

*A Special Report from
The High School Survey of Student Engagement*

Getting Students Ready for College: What Student Engagement Data Can Tell Us

The stakes are high. America's competitive edge in the global economy, the strength and versatility of its labor force, [and] its capacity to nourish research and innovation increasingly depend on an education system capable of producing a steady supply of well-prepared young people (Armstrong, 2005, p. 1).

High schools are under more scrutiny today than at any other time in recent memory. University faculty and employers lament that high school graduates do not have the knowledge and practical competencies to perform adequately in college or work environments. The senior year in particular is often viewed as an educationally unproductive wasteland (Conley, 2001).

President George W. Bush has declared that at least two years of college are needed to function effectively in today's work force (Kelderman, 2004), and this position has been affirmed numerous times by various advocacy groups (Armstrong, 2005). However, for every 100 ninth grade students, only 68 will graduate from high school on time (Office of the Press Secretary, 2005), and about 40 will immediately enroll in higher education after graduation. Equally troubling, only 27 of the 100 ninth graders will remain in college a second year (National Center for Public Policy and Higher Education, 2004).

Students leave the educational system prematurely in part because they lack important skills, including writing ability, correct grammar, spelling, and basic math computation (Johnson, Duffett, Vine, & Moye, 2003). Indeed, three fifths of students in public two-year colleges and one quarter in four-year

colleges and universities require an average of one or more years of remedial coursework because they are not adequately prepared for the level of academic challenge presented in the college curriculum (Adelman, 2005; Wirt et al., 2004). This is problematic because more than a quarter of four-year college students who must take three or more remedial classes end up leaving college after the first year (Adelman, 2005; National Research Council, 2004).

All of this suggests that the challenges facing high schools are indeed enormous in their scope and complexity. To energize and marshal support for the needed high school reforms, the National Governors Association (NGA) sponsored a much-publicized summit of educators and policymakers in February 2005. Also, six philanthropic foundations, including the Bill and Melinda Gates Foundation, are allocating \$42 million to help states increase high school graduation rates and enhance college readiness. In addition, the Bush administration has proposed a \$1.5 billion federal aid program to improve our nation's high schools and hold them accountable for all students meeting rigorous standards (Office of the Press Secretary, 2005). More than half of the governors also emphasized high school improvement in their state of the state addresses in 2005 (Olson, 2005).

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Inside this report:

HOW WILL SCHOOLS KNOW IF THEY ARE IMPROVING?	2
HSSSE 2004 RESPONDENTS AT A GLANCE	2
WHO IS PLANNING TO GO TO COLLEGE?	3
HOW WELL ARE HIGH SCHOOL STUDENTS PREPARED FOR COLLEGE?	3
STUDY HABITS	3
READING	5
WRITING	5
MATHEMATICS	6
CONCLUSIONS AND IMPLICATIONS	6
REFERENCES	7

HOW WILL SCHOOLS KNOW IF THEY ARE IMPROVING?

One telling indicator of the educational effectiveness of high schools is whether students' activities in high school are consistent with the normative performance demands reported by college students. Certainly it is important to know if students are taking the right courses in high school and achieving acceptable scores on college entrance and placement exams. But it is also necessary to discern whether students are developing the study skills that are the foundation for academic success after high school.

Student engagement measures provide a window into these phenomena (Fredricks, Blumenfeld, & Paris, 2004; Newmann, 1989; Norris, Pignal, & Lipps, 2003). We can estimate whether students are "ready" for college by comparing what they do in key engagement areas in high school with what first-year college students do. For example, are the time and energy that high school students devote to educationally purposeful activities, such as reading, writing, and studying, adequate to help

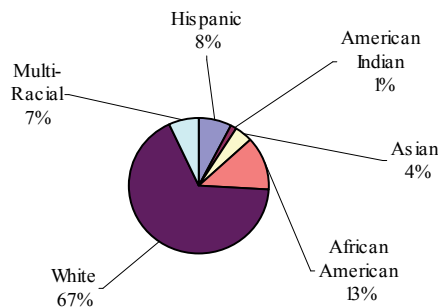
them develop the habits of the mind and acquire the skills and competencies they need to succeed in college?

