National Survey of Student Engagement: 2011 Institute Report

Georgia Tech Office of Assessment

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EXECUTIVE SUMMARY

This report summarizes the findings of the 2011 National Survey of Student Engagement of Georgia Tech first-year students and seniors. The survey measures the extent to which students report that they are engaged in empirically-demonstrated effective educational practices and what gains (or perceptions of gains) they make through their college experiences. This national survey data is one source of information for our evidence-based inquiry into the nature and quality of the undergraduate experience at Georgia Tech. Georgia Tech results are compared with the results of a group of six "institutional peers"[1] and contrasted with the results from earlier administrations of the survey (2008, 2005, and 2003). Georgia Tech surveyed all first-year and senior students in Spring 2011. A total of 637 first-years and 820 seniors completed the survey, with a total response rate of 28.4 percent.

Among the major findings are the following:

- Georgia Tech continues to set high academic expectations for its students: 96.7 percent of first-years and 95.6 percent of seniors report a high degree of institutional emphasis on studying. This is significantly higher than students at the comparison group of institutions report (87.7 percent of first-years and 84.2 percent of seniors).
- The proportion of GT freshmen who reported spending more than 11 hours per week preparing for class has increased from 70.3 percent in 2003 to 84.1 percent in 2011. GT freshmen were also more likely than their peers to report frequently working harder than they thought they could to meet faculty expectations (63.4 percent versus 53.2 percent).
- GT students were significantly more likely than were their counterparts to collaborate on academic work outside of class: 74.0 percent of first-years and 84.9 percent of seniors report frequent collaboration on projects (compared with 48.9 percent and 68.3 percent, respectively at comparator schools).
- GT seniors were more likely than their counterparts to report having studied abroad (30.9 percent at GT vs. 21.8 percent).
- Compared to their institutional peers, GT students are more likely to report engaging in serious conversations with students from different ethnic backgrounds as well as different religious or political beliefs. Approximately 70 percent of GT students report having frequent engagement with people of different backgrounds, compared to about 55 percent of students at peer institutions.
- The percentage of GT seniors who reported working with faculty on research projects outside program or course requirements (41.9 percent) was significantly higher than the 27.7 percent of seniors who reported research activities at the comparator institutions.
- The percentage of GT seniors reporting that they received prompt feedback on their academic performance was lower than that of their peers. Only 44 percent of seniors reported they frequently received prompt feedback from faculty on their work, compared to 55 percent of their counterparts at the peer institutions.
- Compared with their counterparts, GT students report lower levels of support from faculty: 57.1 percent of GT first-years and 58.1 percent of seniors report friendly and supportive relationships with faculty, compared with 70.6 percent of comparator institution first-years and 75.0 percent of seniors.
- Students at GT are satisfied with their overall educational experience: 89.1 percent of first-years and 87.3 percent of seniors rate their entire educational experience at GT as "good" or "excellent." These figures are similar to students' ratings at comparator institutions (91.5 percent and 88.9 percent, respectively). GT has experienced modest but incremental improvements in overall student satisfaction in each NSSE administration since 2001.

[1] The participating schools include North Carolina State University, Penn State University-University Park, Texas A&M University, University of Minnesota-Twin Cities, University of Washington-Seattle, and Virginia Polytechnic Institute and State University.

INTRODUCTION

A large body of research on student learning has concluded that students who are actively involved in academic and co-curricular activities gain more from their college experience than students who are not as involved (Pascarella and Terenzini, 1991, 2005). Institutions can facilitate such engagement in numerous ways. Chickering and Gamson (1987) described seven principles of good practice in undergraduate education, noting that effective educational practice includes:

- student-faculty contact
- cooperation among students
- active learning
- receiving prompt feedback
- student time on task
- communication of high expectations
- respect for diverse talents and ways of learning

Underlying these practices is the idea that effective educational outcomes are associated with an institutional environment that is "…perceived by students as inclusive and affirming and where expectations for performance are clearly communicated and set at reasonably high levels" (NSSE, 2005).

The National Survey of Student Engagement (NSSE) is designed to assess the extent to which students are engaged in these "empirically derived good practices" and what they gain from their experiences at college (Kuh, 2001). Developed in 2000 with a grant from the Pew Charitable Trusts, and co-sponsored by the Carnegie Foundation for the Advancement of Teaching and The Pew Forum for Undergraduate Learning, NSSE seeks to measure self-reported student behaviors that correlate with positive learning and personal development outcomes from the college experience. In addition, NSSE gauges student opinions on the institutional environment in terms of the academic expectations the institution has of them and the degree of support perceived by students in their educational pursuits. NSSE is administered annually in the spring to first-year and senior students. Georgia Tech has previously participated in the survey in 2000, 2001, 2003, 2005, 2007, and 2008.

Since the 2005 NSSE administration, the Office of Assessment has chosen to survey the entire population of first-year and senior students, rather than a random sample. This strategy allows us to achieve extremely small sampling error rates and permits disaggregating the results to the college and—in many cases—the unit level. For the 2011 administration, Georgia Tech was able to order a special report consisting of the results of six of the 20 "peer institutions" defined by the University System of Georgia for Georgia Tech. The participating schools include North Carolina State University, Penn State University, Texas A&M University, University of Minnesota-Twin Cities, University of Washington-Seattle, and Virginia Polytechnic Institute and State University. While the comparison might be imperfect, these institutions provide a better match to Georgia Tech's mission than the broader Doctoral-Extensive Carnegie classification.

Sample and Methodology

A total of 2,456 first-year students and 2,672 seniors were approached via email and asked to complete the survey on the Web. A total of 637 first-years and 820 seniors completed the survey, for a total response rate of 28.4 percent.

Organization of this Report

NSSE organizes the results of its survey around five benchmark scores, representing indicators of effective educational practices. The five indicators are:

- Level of Academic Challenge
- Active and Collaborative Learning
- Student-Faculty Interaction
- Enriching Educational Opportunities
- Supportive Campus Environment

These benchmarks function as a heuristic device for understanding student engagement, and this report follows this format in the presentation of the results, concluding with some overall items regarding student satisfaction and other findings of interest from the survey results. There remains some serious concern regarding the use of the benchmark scores as prominent indicators of quality—particularly in the psychometric properties of the scales and the relationship between benchmarks and student outcome indicators such as GPA.

In addition to the benchmark scores, the results for the items that comprise each benchmark are presented. The 2011 GT results are compared to the 2011 results for the special comparison group, as well as Georgia Tech's 2008 and 2003 NSSE results. Comparisons between the NSSE results for 2003 and 2008 are valuable in ascertaining trends over the past eight years.

