Georgia Tech Academic Effectiveness
Office of Assessment

National Survey of Student Engagement (NSSE): 2014 Institute Report

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EXECUTIVE SUMMARY

In Spring 2014, the Georgia Institute of Technology (GT) Office of Assessment administered the National Survey of Student Engagement (NSSE) to first-year and senior students. The NSSE is designed to collect data about student engagement and the quality of students' undergraduate learning experiences. First-year and senior students were invited to complete the NSSE online. Based on the 1,032 responses (18% of the first-year class and 19% of the senior class), this report presents selected results. Comparisons herein were made between GT student responses and those from sixteen member institutions of the Association of American Universities (AAU) or to those from six Carnegie classified Research University/Very High peer institutions (RU/VH). Complete results can be found in the Assessment Data Online Retrieval System at < www.adors.gatech.edu >.

Highlights from the GT NSSE 2014 survey include:

- Students at GT reported engaging in more frequent experiences *Learning with Peers* than did AAU students. Almost 72% of GT first-year students and 83% of GT seniors reported *working frequently with other students on course projects and assignments*, compared to only 50.5% and 64.5% of AAU students, respectively. In addition, GT first-years reported *having more frequent discussions with people from a different race or ethnicity* (94.2% as compared to 74.8%).
- When asked about experiences with *Reflective and Integrative Learning*, 34.5% of GT first-years and 40.4% of GT seniors reported frequent opportunities to *connect their learning to societal problems or issues*. This is significantly less than their AAU peers (50.2% of AAU first-years and 58.2% of AAU seniors).
- More GT first-year students felt the Institute emphasized a *Supportive Campus Environment* than did first-year AAU students. Over 80% of first-year students felt GT frequently emphasized *providing academic support, using learning support services,* and *providing support for students' overall well-being*.
- The percentage of students who believe that Georgia Tech places a considerable emphasis on *academic support* has increased substantially over the past decade. In 2005, 73.0% of first-year students and 53.1% of seniors maintained that *academic support* was emphasized by the Institute. In 2014, 86.6% of first-years and 73.7% of seniors felt similarly.
- Over the course of their undergraduate education at Tech, over 96% of seniors reported participating in at least one *High-Impact Practice*, defined as *impressionable learning opportunities such* as *culminating senior experiences, internships, study abroad, learning communities, service-learning, or research with faculty*.
- Almost 69% of seniors at GT reported *completing a culminating senior experience, such as a capstone course, project, thesis, comprehensive exam or portfolio*, compared to only 41.2% of seniors at AAU institutions. When asked about completing *research with faculty*, 49.1% of GT seniors participated in this opportunity, while only 34.3% of their AAU peers did the same.
- From 2005 to 2014, the percentage of seniors at GT, who reported having a course with a community-based (*Service-Learning*) project, was up from 21.4% to 36.7%. However, fewer first-year (32.1%) and senior GT students (36.7%) reported *Service-Learning* experiences in at least some of their courses, when compared with students at AAU institutions (43.3% and 46.3%, respectively).
- First-year GT students reported *discussing their academic interests, course selections, or academic performance with their advisors* fewer times than their RU/VH peers (an average of 1.6 times, as compared to 2.2 times). Seniors at GT also reported fewer advisor discussions than did seniors at RU/VH institutions (an average of 1.9 times, as compared to 2.1 times).
- Within the *Academic Advising* module, GT seniors rated their advising experiences the same as or higher than students at RU/VH institutions. For example, almost 61% of seniors at GT indicated their *advisors frequently informed them of important deadlines*, compared to 47.9% of seniors at RU/VH institutions.

INTRODUCTION

The most recent administration of the NSSE at Georgia Institute of Technology took place at the end of the Spring 2014 semester. The NSSE instrument is part of a family of surveys on student engagement and learning including the BCSSE (Beginning College Survey of Student Engagement) and the FSSE (Faculty Survey of Student Engagement). These instruments allow for complementary comparisons of student participation in activities and programs that promote effective learning and personal development.

Survey responses are useful in identifying aspects of the undergraduate experience that can be improved through policy and practice as well as tracking changes in student learning and engagement over time. Results may also be accessed for accreditation processes and used to support the upcoming Quality Enhancement Plan (QEP). In collaboration with other measures of data collection, the NSSE provides a snapshot of student perceptions on undergraduate education, allows for comparisons to peer institutions, presents an opportunity to compare first-year experiences, and analyzes longitudinal trends.