In April 2004, more than 90,000 students nationwide completed the first annual High School Survey of Student Engagement (HSSSE, pronounced "hessie"), creating the largest national data base on high school student engagement. This report features selected findings from HSSSE 2004. Specifically, we describe high school students' aspirations and compare their study habits and reading and writing patterns with those of first-year students at community colleges and four-year institutions of higher education. Also, high school students' math preparation is considered, because sufficient preparation in math is a strong predictor of success in college (Adelman, 2005). The results point to areas that need immediate attention in order to improve high school student performance and better prepare students to succeed in college and the work place.

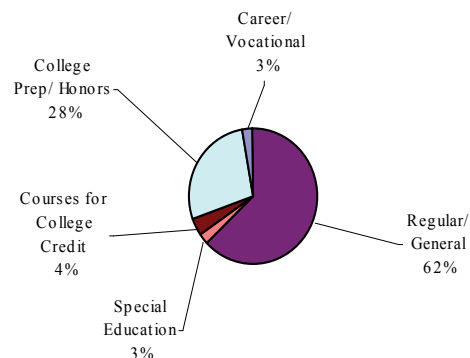
HSSSE 2004 RESPONDENTS AT A GLANCE

- The 90,530 respondents were from 103 high schools across 26 states.
- Respondents were evenly split between male and female students.
- Respondents reflected the expected grade distribution, given attrition during high school; 29% were freshmen, 28% were sophomores, 24% were juniors, and 19% were seniors.
- Schools ranged in size from 64 to 3939 students, with an average size of 1261 students.
- The vast majority of the respondents attended regular public high schools, but a small number attended private, charter, and other alternative schools.

Respondents by Race/Ethnicity



Respondents by Instructional Track



WHO IS PLANNING TO GO TO COLLEGE?

More than four fifths (82%) of the HSSSE 2004 respondents said they plan to enroll in some form of postsecondary education after high school, and another 10% were uncertain. Of those who indicated they knew their plans, 9 out of 10 intended to continue their education, findings that are consistent with federal data on student aspirations (Wirt et al., 2004).

Family educational background is a key factor that influences whether students are thinking about attending college or not. For example:

- HSSSE respondents whose fathers completed college were three times more likely than their classmates to indicate that achieving a college degree was their educational goal.
- Respondents whose mothers completed college were twice as likely as others to have this goal.
- The college education of respondents' mothers had a stronger positive influence on the educational aspirations of female students, whereas fathers' educational backgrounds had similar positive effects for both male and female high school students.
- Students whose parents did not continue their education beyond high school were almost twice as likely as classmates to say that they were uncertain about their educational aspirations.

Predictably, the percentage of students planning to go to college increased from 76% in the 9th grade to 87% in

the 12th grade. This increase is likely due in part to the fact that some students who are not college bound drop out of school. Other noteworthy findings include:

- Female respondents (85%) were more likely than males (77%) to aspire to college.
- Hispanic (68%) and Native American (66%) respondents were least likely among all racial groups to report college aspirations; Asian students (85%) were the most likely to have such plans.
- More than 9 out of 10 respondents taking courses for college credit (92%) or enrolled in college prep/honors courses (93%) planned to go to college.
- Only 42% of the respondents enrolled primarily in special education classes indicated that they were college bound.
- Almost four fifths (79%) of the respondents enrolled primarily in regular/general education courses or career/vocational courses reported college aspirations.

The HSSSE data suggest that a much higher percentage of high school students *desire* a college education than will actually attend, reflecting a large gap between aspirations and reality. It is, therefore, incumbent upon high schools to identify students who need additional assistance in planning for the future. And *all* students need to be involved in appropriate educational experiences during high school to help them achieve their goals.

HOW WELL ARE HIGH SCHOOL STUDENTS PREPARED FOR COLLEGE?

This section compares high school students and first-year college students in terms of the amount of effort each group devotes to several traditional areas of academic work, including time spent preparing for class and the amount of reading and writing they do. It also explores whether students take enough math coursework in high school to increase their chances for success in college.

The good news is that most of the HSSSE respondents in grades 9 through 12 (88%) said they have the skills necessary to complete their assignments, and two thirds reported that their high school education has contributed substantially (quite a bit or very much) to preparing them for college.