Because of the large sample sizes among Georgia Tech and the comparison institution participants, very small differences may show up as statistically significant. To address this issue, this report highlights *effect size* rather than statistical significance between values. Effect size is calculated by dividing the mean difference between two samples by the pooled standard deviation. The result, labeled "Cohen's *d*" measures the "practical significance." A standard interpretation of Cohen's *d* considers a value of .2 to be a small effect, .5 a moderate effect, and .8 to be a large effect. These three values (.2, .5, and .8) are indicated by *, **, and *** designations in subsequent results tables.

SURVEY FINDINGS

Quality Assurance and Demographics

Sampling error for NSSE items is 3.3 percent for first-year students and 2.8 percent for seniors. Standard errors for individual items are not reported in the tables of the body of this report, but are available from the Office of Assessment.

Chi-square tests for sample representation ($p < 0.01$) revealed no significant differences for either first-years or seniors by ethnicity or college. Responding females are slightly overrepresented in both the first-year and senior groups. While these differences are statistically significant, after careful analysis of the data we believe they are unlikely to cause any systematic bias in the reported results. Detailed demographic information for the GT response set compared with the GT population is presented in Table 1.

Based on high quality assurance standards and the results received, with the exceptions noted above, this report is based on the conclusion that results obtained are both accurate and broadly representative of the population of Georgia Tech. Further methodological information on this survey is available from the Office of Assessment.[2] Complete results and disaggregated results at the academic unit level are available at the Office of Assessment's Assessment Data Online Retrieval System (ADORS): < www.adors.gatech.edu >.

Table 2 presents the demographic data for the GT and comparator institutions. There are some significant differences in the demographic compositions of the GT and comparison group samples. The Georgia Tech sample has a larger proportion of male students than the comparison group (10.7 percent higher for first-years and 16.3 percent higher for seniors). There are also a larger proportion of GT students living on campus (14.2 percent higher for first-years and 29.1 percent higher for seniors). White students comprise a smaller proportion of the respondents at Georgia Tech (for seniors, about 64 percent versus 74 percent). Most notably, engineering students comprise a much larger proportion of the GT sample than the comparison institutions—for example, 66.2 percent of responding GT seniors were engineering students, while only 22.6 percent of students at the six comparison schools classified themselves similarly. The Office of Assessment has ordered a second special report from NSSE explicitly comparing the responses of GT engineering students to the engineering students at the comparator schools. While the results of any comparison with other institutions should be viewed carefully, it should be noted that a similar "engineers-to-engineers" analysis of the NSSE responses largely paralleled the patterns observed in the larger student population. These data are available from the Office upon request.

[2] For a detailed overview of the psychometric properties of the NSSE instrument, see < http://nsse.iub.edu/html/psychometric_framework_2002.cfm >.

Table 1. Demographic Information on GT Survey Respondents and GT Population

	First Year			Senior		
	GT Respondents	GT Population	Difference	GT Respondents	GT Population	Difference
Gender						
Female	42.4	37.9	4.5	36.5	29.0	7.5
Male	57.6	62.1	-4.5	63.5	71.0	-7.5
Ethnicity						
Asian or Pacific Islander	21.2	23.6	-2.4	17.9	21.1	-3.2
Black (Non-Hispanic Origin)	6.5	6.8	-0.3	6.4	6.5	-0.1
Hispanic	6.6	6.5	0.1	5.6	6.0	-0.4
Native American	0.2	0.3	-0.1	0.1	0.2	-0.1
Multiracial	3.6	3.3	0.3	2.9	2.6	0.3
White (Non-Hispanic Origin)	61.9	59.5	2.4	66.9	63.5	3.4
College						
Architecture	3.0	3.8	-0.8	5.7	5.1	0.5
Computing	4.4	6.0	-1.6	7.3	7.5	-0.2
Engineering	66.4	63.0	3.4	65.1	61.8	3.2
Ivan Allen	5.8	6.2	-0.4	5.3	6.3	-1.0
Management	7.5	10.0	-2.5	6.7	9.8	-3.1
Sciences	13.0	11.0	2.0	10.0	9.4	0.6
Citizenship						
International[3]	11.2	13.6	-2.4	9.1	12.7	-3.6
U.S. Citizen	88.8	86.4	2.4	90.9	87.3	3.6

[3] Includes resident alien and international students

Table 2. Demographic Information on GT Survey Respondents vs. Comparator Group[a]

	First Year			Senior		
	GT Respondents	Comparator Group[b]	Difference	GT Respondents	Comparator Group	Difference
Gender						
Female	42.4	51.1	-10.7	36.5	52.8	-16.3
Male	57.6	48.9	10.7	63.5	47.2	16.3
Ethnicity						
Am. Indian/Native American	0.3	0.6	-0.3	0.2	0.4	-0.2
Asian Am./Pacific Islander	20.1	13.2	6.9	16.2	9.4	6.8
Black/African American	5.1	3.3	1.8	5.9	2.5	3.4
White (Non-Hispanic)	59.7	68.6	-9.5	63.9	74.0	-10.2
Mexican/Mexican American	1.1	3.1	-2.0	0.2	2.4	-2.2
Puerto Rican	0.5	0.4	0.1	0.7	0.3	0.4
Other Hispanic or Latino	3.8	2.7	1.0	3.8	1.7	2.0
Multiracial	5.1	2.9	2.2	2.3	2.8	-0.5
Other	1.1	1.1	0.0	0.6	1.1	-0.5
I prefer not to respond	3.9	4.1	-0.2	6.3	5.4	1.0
Citizenship						
International	11.2	7.1	4.1	9.1	4.4	4.7
U.S. Citizen	88.8	92.9	-4.1	90.9	95.6	-4.7
Enrollment						
Less than full-time	4.1	4.3	-0.2	13.2	7.7	5.5
Full-time	95.9	95.7	0.2	86.8	92.3	-5.5
Major (Primary)						
Arts and Humanities	0.5	7.2	-6.7	0.7	9.1	-8.4
Biological Science	6.4	12.1	-5.7	5.0	10.9	-5.9
Business	9.3	13.9	-4.5	6.8	13.7	-7.0
Education	0.0	3.9	-3.9	0.0	2.8	-2.8
Engineering	65.8	23.4	42.4	66.2	22.6	43.6
Physical Science	3.6	5.1	-1.6	2.9	5.5	-2.6
Professional	1.6	6.1	-4.6	2.5	6.2	-3.7
Social Science	3.7	10.4	-6.8	2.4	12.9	-10.5
Other	8.2	15.0	-6.8	13.4	16.2	-2.8
Undecided	0.9	2.9	-1.9	0.0	0.0	0.0
Fraternity/Sorority						
No	76.0	89.1	-13.1	76.6	89.1	-12.5
Yes	24.0	10.9	13.1	23.4	10.9	12.5
Living Situation						
On-campus	92.2	78.0	14.2	38.6	9.5	29.1
Residence, walking distance	3.3	8.6	-5.3	19.6	39.7	-20.1
Residence, driving distance	3.0	10.3	-7.3	31.3	46.9	-15.6
Fraternity/Sorority House	1.2	2.2	-1.0	8.8	2.1	6.7
None of the above	0.2	0.9	-0.7	1.7	1.7	0.0

[a] Ethnicity and major categories used in this table are derived from self-report of student and may differ from the Banner derived data reported in Table 1. Numbers may not always total 100% due to rounding.