In 2013, the NSSE survey instrument was updated to increase alignment of survey items with the BCSSE and the FSSE. The format was modified from four benchmarks to four revised themes encompassing ten *Student Engagement* indicators. In addition, the current version now includes measures of student participation in six high-impact practices known to enrich undergraduate academic experiences. For the 2014 administration at GT, an academic advising module was selected to be included.

GT first-year and senior students enrolled during 2013–14 were invited by email to complete the online edition of the 2014 NSSE. This Institute report is based on 1,032 student responses, or 18% of the freshman class and 19% of the senior class.

Organization of the Report

This report will describe sample and population demographics, summarize NSSE survey results, focusing on undergraduate *Student Engagement* indicators, *High-Impact Practices*, and *Academic Advising*. Select comparisons to American Association of Universities (AAU)[1] member institutions or to select Carnegie Research University/Very High peer institutions (RU/VH)[2] will be presented throughout. Comparisons to the BCSSE 2013 as well as longitudinal trends from the NSSE 2005 and 2011 at GT will also be presented. Complete results from the NSSE 2014 can be found in the Office of Assessment Data Online Retrieval System at < www.adors.gatech.edu >.

Sample and Population Demographics

Chi-square testing for sample representation revealed no statistical or practical significance for first-year or senior students among ethnicity and college of enrollment. A statistically significant difference was found between genders for first-year and for senior students, revealing a small effect size, with female

[1] Boston University (Boston, MA), Carnegie Mellon University (Pittsburgh, PA), Iowa State University (Ames, IA), McGill University (Montreal, QC), Michigan State University (East Lansing, MI), Stony Brook University (Stony Brook, NY), The Ohio State University (Columbus, OH), Tulane University of Louisiana (New Orleans, LA), University at Buffalo, State University of New York (Buffalo, NY), University of Colorado Boulder (Boulder, CO), University of Illinois at Urbana-Champaign (Urbana, IL), University of Kansas (Lawrence, KS), University of Maryland (College Park, MD), University of Toronto (Toronto, ON), University of Washington-Seattle (Seattle, WA), University of Wisconsin-Madison (Madison, WI)

[2] Boston University (Boston, MA), McGill University (Montreal, QC), Michigan State University (East Lansing, MI), Stony Brook University (Stony Brook, NY), The Ohio State University (Columbus, OH), North Carolina State University (Raleigh, NC)

students being slightly overrepresented in the sample. Detailed 2014 demographic information for the GT student sample and population are presented, by first-year and senior respondents, in Table 1.

Of the first-year respondents to the GT NSSE 2014 Survey, 48.2% were female and 75.8% were from the College of Engineering. The majority of first-year survey participants were White (58.7%), with Asian students representing 16.9% of the first-year respondents. Of the seniors who responded to the survey, 40.6% were female and 66.0% were from the College of Engineering. Just over 62% of senior respondents were White, while Asian students represented 13.7% of the senior participants.

Table 1. 2014 NSSE Demographics: GT Respondents to GT Students

	GT First-Year NSSE Respondents[1] *n* = 421	GT First-Year Students[1] *n* = 2,402	GT Senior NSSE Respondents[1] *n* = 611	GT Senior Students[1] *n* = 3,263
Gender				
Female	48.2%	37.8%	40.6%	30.8%
Male	51.8%	62.2%	59.4%	69.2%
Ethnicity				
Asian	16.9%	18.0%	13.7%	18.6%
Black or African American	5.5%	6.5%	5.1%	5.9%
Hispanic or Latino	4.8%	5.0%	8.3%	6.7%
International	9.7%	12.3%	6.2%	8.0%
Other	4.5%	4.4%	3.9%	3.3%
White	58.7%	53.5%	62.7%	57.5%
College				
Architecture	1.9%	1.8%	4.6%	3.5%
Computing	5.9%	9.3%	8.0%	8.8%
Engineering	75.8%	71.5%	66.0%	68.0%
Ivan Allen Liberal Arts	4.5%	3.2%	4.7%	4.3%
Scheller Business	5.5%	7.2%	7.4%	7.7%
Sciences	6.4%	7.0%	9.3%	7.8%

[1] Figures may not sum to 100% due to rounding.

