Are Students Ready for College? What Student Engagement Data Say

How realistic are high school students’ educational aspirations?
Reviewing the findings of the High School Survey of Student Engagement, Ms. McCarthy and Mr. Kuh note a troubling mismatch between the academic habits of many high school students and what will be expected of them in college.

BY MARTHA McCARTHY AND GEORGE D. KUH

HIGH SCHOOLS are under more scrutiny today than at any other time in recent memory. Employers and university faculty members lament that high school graduates do not have the knowledge, academic skills, and practical competencies to perform adequately in college or work environments. The senior year in particular is thought to be an educational wasteland.1

Policy makers, including President Bush, say that at least two years of college are needed to function effectively in today’s work force, a view affirmed by various advocacy groups.2 But only 68 of every 100 ninth-graders graduate from high school on time, with about 40 of them enrolling immediately in postsecondary education.3 Equally troubling, only 27 of the original group of ninth-graders persist to a second year of college.4

Students drop out in part because they are not developing the skills they need to succeed in school — writing, spelling, basic math computation, and so forth. Even many of those who get to college are not well prepared. Three-fifths of students in public two-year colleges and one-fourth of those in four-year colleges and universities require one or more years of

MARTHA McCARTHY and GEORGE D. KUH are Chancellor’s Professors at the School of Education, Indiana University, Bloomington.
remedial coursework. More than one-fourth of four-year college students who have to take three or more remedial classes leave college after the first year.

Certainly we must ensure that students take the right courses in high school and perform well on college entrance and placement exams. Transcripts and standardized tests document whether students and schools "measure up," but they do not identify the student behaviors and school features that need to be changed in order to enhance achievement and improve test results. It is also necessary to determine whether students are developing the study skills that are the foundation for academic success after high school. This is where data on student engagement can be helpful.

At first blush, the engagement premise appears simple, even self-evident. Under the right conditions, the more students do something, the more proficient they become. For example, the more students practice a skill, such as reading, writing, or problem solving, the more adept they become at the activity, especially when they get feedback about their performance.

In addition to these important behavioral components, however, engagement has an affective dimension, involving such issues as whether students get along with their peers and how they feel about the school environment. Moreover, engagement also has a cognitive component, in that engaged students are more willing to spend time on complex tasks. As Fred Newmann has observed, engagement is "the student's psychological investment in learning, comprehending, and mastering knowledge or skills." And the benefits of student engagement are compelling. Students who devote more time and energy to various educationally purposeful activities in high school get better grades, are more satisfied, and are more likely to graduate and go on to college.

To what extent are high school students involved in the kinds of activities that will help them develop the habits of mind and the skills they will need later in life? The High School Survey of Student Engagement (HSSSE, pronounced "hessie") was developed to help answer this question and to guide high school improvement efforts.

Building on the success of the National Survey of Student Engagement (NSSE) for college students, HSSSE collects data about students' activities and attitudes. In this article we report some key findings from the more than 170,000 students in grades 9 through 12 in 167 high schools across 28 states who completed HSSSE in 2004 and 2005. Findings across the two years were generally comparable. We focus here on aspects of the high school experience that are directly related to preparing students for success in postsecondary education, occasionally drawing on results from HSSSE's sister surveys, NSSE (used with students attending four-year colleges) and CCSSE (Community College Survey of Student Engagement). The findings point to areas that need immediate attention in order to improve high school student performance and better prepare students for college and the workplace.

WHO PLANS TO GO TO COLLEGE?

The short answer is "almost everyone." When asked about their educational aspirations, 9% of respondents were uncertain. But of those who were certain of their plans, more than nine in 10 intended to continue their education through high school graduation or beyond, a figure consistent with federal data on student aspirations. More than four-fifths (83%) of the students responding said they planned to enroll in some form of postsecondary education after high school.
Almost four-fifths (78%) of the respondents enrolled primarily in career and vocational courses reported college aspirations, even though these students were not primarily taking college-preparation courses.

**ARE HIGH SCHOOL STUDENTS PREPARED FOR COLLEGE?**

High school students do not spend a lot of time preparing for their classes. Almost half (47%) of the seniors surveyed said that they spend three or fewer hours per week studying. Consistent with most other measures of student engagement, women reported studying more than men, by an average of about two hours more per week. Is the amount of time high school students devote to class preparation enough to do well in college?

First-year students at four-year colleges spend more than twice as many hours per week preparing for class as do high school seniors. For example, half of the first-year students reported on NSSE that they spend more than 10 hours a week studying, whereas only 14% of the HSSSE seniors said they devote this much time to class preparation. Of the CCSSE community college students with less than 30 credit hours completed (roughly equivalent to being classified as a first-year college student), 25% said they spend 11 hours or more preparing for class each week. Thus, in terms of study habits, there appears to be a significant gap between high school students and those attending both four- and two-year colleges.