[b] The participating schools include North Carolina State University, Penn State University-University Park, Texas A&M University, University of Minnesota-Twin Cities, University of Washington-Seattle, and Virginia Polytechnic Institute and State University.

Level of Academic Challenge

The level of academic challenge benchmark consists of items measuring the academic expectations the institution has of its students (as perceived by the students), the types of intellectual activity students engage in, the amount of work students perform, and the extent to which students feel challenged by the work they do. Georgia Tech's benchmark score in this area significantly exceeds those of comparison institutions for both first-year and senior students. Compared to the 2008 survey, the benchmark score for GT first-year students is significantly higher in 2011 (Figure 2).

As presented in Table 3, students at Georgia Tech are largely similar to their counterparts at the comparator institutions in the types of academic activities in which they most frequently engage; however, GT seniors report writing more long (more than 20 pages) and fewer short (less than 5 pages) papers than their counterparts (items 7 and 9). GT first-years and seniors were also more likely to report studying over 11 hours per week (item 10) than their counterparts. GT first-year students were more likely than their counterparts to state they frequently worked harder than they thought they would to meet instructors' expectations (item 1) and both first-year and senior GT students were more likely than their counterparts to state that their institution emphasized spending significant amounts of time studying and engaging in academic work (item 11).

Among seniors, students who transferred to Georgia Tech were more likely to report that they worked harder than they thought they could (item 1) than were students who entered Georgia Tech as freshmen (66.3 percent and 53.9 percent, respectively).

Long-term trends (2003–2011)

The Level of Academic Challenge benchmark scores for first-year students have increased from 55.7 in 2003 to 57.2 in 2011, and increased slightly for seniors at 58.2 in 2003 to 58.6 in 2008 (Figure 2).

Over the past eight years there has been an increase in the number of hours first-year students have reported preparing for class. While 70.3 percent of first-year students reported spending more than 11 hours per week studying in 2003, 84.1 percent report a similar level of effort in 2011.

Figure 1. Benchmark: Level of Academic Challenge Comparison of Georgia Tech Respondents to Selected Peers (2011)

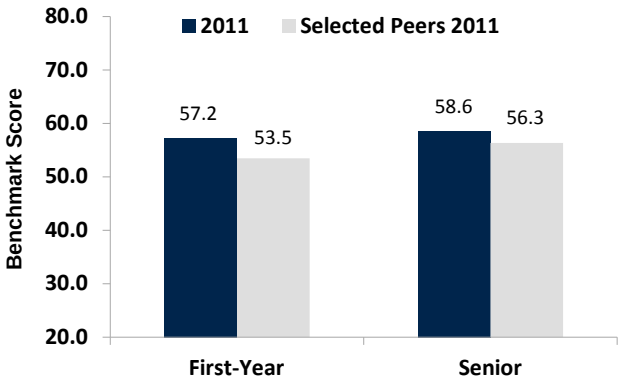


Figure 2. Benchmark: Level of Academic Challenge Comparison of GT First-Year Students to GT Seniors (2003–2011)

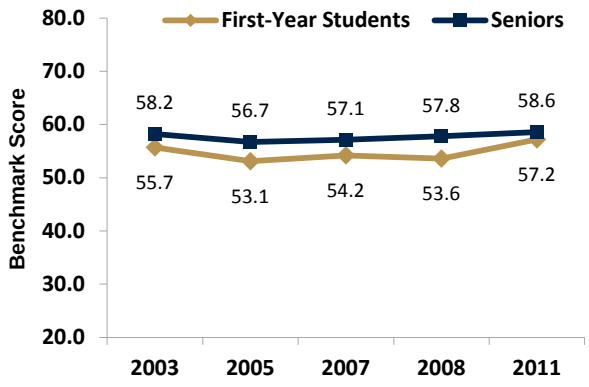


Table 3. Level of Academic Challenge Items

*d > .2 **d > .5; ***d > .8	Class Level	2011 GT	2011 Peers[a]	Eff. Size	2008 GT	Eff. Size	2003 GT	Eff. Size
		In your experience at your institution during the current school year, about how often have you done each of the following?						
		Percent responding "often" or "very often"						
1. Worked harder than you thought you could to meet an instructor's standards or expectations	FY	63.4	53.2	*	51.2	*	50.7	
	SR	55.6	53.1		55.6		50.6	
		During the current school year, how much has your coursework emphasized the following mental activities?						
		Percent responding "quite a bit" or "very much"						
2. **Applying** theories or concepts to practical problems or in new situations	FY	82.9	78.5		78.5		85.4	
	SR	83.1	81.8		82.6		80.7	
3. **Analyzing** the basic element of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components	FY	90.2	82.7	*	83.9	*	88.9	
	SR	88.7	87.0		87.9		88.8	
4. **Synthesizing** and organizing ideas, information, or experiences into new, more complex interpretations and relationships	FY	80.2	71.1	*	69.9		74.0	
	SR	76.7	74.7		78.0		77.0	
5. **Making judgments** about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions	FY	67.8	64.9		65.7		59.3	*
	SR	69.5	69.7		69.6		64.3	
		During the current school year, *about how much reading and writing have you done?*						
		Percent responding "at least 5 assignments"						
6. Number of assigned textbooks, books, or book-length packs of course readings	FY	76.1	79.7		75.1		85.7	*
	SR	60.7	67.5	*	61.8		70.7	
7. Number of written papers or reports of **20 pages or more**	FY	3.6	3.1		3.8		1.4	
	SR	17.1	8.6	*	16.7		12.0	*
8. Number of written papers or reports **between 5 and 19 pages**	FY	20.4	24.3		21.9		18.7	
	SR	42.6	42.9		41.8		42.1	
9. Number of written papers or reports of **fewer than 5 pages**	FY	50.4	58.1		52.0		44.1	
	SR	49.5	62.2	*	45.5		53.4	
		About how many hours do you spend in a typical 7-day week doing each of the following?						
		Percent responding "more than 11 hours per week"						
10. Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other activities related to your academic program)	FY	84.1	76.0	*	68.0	**	70.3	*
	SR	77.2	68.6	*	69.4		68.2	
		To what extent does your institution emphasize each of the following?						
		Percent responding "quite a bit" or "very much"						
11. Spending significant amounts of time studying and on academic work	FY	96.7	87.7	**	92.8	*	95.8	
	SR	95.6	84.2	**	95.7		94.7	

[a] The participating schools include North Carolina State University, Penn State University-University Park, Texas A&M University, University of Minnesota-Twin Cities, University of Washington-Seattle, and Virginia Polytechnic Institute and State University.