SURVEY FINDINGS

Weighting

This report presents results, weighted by gender, so that response estimates are statistically representative of the GT population. Based on the high quality assurance standards of the NSSE data, findings reported herein are thus accurate for the first-year and senior students enrolled at GT during the 2013–14 academic year.

Statistical and Practical Significance

Due to the large sample sizes within many groups at GT, very small differences may show up as statistically significant ($p < 0.01$). Therefore, this report provides *effect size* rather than *statistical significance* to determine *practical significance*. Using relaxed interpretations of Cohen's *d* for mean value comparisons and Cohen's *h* to compare proportions, this report uses the following effect size values: 0.1 to be a small effect, 0.3 to be a moderate effect, and 0.5 to be a large effect. Small, moderate, and large effect sizes are indicated by *, **, and *** notations in subsequent results tables throughout the report and are shaded with light (.1), medium (.3), and dark gray (.5) to illustrate the magnitude of practical significance.

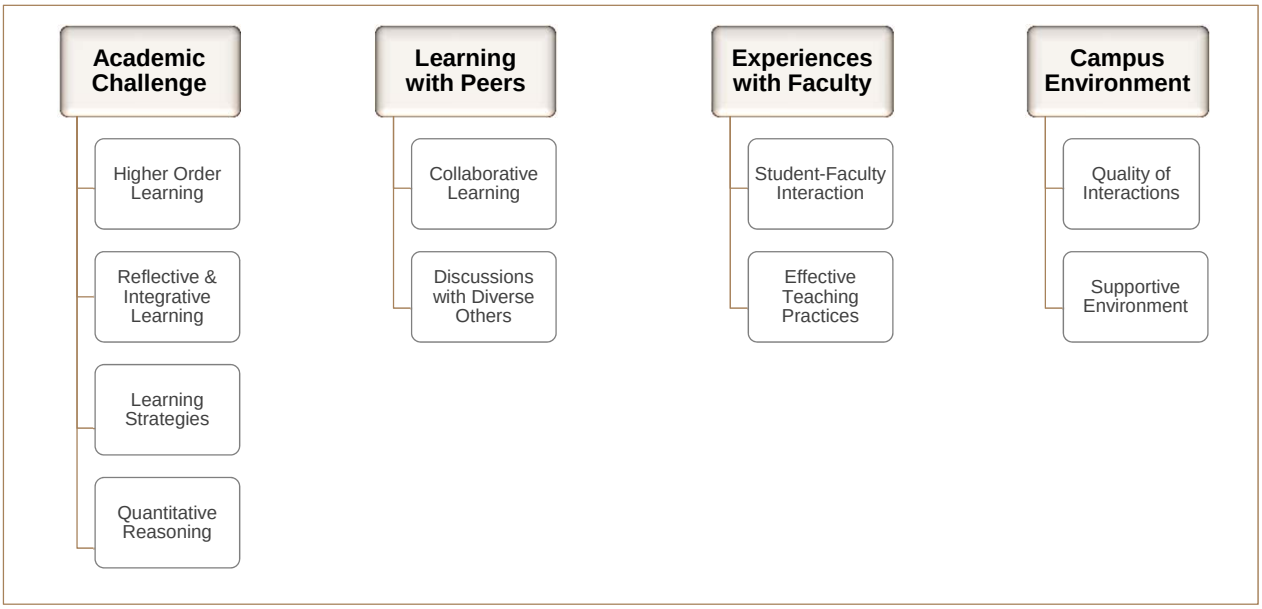
The sampling error for 2014 NSSE items was 4.3% for first-year responses and 3.6% for senior responses. Standard errors for individual items are not reported in the tables of this report, but are available from the Office of Assessment.

NSSE 2014 Results

Student Engagement

Ten *Student Engagement* indicators across four themes are measured by NSSE. The themes serve as a model for understanding various aspects of college student engagement. Corresponding survey responses provide insight into students' engagement with and quality of their educational experiences. Figure 1 provides a diagram of the themes and corresponding indicators.

Figure 1. NSSE Themes for *Student Engagement*



The four themes on the 2014 NSSE include: *Academic Challenge*, *Learning with Peers*, *Experience with Faculty*, and *Campus Environment*. Within each theme, indicator scores represent the mean of several component items, expressed on 0–60 point scale:

- "Never" or "Very Little" = 0
- "Sometimes" or "Some" = 20
- "Often" or "Quite a bit" = 40
- "Very Often" or "Very Much" = 60

It is important to note that NSSE survey responses to student engagement are based on self-reporting perception of engagement.