The bad news is that the respondents indicated they do not have to work very hard to succeed in high school. Thus, they may be less prepared for college than they think.

Study Habits. A general rule of thumb regarding doing well in college is that students should spend two to three hours outside of class for every hour in class. Yet, more than half of the HSSSE respondents (55%) said they devote a total of three hours or less per week to preparing for all of their classes.

Consistent with most other measures of student engagement, women study more than men. Female HSSSE respondents indicated they study an average of one hour more per week than their male classmates. Almost three fifths (59%) of the seniors said they spend three hours or less per week in such class preparation (Table 1).

In absolute terms, high school students do not spend a lot of time preparing for class, but is the amount of time devoted to studying enough to succeed in college? Relating HSSSE results with data from two other national surveys suggests that many students may have trouble academically when they get to college. Specifically, HSSSE results are contrasted with findings from the National Survey of Student Engagement (NSSE), which has been administered to more than 900,000 students at four-year colleges and universities since 2000, and the Community College Survey of Student Engagement (CCSSE), which was administered to more than 92,000 students from 152 community colleges in 2004.

These findings suggest that the expectations for student performance are not particularly high. It is disappointing that those who indicated they spend an average of 15 or more hours per week preparing for class were only slightly more likely to indicate they frequently come to class prepared than were the students spending an average of 4 to 6 hours a week studying outside of class.

In addition to reporting that they come to class prepared with relatively little effort, it is also troubling that the HSSSE respondents indicated that devoting little time to studying produces good grades. About two thirds (65%) of the students who said they spend three or fewer hours a week preparing for class reported receiving mostly A and B grades. This percentage rose to 80% for those who study four to six hours per week. Apparently, many students who do not prepare much for class feel they are doing enough to get by in that they receive fairly good grades.

Table 1. Time HSSSE Respondents Spent Preparing for Class by Grade

Hours Per Week	Percentage of Respondents				
	9th	10th	11th	12th	Total
0	11	10	9	11	10
1-3	45	44	43	48	45
4-6	23	23	24	23	24
7-10	12	12	13	10	12
11-14	5	5	6	4	5
15+	4	5	6	4	5

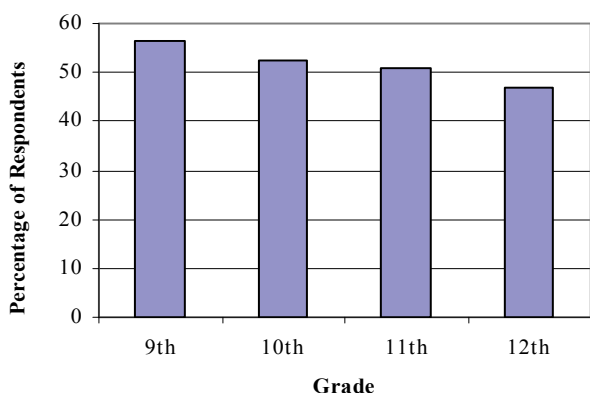
Comparing HSSSE and NSSE (2004) data indicates that first-year students at four-year colleges and universities spend more than twice as many hours per week preparing for class than do high school seniors. Half of the first-year college students reported they spend more than 10 hours a week studying outside of class, whereas only 8% of the HSSSE seniors said they devote this much time to class preparation. Of the community college students with less than 30 credit hours completed, 25% said they spend 11 hours or more preparing for class each week (CCSSE, 2004). Thus, there appears to be a significant gap between high school students and those attending both four-year and two-year colleges in terms of study habits.

Even though high school students spend relatively little time studying, most HSSSE respondents indicated they feel prepared for their classes, with four fifths reporting frequently (“often” or “very often”) coming to class prepared. Only 2% said they are “never” prepared.

Moreover, less than three fifths (56%) of the HSSSE respondents indicated they put forth a great deal of effort in their school work, and only 43% said they worked harder than they expected to work in school. No wonder, then, that less than half (48%) of the HSSSE respondents said their school work makes them curious to learn about other things, or that less than a third (30%) were excited about their classes.

Figure 1 portrays the percentage of students who agreed or strongly agreed that they were challenged to do their best work at school. Overall, it is disappointing that only 52% of the respondents agreed with this statement. Although the differences by grade level are not large, there is a steady trend for fewer students to feel challenged to do their best work as they progress through high school.