Active and Collaborative Learning

There is a solid body of educational research showing that students who are actively involved in their education generally learn more than less actively engaged students.[4] Additionally, the research shows that students tend to learn more when they collaborate with others while solving complex real-world problems similar to those they will encounter after college (e.g., Chickering & Gamson, 1987; Pascarella & Terenzini, 1991, 2005).

Table 4 presents the results for the individual items comprising the Active and Collaborative Learning benchmark. Georgia Tech's benchmark score for active and collaborative learning is significantly higher than that of comparison institutions for first-year students, while the benchmark score for GT seniors is comparable to seniors at comparison institutions (Figure 3).

GT freshmen were more likely than were their counterparts at the comparison institutions to make classroom presentations (item 2), collaborate on assignments outside of class (item 4), and tutor other students (item 5). GT seniors were also more likely to collaborate on assignments outside of class (item 4), but were less likely to report participating in a community-based project as part of their coursework (item 6).

Long-term trends (2003–2011)

For both first-year students and seniors there were statistically significant increases in the Active and Collaborative Learning benchmark scores from 2003 to 2011. First-year student benchmarks increased from 40.9 in 2003 to 46.0 in 2011, while seniors increased from 42.4 to 48.9 over the same time frame. Both of these differences were statistically significant (Figure 4).

Relative to seniors in 2003, seniors in 2011 were more likely to report that they made a class presentation (item 2) and collaborated with other students on assignments both in class and out of class (items 3 and 4). In 2011, first-year students also reported that their classes contained more opportunities to collaborate with other students on in-class and out-of-class projects (items 3 and 4). The proportion of first-year students who indicated they participated in community-based projects (item 6) has doubled from 2003 to 2011, bringing them in line with their peer group.

Figure 3. Benchmark: Active and Collaborative Learning Comparison of Georgia Tech Respondents to Selected Peers (2011)

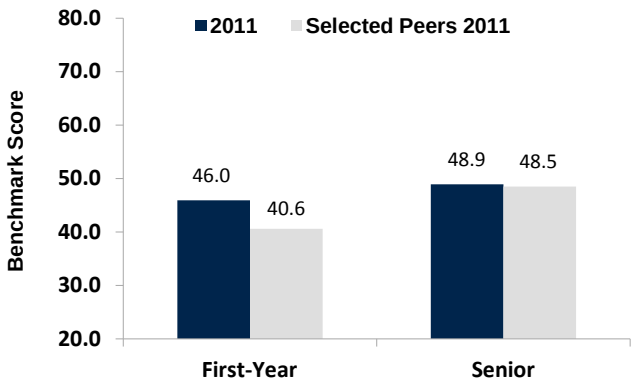
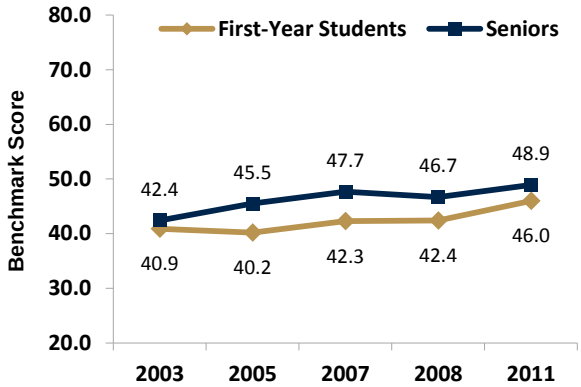


Figure 4. Benchmark: Active and Collaborative Learning Comparison of GT First-Year Students to GT Seniors (2003–2011)



[4] However, active and collaborative learning activities do not necessarily lead to enhanced learning for all types of students. For instance, in examining several learning measures, NSSE has reported evidence that students with SAT scores above 1300 are less likely to gain from active and collaborative learning activities than students with SAT scores below 900 (Kuh, 2003).

Table 4. Active and Collaborative Learning Items

*d > .2 **d > .5; ***d > .8	Class Level	2011 GT	2011 Peers[a]	Eff. Size	2008 GT	Eff. Size	2003 GT	Eff. Size
	In your experience at your institution during the current school year, about how often have you done each of the following?							
	Percent responding "often" or "very often"							
1. Asked questions in class or contributed to class discussions	FY	44.3	43.7		38.4		36.3	
	SR	51.2	57.3		45.6		46.1	
2. Made a class presentation	FY	29.4	18.2	**	27.3		23.4	
	SR	49.3	48.1		49.7		36.4	*
3. Worked with other students on projects during class	FY	44.6	41.4		36.5		26.6	*
	SR	35.9	44.0		33.7		23.8	*
4. Worked with classmates outside of class to prepare class assignments	FY	74.0	48.9	**	63.4		63.7	*
	SR	84.9	68.3	*	81.5		72.9	*
5. Tutored or taught other students (paid or voluntary)	FY	27.6	19.1	*	23.9		25.8	
	SR	27.9	21.7		24.6		23.4	
6. Participated in a community-based project as part of a regular course	FY	11.9	13.3		11.0		5.9	*
	SR	7.8	13.3	*	9.1		6.7	
7. Discussed ideas from your readings or classes with others outside of class (students, family members, coworkers, etc.)	FY	54.8	56.4		48.9		53.2	
	SR	59.1	61.9		55.3		59.9	

[a] The participating schools include North Carolina State University, Penn State University-University Park, Texas A&M University, University of Minnesota-Twin Cities, University of Washington-Seattle, and Virginia Polytechnic Institute and State University.

Enriching Educational Experiences

Co-curricular learning opportunities such as co-op, internships, and study abroad programs can enhance academic programs and in-class learning. Such experiences can make learning more meaningful because they allow students the opportunity to synthesize, integrate, and apply their knowledge in real-world settings. Additionally, exposure to a diversity of views and perspectives teaches students valuable skills for success in both the academic and non-academic world.

