, and a teacher) who will work together to understand the source of the attendance problem and try to solve it. If the problem is too deep-rooted for the school alone to resolve, the team will arrange for the student and his or her family to receive appropriate social service supports.

Using the three-tiered model, schools in the pilot program take a hard look at what they are actually doing to address attendance, behavior, and academic performance. Our experience has shown us that schools are often doing far less in each of these areas than they think.

To help schools identify which students send signals and how they respond to interventions, we developed an on-demand, classroom-level data

program. Teachers can use this program to track individual students on a day-to-day basis so they can quickly identify students who need to move to a more intensive level of intervention. Likewise, they can reevaluate students who have responded to intensive interventions. This early indicator tracking tool has proved so useful that Philadelphia plans to make it available to other schools through the districtwide integrated data management system.

Keeping an Eye on 9th Graders

The best thing a high school can do to keep students on track to graduation is to develop a comprehensive set of strategies that includes attention to climate, curriculum, and credit accumulation. At a minimum, high schools need to set the conditions for 9th grade success by making sure that the curriculum and associated supports help fill gaps in mathematics and reading comprehension. Our work with schools in low-income areas across the United States indicates that the majority of students in these schools are two to three years below grade level when they start 9th grade. They need an age-appropriate curriculum that enables them to catch up on the intermediate skills that high school courses assume that students have.

At the same time, schools need to be organized so that they can flag students who are having difficulty early on. Data from urban districts (Roderick & Camburn, 1999) indicate that struggling 9th graders typically send their signals in the first or second marking period—or even during the first few weeks of school. The Talent Development High School model (see www.csos.jhu.edu/tdhs), developed by urban educators and Johns Hopkins researchers, organizes 9th grade teachers into four-person interdisciplinary teams. Each team

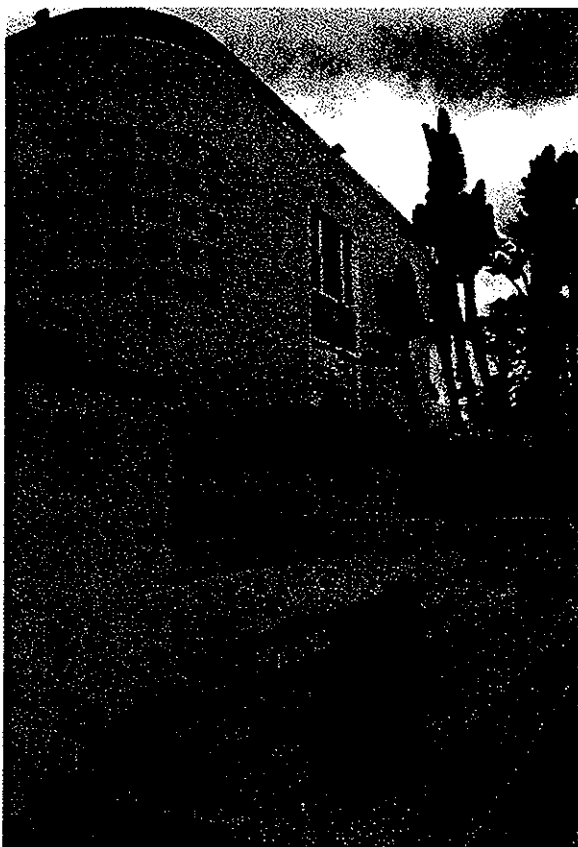
compares notes about its students' classroom performance and collaboratively decides on strategies for dealing with those who are having trouble.

Finally, schools need to make available to struggling or disengaged students various avenues through which they can experience short-term school success. These include such activities as debates, artistic and performance experiences, and service learning projects, with opportunities to participate linked to good attendance and course effort.

Reengaging Out-of-School Youth

Despite the best efforts of schools to keep students on the path to graduation, some students will always drop out. Some will try to return to school, but the traditional high school format may not serve them well because of their age, lack of credits, or personal responsibilities. In Philadelphia, a group of partners—including the school district, city agencies, nonprofit groups that advocate for children and public education, workforce development organizations, and research universities—has begun to collaborate on a multiple-pathways system that will enable out-of-school youth to earn their diplomas.

This collaboration, known as Project U-Turn (www.projectuturn.net) and led by the Philadelphia Youth Network, envisions a system that offers opportunities for students on the basis of their age, literacy and numeracy levels, and credits earned. By examining district data, the Project U-Turn partners learned that although the largest group of dropouts had earned fewer than eight credits despite being at least 17 years old, they had few opportunities to earn a diploma other than reenrolling in tradi-



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tional high schools, which were hardly enthused about taking in older students with histories of failure. The partnership is currently working to design and fund new education options for these students. In addition, youth who have dropped out just shy of graduation need opportunities to fast-track their high school diplomas while earning credits from a community college.

The Price of Not Intervening

Data from large urban districts and our work with urban middle schools and high schools have shown us that, for the majority of students who drop out of high school, the major cause is *not* an unanticipated life event or disinterest in receiving a diploma, but rather school failure. Moreover, the vast majority of dropouts stay enrolled in school for an additional year or two after their first

experience of course failure. This continuing connection with school, however tenuous, suggests a window of time during which schools can redirect potential dropouts back onto the path to high school graduation.

It also tells us that what schools do matters. Growing numbers of high schools have beaten the odds and kept their students on the path to graduation. Good research-based and practice-validated interventions can improve student attendance, behavior, and effort; academic interventions can improve course performance more directly. The U.S. graduation rate crisis is not fueled by students who lack the potential or desire to graduate, but rather by secondary schools that are not organized to prevent students from falling off the path to graduation or to intervene when they do.

Finally, we need to recognize that some middle schools and high schools are overwhelmed by the number of potential dropouts who walk through their doors. Research shows that approximately 50 percent of the dropouts in the United States are produced by 15 percent of the high schools, all of which serve populations with high poverty rates (Balfanz & Legters, 2004). Further, most of these high schools have two or more feeder middle schools. Dropout rates for an entering cohort can top 50 percent, meaning that hundreds and sometimes thousands of students at each school are in need of comprehensive and sustained supports. These schools need to have in place strong prevention and intervention systems aimed at improving student attendance, behavior, effort, and course performance.

The need for strong programs has

significant implications for how we staff and fund the secondary schools that educate economically disadvantaged students. Implementing the whole-school reforms and multitiered prevention and intervention systems that these schools need requires financial and human resources equal to the task, along with high-quality technical assistance. High-poverty schools will also likely benefit from partnerships with external organizations skilled at delivering integrated student supports as well as with community organizations and national service organizations that can provide the necessary people power for mentoring and tutoring on a sufficient scale.

Without question, there are financial costs associated with intervening with students who are on the path to drop-

The majority of students drop out of high school because of school failure.

ping out. But the price of not intervening—in terms of individual lives that do not reach their potential and the broader social costs of having a class of citizens who lack a basic academic credential—is incalculably greater. ■

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