Figure 1. Respondents by Grade Who Agreed or Strongly Agreed that They Have Been Challenged to Do Their Best Work at School



Reading. High school students must be proficient readers to succeed in college and work environments. Almost four fifths (78%) of the HSSSE seniors said they spend only three hours or less in a typical week reading assigned materials, with about one fifth (18%) indicating that they spend no time on assigned readings. Seniors enrolled primarily in a college preparation path (college prep/honors courses or courses for college credit) were almost twice as likely as their peers enrolled mainly in regular education courses to indicate they spend more than 4 hours a week reading for class (33% compared to 17%, Table 2). In general, HSSSE respondents reported they devote more time to personal reading online than to reading for their classes. For example, 26% of the HSSSE seniors said they spend four or more hours in personal reading online compared to 23% devoting that much time to assigned readings for their classes.

Although there are not comparable CCSSE or NSSE findings 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 at four-year institutions and community colleges. According to NSSE (2004), almost four fifths (79%) of the first-year students at four-year colleges and universities reported having read five or more textbooks, books, or book-length packets of course readings during the current school year, and 40% said they completed 11 or more readings of this nature. Such extensive reading far exceeds what most high school students do in a given year.

High school students' reading for classes also falls short of what community college students do. Almost two fifths (42%) of the community college students with less than 30 credit hours reported reading four or fewer textbooks, manuals, or other books or book-length course readings during the current school year, but about one fourth (24%) reported having completed 11 or more such readings (CCSSE, 2004). In contrast, only 2% of the HSSSE respondents devoted 11 or more hours per week to assigned readings, which would seem necessary to complete comparable book-length readings.

Writing. Writing is another area where there is a substantial gap between what the majority of 12th graders and first-year college students do. During the 2004 school year, 71% of the HSSSE seniors specified they had written three or fewer papers or reports of more than five pages in length. While we might expect students to write more long papers as they advance through high school, this was true only for students pursuing a college preparation path. By comparison, more than one third (36%) of the first-year college students at all four-year institutions and about half (49%) of those at liberal arts colleges said they wrote at least five papers or reports that were 5 to 19 pages in length during the prior year (NSSE, 2004). Also, 18% of all first-year college students indicated they were required to write at least one paper or report longer than 20 pages during this time.

Table 2. Time HSSSE Seniors Spent on Assigned Reading by Instructional Track

Hours Per Week	Percentage of Respondents				
	<i>Regular/General</i>	<i>Special Education</i>	<i>College Credit/Prep/Honors</i>	<i>Career/Vocational</i>	<i>All Tracks Combined</i>
0	22	34	11	30	18
1-3	62	45	57	57	60
4-6	12	11	22	10	16
7-10	3	4	7	2	5
11-14	1	2	2	1	1
15+	1	5	2	0	1

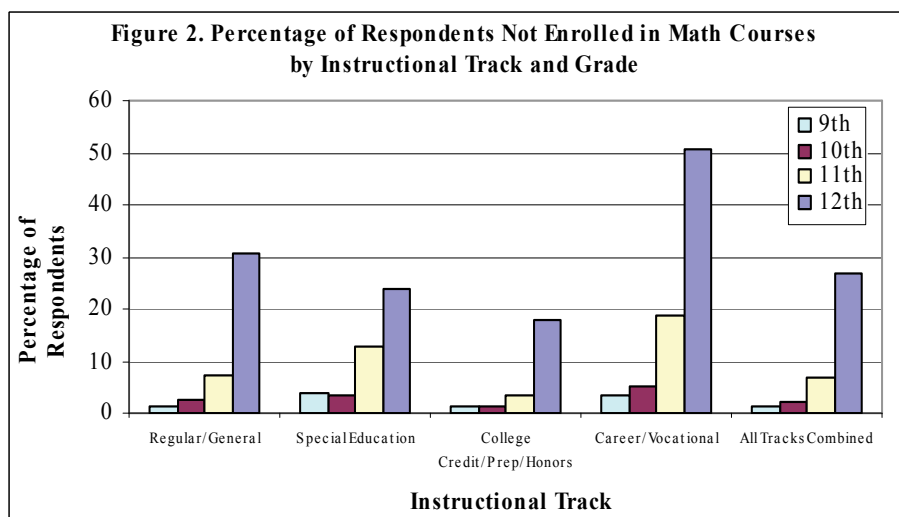
Thus, it appears that students enrolling in four-year colleges and universities, particularly those who did not follow a college preparation path in high school, could well be overwhelmed by the amount of writing expected.