As shown in Figure 5, Georgia Tech has a slightly higher benchmark score than the comparison group for both freshmen and seniors, and the 2011 benchmark scores for GT are higher than those of 2008 for both sets of students as well. Table 5 presents the results of the individual items that comprise the benchmark. Compared with students at the comparison institutions, Georgia Tech students report greater interaction with students from diverse backgrounds, both from a racial and ethnic perspective as well as from a religious and political perspective (items 2 and 3).

Both GT freshmen and seniors were equally likely, compared to their counterparts, to be engaged in community service (item 5), taking foreign language courses (item 6), or participating in a learning community (item 10). The percentage of GT seniors having studied abroad (item 7) was significantly higher than their peer counterparts (30.9 percent versus 21.8 percent).

Long-term trends (2003–2011)

Because of item wording changes on the NSSE, it is not possible to compare academic co-curricular participation levels from 2003 to 2011. The wording of response options stabilized in 2005, and the trends from 2008 through 2011 indicate general stability in student participation in the various co-curricular activities offered at Georgia Tech. The benchmark trends from 2005 to 2011 show that for first-year students there was a slight rise from 29.2 in 2005 to 32.1 in 2011. For seniors, the benchmark score rose from 42.6 in 2005 to 48.4 in 2011 (Figure 6).

Some items comprising this benchmark, however, remained in the same form from 2003 through 2008. A greater percentage of GT seniors (46.1 percent) reported spending at least 6 hours participating in co-curricular activities compared with only 31.8 percent in 2003 (item 11). Additionally, in 2011 a higher percentage of both first-year and senior students agreed that Georgia Tech encourages contact among students from diverse economic, social, racial and ethnic backgrounds (item 12). The percentage of first-year students in agreement on this item was 51.9 percent in 2003 versus 60.4 percent in 2011. For seniors, the percentage increased from 33.0 percent in 2003 to 43.7 percent in 2011.

Figure 5. Benchmark: Enriching Educational Experiences Comparison of Georgia Tech Respondents to Selected Peers (2011)

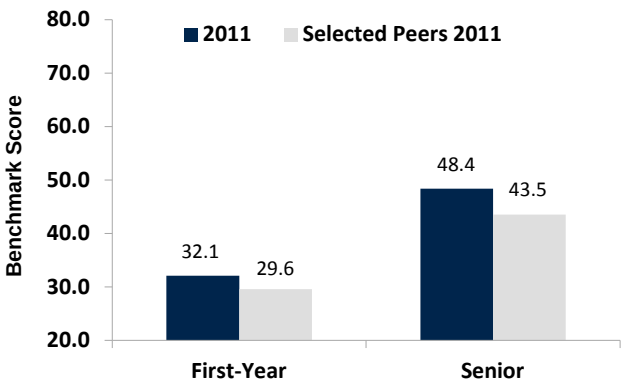


Figure 6. Benchmark: Enriching Educational Experiences Comparison of GT First-Year Students to GT Seniors (2005–2011)

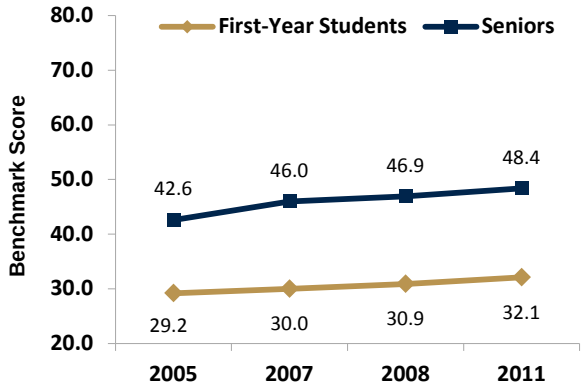


Table 5. Enriching Educational Experiences Items

**d > .2 **d > .5; ***d > .8*

		Class Level	2011 GT	2011 Peers[a]	Eff. Size	2008 GT	Eff. Size	2003 GT	Eff. Size
			In your experience at your institution during the current school year, about how often have you done each of the following?						
			Percent responding "often" or "very often"						
1.	Used an electronic medium (listserv, chat group, Internet, etc.) to discuss or complete an assignment	FY	75.8	60.3	*	64.8	*	84.6	*
		SR	70.4	65.6		63.9		68.8	
2.	Had serious conversations with students of a different race or ethnicity than your own	FY	72.3	53.0	*	66.0		74.3	
		SR	69.6	55.1	*	66.8		66.4	
3.	Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	FY	69.5	54.6	*	65.7		75.1	
		SR	66.8	56.0	*	65.2		65.7	
			Which of the following have you done or do you plan to do before you graduate from your institution?						
			Percent who have done						
4.	Practicum, internship, field experience, co-op experience, or clinical assignment	FY	2.6	6.0		8.7	*	n/a	
		SR	66.9	57.1	*	65.1		n/a	
5.	Community service or volunteer work	FY	49.5	45.3		47.1		n/a	
		SR	71.4	70.4		67.4		n/a	
6.	Foreign language coursework	FY	18.8	22.1		20.0		n/a	
		SR	47.8	46.1		46.9		n/a	
7.	Study abroad	FY	1.3	2.2		1.9		n/a	
		SR	30.9	21.8	*	31.1		n/a	
8.	Independent study or self-designed major	FY	1.3	2.0		1.7		n/a	
		SR	14.3	14.6		14.7		n/a	
9.	Culminating senior experience (comprehensive exam, capstone course, thesis, project, etc.)	FY	1.2	1.5		n/a		n/a	
		SR	55.6	35.2	*	57.4		n/a	
10.	Participate in a learning community	FY	13.4	21.7		14.1		n/a	
		SR	21.6	27.8		18.4		n/a	
			About how many hours do you spend in a typical 7-day week doing each of the following?						
			Percent of students spending 6 or more hours per week						
11.	Participating in co-curricular activities (organizations, campus publications, student government, social fraternity or sorority, intercollegiate or intramural sports, etc.)	FY	52.4	40.0		47.6		43.8	
		SR	46.1	35.6		41.7		31.8	*
			To what extent does your institution emphasize each of the following?						
			Percent responding quite a bit or very much						
12.	Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	FY	60.4	62.9		62.2		51.9	*
		SR	43.7	47.0		44.2		33.0	*

[a] The participating schools include North Carolina State University, Penn State University-University Park, Texas A&M University, University of Minnesota-Twin Cities, University of Washington-Seattle, and Virginia Polytechnic Institute and State University.