Even though high school students spend relatively little time studying, more than four-fifths said they frequently ("often" or "very often") come to class with assignments completed. Only 3% said that they are "never" prepared. So high school students in general feel that they are meeting expectations for their courses without devoting much time to preparation. Indeed, only 53% of the HSSSE respondents indicated that they put forth a great deal of effort on their schoolwork, and only 43% said they worked harder than they expected to work in school. Only about half (51%) said they are challenged to do their best work at school, with fewer high school seniors reporting being challenged than their younger peers. (See Figure 1.) No wonder that less than half of high school students (47%) said their schoolwork makes them curious to learn about other things. And only about a third (35%) were excited about their classes.

How does this mediocre overall level of effort translate into grades? About 45% of the students who indicated that they spend three or fewer hours a week preparing for class reported receiving mostly A's and B's. This percentage rose to 70% for those who said they study as much as four hours per week. Taken together, these findings suggest that performance expectations fall well short of levels that challenge most high school students to reach their potential.

**FIGURE 1.** Percentage of Respondents Who Agree or Strongly Agree They Are Challenged to Do Their Best Work at School (by Grade)

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>55.2%</td>
</tr>
<tr>
<td>10</td>
<td>51.5%</td>
</tr>
<tr>
<td>11</td>
<td>51.1%</td>
</tr>
<tr>
<td>12</td>
<td>45.0%</td>
</tr>
</tbody>
</table>

Source: High School Survey of Student Engagement, Center for Evaluation and Education Policy, Indiana University, Bloomington, 2005.

**READING, WRITING, AND MATHEMATICS IN HIGH SCHOOL AND COLLEGE**

Students develop skills and study habits in high school that carry over to college. They need to be proficient readers and writers and at least minimally competent in advanced mathematics if they are to perform
well in college and afterward.

Reading. Four-fifths (80%) of high school students reported that in a typical week they spend three hours or less reading assigned materials. It is more disturbing that 17% of the seniors said that they devote no time at all to assigned readings. Those taking primarily college-prep courses reported reading more than their peers in other tracks. Students in general devoted more time to personal reading than to reading for their classes.

Although NSSE and CCSSE do not provide comparable data on the amount of time college students spend reading for their classes, data are available on the number of books and other materials read by students in four-year and community colleges. According to NSSE, three-fourths of first-year students at four-year colleges read five or more textbooks, books, or book-length packets of course readings during the current school year, with about 40% reading 11 or more. More than half of community college students completed at least five such readings, with about a quarter (24%) reporting 11 or more readings of this nature.

In contrast, only 2% of the HSSSE seniors devoted 11 or more hours per week to assigned readings — approximately enough time to complete comparable book-length readings. Clearly, the reading required in college far exceeds what high school seniors do.

Writing. Writing is another area in which there is a substantial gap between what the majority of 12th-graders do and what the majority of first-year college students do. Almost eight out of 10 seniors (78%) said that they wrote three or fewer papers or reports of more than five pages in length. And almost one-fourth (24%) had written no papers of this length during the school year. In contrast, more than one-third (36%) of first-year college students at all four-year institutions and about half (49%) of those at liberal arts colleges said that they wrote at least five papers or reports that were five to 19 pages in length during the prior year. Also, 18% of all first-year college students indicated that they were required to write at least one paper or report longer than 20 pages during this time.

CCSSE reports the number of papers community college students have written, but not their length. More than three-fifths of community college students reported writing more than five papers during the year; 30% said they wrote more than 11 papers. Only 4% of the HSSSE seniors wrote more than 10 papers longer than five pages during the academic year, and just 8% wrote more than 10 papers that were three to five pages long. Thus high school seniors headed for postsecondary education — particularly those who have not followed a college-preparatory path — could well be overwhelmed by the amount of writing expected.

Mathematics. More than a fifth (22%) of first-year college students require remediation in math. According to Clifford Adelman, if students must take remedial math courses in college, "they will not acquire sufficient momentum in the kinds of mathematics required for bachelor's degrees" in many fields.

Thus a key challenge in preparing students to succeed in college is to get students to move beyond algebra II in their math coursework.

As a group, high school seniors take fewer math courses than students in other grades. Even though almost four-fifths of the career and vocational students said they intend to enroll in college, less than half of them (49%) took a math course during their senior year. Juniors and seniors in the college-prep track were more likely to take math courses than were other students, though 18% of seniors in that category still did not take any mathematics (it is possible that some of them had completed the requirements for college admission before their senior year).

IMPLICATIONS

Predictably, high school students' educational activities differ by their primary instructional path or track. Those enrolled in a college-prep path tend to spend more time preparing for class, reading, and writing, and they are more likely to take a math course as seniors. Yet most students across all tracks say that they plan to attend college. And this exposes a major problem in the educational pipeline — the substantial gap between what students do in high school and what they will be expected to do once in college. The discrepancy is particularly significant for high school students who aspire to attend four-year colleges. Many of them spend a modest amount of time preparing for class in general, and they devote relatively little effort to reading and writing. And too few are taking enough math courses during high school to increase their chances of success in college.