Although CCSSE (2004) did not collect data on paper length, 9% of the CCSSE respondents with less than 30 credits indicated they had written *no* papers in the past year, and 29% said they had written between one and four papers. Yet, 63% of this group of CCSSE respondents noted they had written more than 5 papers during the year, with 30% saying that they had written more than 11 papers. Only 5% of the HSSSE respondents had written more than 10 papers longer than five pages during the academic year, and 8% had written more than 10 papers three to five pages long.

Mathematics. A major reason that the National Governors Association (2005) identified math as a key content area in which high schools need to improve is because more than a fifth (22%) of first-year college students require remediation in math (Basmat, Laurie, & Greene, 2003). According to Adelman (2005), 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 (p. 115). Thus, a key challenge in preparing

students to succeed in college is to get students to move beyond Algebra II in their math coursework during high school (Viadero, 2005).

HSSSE results show that students tend to take fewer math courses during their senior year than they took in earlier grades. Despite almost four fifths (79%) of the career/vocational students indicating they intend to enroll in college, less than half of them took a math course in their senior year (49%). Overall, the number of students *not* taking mathematics rises sharply for all 12th graders, but particularly for vocational and general education students (Figure 2). During their junior and senior years, students primarily enrolled in a college preparation path were more likely to take math courses than were other students, though 18% of seniors in that category still did not take any mathematics.



CONCLUSIONS AND IMPLICATIONS

The need has never been greater for high schools to prepare *all* students for success in college and the work force. Even though a large majority of high school students *plan* to enroll in some type of higher education, a substantial gap exists between what students do in terms of participating in educationally effective activities in high school and what they will be expected to do once in college. This is evident in the amount of time high school students spend preparing for class in general, and more specifically, the time and effort they devote to writing and reading activities. Also, students are not taking enough math courses during high school to increase their chances of succeeding in college.

The discrepancy is particularly significant for the majority of high school students who aspire to attend four-year colleges and universities. Although students may be somewhat better prepared to attend two-year programs, the

normative behavior of community college students regarding reading, writing, and mathematics still exceeds the educational experiences of typical high school seniors.

High school students’ educational activities differ in predictable ways by their primary instructional path or track (Plucker, Zapf, & Spradlin, 2004). Our data show that students enrolled in a college preparation path tend to spend more time preparing for class, reading, and writing, and they are more likely to take a math course as seniors. Even so, HSSSE data suggest that the rigor of high school courses can and should be increased significantly across all grades and instructional tracks. This conclusion is supported by the number of college students needing remediation and the relatively low level of effort that most high school students have to

expand in order to feel prepared for their classes and to receive good grades. HSSSE findings reinforce the recommendations of others regarding the need for high school students to complete more challenging coursework in basic academic subjects (Center for State Scholars, 2004; Greene & Forster, 2003; NGA, 2005).

Of course, simply instituting more difficult coursework may not be sufficient. Students must remain engaged and motivated in order to increase their knowledge and skills. The current federal and state policy emphasis on using standards-based tests may document the fact that students and schools do not “measure up,” but such test results do not necessarily identify for educators the student behaviors and school features that should be changed to improve student outcomes. Accordingly, reform efforts cannot emerge from the use of standardized tests alone; they must be grounded in broader efforts to better understand students’ high school learning experiences.

Information about student attitudes and perceptions provided by HSSSE are powerful because they 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 secondary and post-secondary goals. Subsequent HSSSE reports will explore some of these school practices in more detail. Together with performance measures, information about students’ behaviors, perceptions, attitudes, and expectations gives schools a more accurate, holistic picture of the high school student experience. This will assist school personnel in deciding where to focus attention to prepare students for success after high school.

*Additional information
about HSSSE can be found
at
ceep.indiana.edu/hssse.*

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**THE HIGH SCHOOL
SURVEY OF STUDENT
ENGAGEMENT**

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