Student-Faculty Interaction

According to NSSE, one of the most important ways in which students learn how to conceptualize, formulate, and solve problems is by interacting with experts. Student interaction with faculty members both inside and outside of the classroom is critical to the learning process (NSSE, 2005). It should be noted that many of the components of this benchmark address out-of-classroom rather than in-classroom interactions. For both first-year students and seniors, the benchmark scores for GT in this area are lower than scores for comparator institutions.

GT seniors were less likely than were their counterparts at comparison institutions to discuss career plans with their instructors or advisors (item 2) and were less likely to report receiving prompt feedback from faculty on their academic performance (item 4). One significant positive area for student-faculty interaction continues to be undergraduate research (item 6). In 2011 at GT, 41.9 percent of seniors reported having worked with faculty on a research project, compared with only 27.7 percent of seniors at the comparison institutions.

Long-term trends (2003–2011)

Due to the changes in scoring some of the items in this benchmark, we can only compare data back to 2005. For both first-year students and seniors, scores on the Student-Faculty Interaction benchmark rose slightly from 2005 through 2011. For seniors, benchmark scores rose slightly from 36.7 in 2005 to 37.9 in 2011, while for first-year students there was a slight increase in benchmark scores from 26.8 in 2005 to 29.8 in 2011. The increase for first-years was statistically significant. For the individual items comprising the Student-Faculty Interaction benchmark, there were no significant changes from 2003 to 2011.

Figure 7. Benchmark: Student-Faculty Interaction Comparison of Georgia Tech Respondents to Selected Peers (2011)

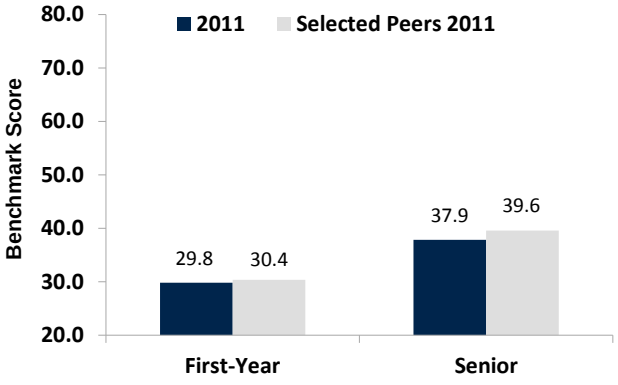


Figure 8. Benchmark: Student-Faculty Interaction Comparison of GT First-Year Students to GT Seniors (2005–2011)

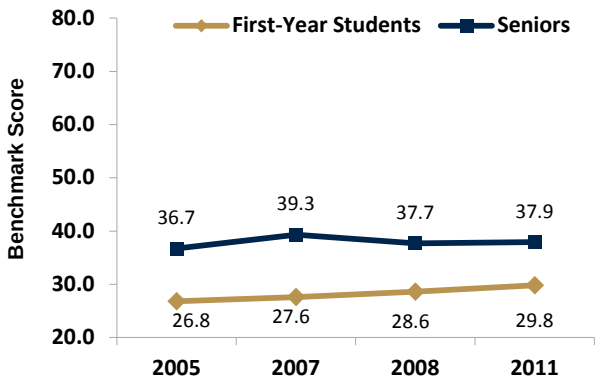


Table 6. Student-Faculty Interaction Items

*d > .2 **d > .5; ***d > .8	Class Level	2011 GT	2011 Peers[a]	Eff. Size	2008 GT	Eff. Size	2003 GT	Eff. Size
		In your experience at your institution during the current school year, about how often have you done each of the following?						
		Percent responding "often" or "very often"						
1. Discussed grades or assignments with an instructor	FY	41.7	40.3		38.3		37.5	
	SR	45.1	50.4		45.1		46.5	
2. Talked about career plans with a faculty member or advisor	FY	23.0	28.7		23.0		23.2	
	SR	25.1	35.6	*	29.2		20.4	
3. Discussed ideas from your readings or classes with faculty members outside of class	FY	16.1	16.3		15.2		7.6	
	SR	16.0	20.8		17.4		16.4	
4. Received prompt feedback from faculty on your academic performance (written or oral)	FY	49.1	47.4		41.7		48.6	
	SR	44.0	55.0	*	47.2		43.9	
5. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)	FY	13.1	12.3		11.3		8.9	
	SR	17.8	20.2		17.6		15.2	
		Which of the following have you done or do you plan to do before you graduate from your institution?						
		Percent who have done						
6. Work on a research project with a faculty member outside of course or program requirements	FY	3.7	4.5		5.0		n/a	
	SR	41.9	27.7	*	34.2		n/a	

[a] The participating schools include North Carolina State University, Penn State University-University Park, Texas A&M University, University of Minnesota-Twin Cities, University of Washington-Seattle, and Virginia Polytechnic Institute and State University.

Supportive Campus Environment

Students are far more likely to report overall satisfaction with their learning experience if they believe their institution provides the resources and support to achieve their goals. GT has continued to improve over time for both first-year and senior students, but it still lags its comparator institutions on this benchmark.

As presented in Table 7, GT students are similar to their counterparts in their ratings of the quality of their relationships with other students (item 1). However, GT seniors report significantly lower levels of support from faculty (item 2). GT seniors also report lower levels of non-academic and social support compared with students at the comparator institutions (items 5 and 6).

As has been the case in the past, this is the only benchmark score for which seniors are generally lower than are first-year students; indeed, this is the case not only for GT, but also for the majority of NSSE participating institutions. A closer examination of the items that comprise the benchmark reveals that the gap between first-years and seniors at GT is most apparent in the support items (items 4, 5, and 6). For example, 82.7 percent of first-years report substantial institutional support to help them succeed academically; only 66.7 percent of seniors report substantial academic support (item 4). While 48.2 percent of first-years report receiving substantial social support (item 6), only 22.6 percent of seniors do. These patterns essentially replicate the findings of the 2007 and 2008 NSSE.

Long-term trends (2003–2008)

Georgia Tech traditionally scores below their peers on this benchmark. Examination of the long-term trends for this benchmark, however, shows that while Georgia Tech's performance is still low relative to its peers, there have been significant improvements in certain benchmark component ratings from 2003 to 2011. For first-year students, benchmark scores increased from 53.5 to 60.0, a significant increase; while for seniors the increase from 46.1 in 2003 to 51.7 in 2011 was also statistically significant.

From 2003 to 2011, for both first-year students and seniors, there are statistically significant increases in the perceived level of support provided by Georgia Tech for academic and social elements of student life (items 4 and 6). There were also significant gains in institutional support for non-academic responsibilities (item 5) reported by first-year students over the same period of time. Finally, seniors reported significant increase in the helpfulness of administrative personnel between 2003 and 2011 (item 3).