The HSSSE data are powerful because they can be used to identify areas of student and school performance that need attention. Equally important, the results can be used almost immediately to alter school practices — often with minimal expense — in ways that will enhance learning and help students to realize their educational goals. High school teachers and adminis-
Other Key HSSSE Findings

- Males made up two-thirds of the students who said they do not feel supported and respected by their teachers.
- Female students studied more, were more likely to take pride in their schoolwork and value learning and rewards, and generally were more engaged than males in purposeful educational activities.
- Only 55% of all respondents said they feel safe at school.
- About two-fifths of African American students said they feel safe at school.
- Two-fifths of all students said their school emphasizes athletic achievement to a great degree; only 27% said the same for academic excellence.
- More than four-fifths said they plan to continue their education after graduation, but less than one-third were taking primarily college-prep or honors courses or courses for college credit.
- Students spent more time every week socializing with friends and watching television than studying.
- Latino, African American, and American Indian students generally studied less, were less likely to be enrolled in college-prep or honors courses, and participated less in extracurricular activities than their white and Asian classmates.
- Of all racial groups, African Americans were most likely to say they take pride in their schoolwork and work harder at school than they expected to work.
- Half of all students said they never or only sometimes receive prompt feedback from teachers.
- About one-fourth of high school seniors worked at paid employment 20 or more hours per week.
- More than half of all students spent no time volunteering.
- Almost one-fourth of students said their school places very little emphasis on encouraging contact among students from different backgrounds and beliefs.

Additional HSSSE results and information about how schools can participate in the survey can be found at http://ceep.indiana.edu/hsse or by contacting Ethan Mintz at the Center for Evaluation and Education Policy at 812/856-1429.

— MM and GDK

Administrators report that the data have been extremely beneficial in guiding school improvement activities. Here is a sampling of effective, low-cost strategies that schools can use to increase student engagement.

- After learning that 55% of the students spent three hours or less per week preparing for all of their classes, teachers and students at one large high school brainstormed ways to increase student study time. Among the strategies adopted were a peer-tutoring program in the library during school hours, a homework hotline staffed by volunteer teachers and honor students two evenings each week, brief quizzes over homework at the beginning of classes on a random basis, and periodic bonus questions on assigned readings.

- Personnel in a rural high school were discouraged to find that their students spent much less time than the other HSSSE respondents on both academic and personal reading. The staff began a campaign to encourage reading for all students. Homeroom was extended by 10 minutes, and a 20-minute schoolwide reading period was implemented each morning. All school staff members participated in the initiative. In addition, the faculty increased the students’ reading requirements throughout their classes and established reading incentive programs, including awarding bonus points for participating in a student-led book discussion group or in monthly read-a-thons and recognizing at a school assembly those students who met their reading goals.

- Students in an urban high school were writing very few papers longer than five pages. In addition, more than half of the students said they never or seldom received prompt feedback on their work from teachers. The teachers indicated that, given the multiple demands on their time, they did not have time to provide prompt feedback on long written assignments. The school recruited parents and other volunteers to assist teachers with paperwork and other routine activities. This gave teachers more time to provide prompt, helpful feedback to students on their written work. The quality of student writing improved significantly as a result.

- School administrators at a midsize suburban high school noticed that only 10% of their students participated in community service, an activity that the community highly valued. To address this need, the school implemented a new graduation requirement mandating community service for all students. It also created a community service fair where students could learn about the opportunities available to them. To foster collaboration and share resources, the school partnered with

668 PHI DELTA KAPPAN
another small high school to create the fair and to organize community service projects.

The need has never been greater for high schools to prepare all students for postsecondary success. Given the number of college students who need remediation and the relatively low level of effort that most high school students put forth to attain relatively good grades, the rigor of high school classes should be increased substantially across all grades and instructional tracks. To get more, we must expect more — from teachers, school leaders, parents, communities, and especially students. Data on student engagement can help us stay on course and measure our progress.

10. See Getting Students Ready for College: What Student Engagement Data Can Tell Us (Bloomington, Ind.: High School Survey of Student Engagement, Indiana University, 2005). HSSSE was developed and initially field-tested with more than 7,200 students from four high schools in the spring of 2003. Following revisions, HSSSE was administered to more than 90,000 students in April 2004. After reviewing its psychometric properties and results from focus groups and interviews with high school teachers and students, the survey was again revised and administered to more than 80,000 students in 2005. Although the Midwest is disproportionately represented, overall the respondents mirror national gender and racial distributions for high school students. HSSSE respondents are also representative in terms of the national percentage of students enrolled in schools of different sizes and socioeconomic levels and located in various types of school districts. HSSSE is the largest national database on high school student engagement.
11. NSSE has been administered to more than 900,000 students at almost 1,000 four-year colleges and universities since 2000, and CCSSE has been administered to more than 320,000 students in 404 community colleges since 2002.
12. Wirt et al., op. cit.

“If you read my blog, you would already know why I don’t have the homework.”