Figure 9. Benchmark: Supportive Campus Environment Comparison of Georgia Tech Respondents to Selected Peers (2011)

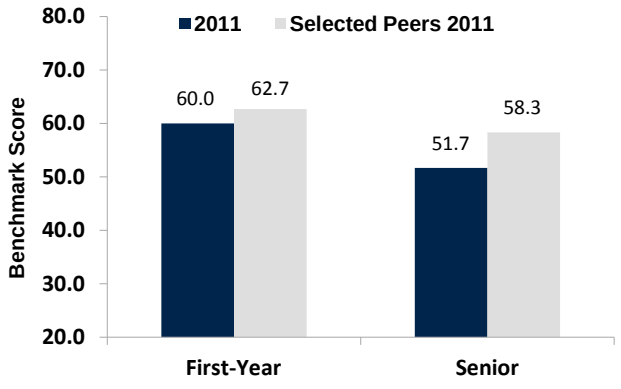


Figure 10. Benchmark: Supportive Campus Environment Comparison of GT First-Year Students to GT Seniors (2003–2011)

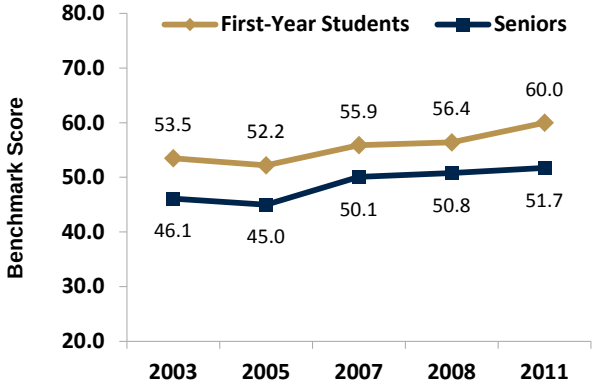


Table 7. Supportive Campus Environment Items

*d > .2 **d > .5; ***d > .8		Class Level	2011 GT	2011 Peers[a]	Eff. Size	2008 GT	Eff. Size	2003 GT	Eff. Size
		Mark the box that best represents the quality of your relationships with people at your institution.1=unfriendly, unsupportive, sense of alienation to 7=friendly, supportive, sense of belonging							
		Percent responding 5, 6 or 7							
1.	Relationships with other students	FY	85.9	84.3		80.3	*	84.6	
		SR	83.3	84.5		79.8		79.4	
		1=unavailable, unhelpful, unsympathetic to 7=available, helpful, sympathetic							
		Percent responding 5, 6 or 7							
2.	Relationships with faculty members	FY	57.1	70.6		50.2		55.9	
		SR	58.1	75.0	*	56.4		61.1	
		1=unhelpful, inconsiderate, rigid to 7=helpful, considerate, flexible							
		Percent responding 5, 6 or 7							
3.	Relationships with administrative personnel and offices	FY	54.6	58.0		46.5		55.1	
		SR	54.0	56.1		50.3		43.8	*
		To what extent does your institution emphasize each of the following?							
		Percent responding "quite a bit" or "very much"							
4.	Providing the support you need to help you succeed academically	FY	82.7	80.1		79.4		70.3	*
		SR	66.7	70.3		65.3		51.3	*
5.	Helping you cope with your non-academic responsibilities (work, family, etc.)	FY	30.2	37.6		26.2		16.1	*
		SR	12.6	25.5	*	15.1		9.1	
6.	Providing the support you need to thrive socially	FY	48.2	53.9		38.4		24.2	**
		SR	22.6	41.4	*	21.7		12.5	*

[a] The participating schools include North Carolina State University, Penn State University-University Park, Texas A&M University, University of Minnesota-Twin Cities, University of Washington-Seattle, and Virginia Polytechnic Institute and State University.

Educational and Personal Growth

Several items not included in the benchmarks relate to self-reported gains in a variety of skills and personal development goals. It is in these items that the differences between GT students and those at comparator institutions are most discernable. GT students report significantly higher development than their counterparts in thinking critically and analytically (item 5), analyzing quantitative problems (item 6), using computing and information technology (item 7), and solving complex problems (item 13). GT students report lower gains in acquiring a broad general education (item 1), written and oral communication (items 3 and 4), voting in local, state or national elections (item 9), understanding yourself (items 11), developing a personal code of ethics/values (item 14), contributing to the welfare of their communities (item 15), and developing a deepened sense of spirituality (item 16).

Long-term trends (2003–2011)

Between 2003 and 2011, there were impressive and statistically significant increases in the percentage of students indicating that their experiences at GT have contributed to their knowledge, skills and personal development in a number of these areas. For both first-years and seniors, there were significant increases in their communication skills, both written and oral (items 3 and 4). In addition, there were also significant increases in the belief in their ability to solve real-world problems (item 13), as well as the percentage of students who report an institutional contribution in their ability to contribute to the welfare of the community (item 15).

A greater percentage of first-year students in 2011 reported that they were acquiring a broad general education (item 1), working effectively with others (item 8), and increasing their understanding of people of other ethnic/racial backgrounds (item 12).

Table 8. Educational and Personal Growth Items

*d > .2 **d > .5; ***d > .8	Class Level	2011 GT	2011 Peers[a]	Eff. Size	2008 GT	Eff. Size	2003 GT	Eff. Size
		To what extent has your experience at this institution contributed to your knowledge, skills and personal development in the following areas?						
		Percent responding "quite a bit" or "very much"						
1. Acquiring a broad general education	FY	75.7	83.3		75.9		65.6	*
	SR	69.3	82.1	*	73.0		69.1	
2. Acquiring job or work-related knowledge and skills	FY	78.4	66.7		74.5		72.8	*
	SR	79.5	73.1		82.4		76.6	
3. Writing clearly and effectively	FY	45.7	66.1		46.4		32.8	*
	SR	55.8	73.7	*	60.1		43.0	*
4. Speaking clearly and effectively	FY	48.7	56.2		45.1		29.4	*
	SR	53.5	66.5	*	59.3		47.2	*
5. Thinking critically and analytically	FY	88.4	85.4	*	85.7		88.9	
	SR	92.8	88.5	*	90.9		89.1	
6. Analyzing quantitative problems	FY	92.2	78.1	**	87.8		89.2	
	SR	93.8	78.9	*	91.7		88.3	*
7. Using computing and information technology	FY	93.8	77.2	**	92.3		93.1	
	SR	94.2	81.3	*	94.8		97.7	
8. Working effectively with others	FY	77.6	73.8		70.4		55.6	**
	SR	77.7	80.3		76.6		70.2	
9. Voting in local, state, or national elections	FY	18.9	30.6		24.9	*	10.0	*
	SR	12.0	32.0	**	17.7	*	9.4	
10. Learning effectively on your own	FY	83.1	76.7		76.3		81.4	
	SR	80.4	78.9		83.0		84.2	
11. Understanding yourself	FY	60.5	64.9		53.2		50.3	
	SR	57.3	64.8		57.7		54.4	
12. Understanding people of other racial and ethnic backgrounds	FY	56.5	56.1		56.9		44.2	*
	SR	47.7	51.3		46.8		44.1	
13. Solving complex real-world problems	FY	71.8	62.3	*	66.0		61.4	*
	SR	78.9	68.4	*	74.2		72.8	*
14. Developing a personal code of values and ethics	FY	48.2	61.3		47.2		38.9	*
	SR	46.4	59.8	*	47.8		39.5	
15. Contributing to the welfare of your community	FY	45.0	54.8		43.9		28.6	*
	SR	33.8	51.7	*	35.0		22.8	*
16. Developing a deepened sense of spirituality	FY	25.1	32.2		25.0		n/a	
	SR	14.6	24.5	*	17.6		n/a	

[a] The participating schools include North Carolina State University, Penn State University-University Park, Texas A&M University, University of Minnesota-Twin Cities, University of Washington-Seattle, and Virginia Polytechnic Institute and State University.

Overall Satisfaction

Overall, students at Georgia Tech are satisfied with their educational experience. As presented in Table 9, when asked to evaluate their entire educational experience at Tech, 89.1 percent of first-year students and 87.3 percent of seniors rated it "good" or "excellent." Many students also stated (88.3 percent of first-years and 85.4 percent of seniors) that if they could do it all over again, they probably or definitely would choose to attend Georgia Tech. Figures 11 and 12 show the trends in student responses to the NSSE overall satisfaction in each survey administration since 2003.

Long-term trends (2003–2011)

Since 2003, the percentage of first-year students and seniors who evaluate their entire educational experience at GT (item 1) as "good" or "excellent" has risen significantly. Similarly, the percentage of seniors who would attend GT again (item 2) has risen from 75.1 percent in 2003 to 85.4 percent in 2011, a statistically significant increase.

Figure 11. Overall Satisfaction 2003–2011: Percent rating their overall educational experience at GT "Good" or "Excellent"

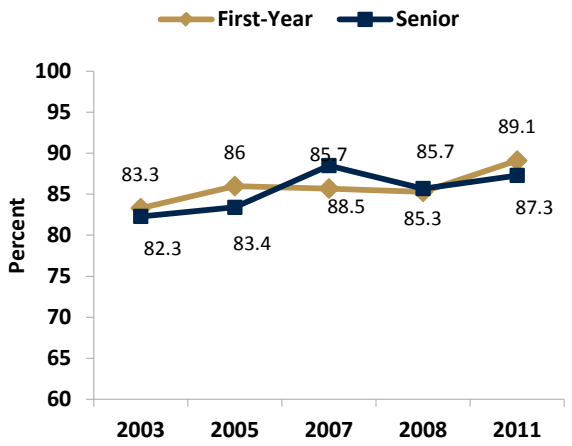


Figure 12. Overall Satisfaction 2001–2011: Percent who would "probably or definitely" attend GT again

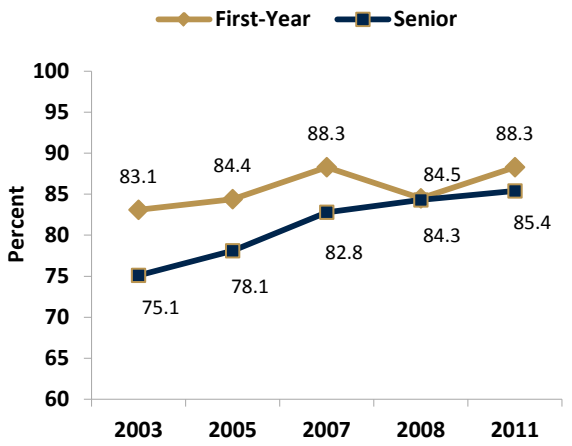


Table 9. Overall Satisfaction Items

*d > .2 **d > .5; ***d > .8	Class Level	2011 GT	2011 Peers[a]	Eff. Size	2008 GT	Eff. Size	2003 GT	Eff. Size
Percent responding "good" or "excellent"								
1. How would you evaluate your entire educational experience at this institution?	FY	89.1	91.5		85.3	*	83.3	*
	SR	87.3	88.9		85.7		82.3	*
Percent responding "probably or definitely yes"								
2. If you could start over again, would you go to the *same institution* you are now attending?	FY	88.3	90.6		84.5		83.1	
	SR	85.4	88.5		84.3		75.1	*

[a] The participating schools include North Carolina State University, Penn State University-University Park, Texas A&M University, University of Minnesota-Twin Cities, University of Washington-Seattle, and Virginia Polytechnic Institute and State University.

CONCLUSION

The 2011 National Survey of Student Engagement represents the most recent iteration of an ongoing process of evidence-based inquiry into the nature and quality of the undergraduate experience at Georgia Tech. These results, combined with results from previous surveys provide a solid foundation that we hope will foster a series of dialogues in the continual improvement process of undergraduate education.

The results of the 2011 NSSE survey continue to show that Georgia Tech students find that the Institute sets high academic expectations and provides opportunities to participate in co-curricular activities such as experiential education opportunities, undergraduate research, and collaborative learning opportunities, all of which provide preparation in solving real-world problems and work-related knowledge and skills. Students at Georgia Tech are less likely than their peers at comparison institutions to say faculty are available or helpful, and fewer students look to faculty for career advice, or receive prompt feedback on their academic performance.

The changes in responses to the NSSE questions from students in 2003 to 2011 show that Georgia Tech has made impressive progress on a number of fronts. Higher percentages of students report that they are engaging in collaborative learning during class, that they are better writers and speakers, and that they are contributing to the welfare of the community. A higher percentage of students also report that Georgia Tech is providing the help they need to thrive academically and socially, and that the Institute encourages contact among diverse students. Perhaps most importantly, the percentage of seniors who responded that if they could start over again they would attend Georgia Tech has risen 10.3 percent over the past eight years. These increases in levels of student engagement indicate that Georgia Tech is increasingly facilitating an environment that fosters effective educational outcomes.

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