The following sections present select results by *Student Engagement* theme. Complete results can be found in the Assessment Data Online Retrieval System at < www.adors.gatech.edu >.

Academic Challenge

Academic work that is challenging is imperative for engaging students in learning as well as for enhancing the quality of undergraduate experiences. The *Academic Challenge* theme is comprised of four *Student Engagement* indicators: *Higher-Order Learning, Reflective and Integrative Learning, Learning Strategies,* and *Quantitative Reasoning*. Sample questions include asking students about *how much their coursework emphasized applying facts, theories, or methods to practical problems or new situations,* as well as asking students *how often they used numerical information to examine a real-world problem or issue*.

GT first-year and senior students reported slightly fewer experiences with *Reflective and Integrative Learning* than did AAU students, although effect sizes were small. GT seniors also reported using fewer *Learning Strategies* as compared to AAU seniors, with a small effect size. Small differences were also found in the *Quantitative Reasoning* indicator. Both first-year and senior students at GT reported slightly more *Quantitative Reasoning* experiences than students at AAU institutions.

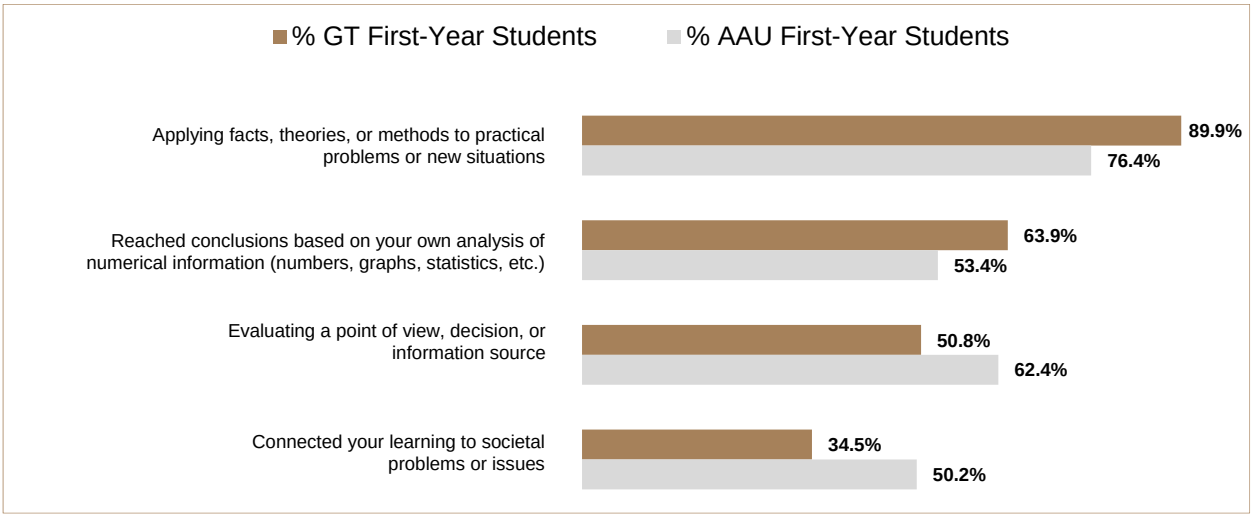
Table 2 details mean *Academic Challenge* scale scores from GT and AAU first-year and senior students as well as corresponding effect sizes.

Table 2. 2014 NSSE: *Academic Challenge* Indicator Means

* *d* > .1; ** *d* > .3; *** *d* > .5	GT First-Year *n* = 421	AAU First-Year *n* = 18,951	Effect Size	GT Senior *n* = 611	AAU Senior *n* = 20,784	Effect Size
Mean Scale Scores (0–60):						
Higher-Order Learning	38.9	38.1	.06	38.2	38.5	-.03
Reflective & Integrative Learning	32.3	34.6	-.18 *	33.3	36.9	-.28 *
Learning Strategies	36.8	37.5	-.05	35.2	36.7	-.11 *
Quantitative Reasoning	29.6	27.7	.12 *	34.1	30.3	.23 *

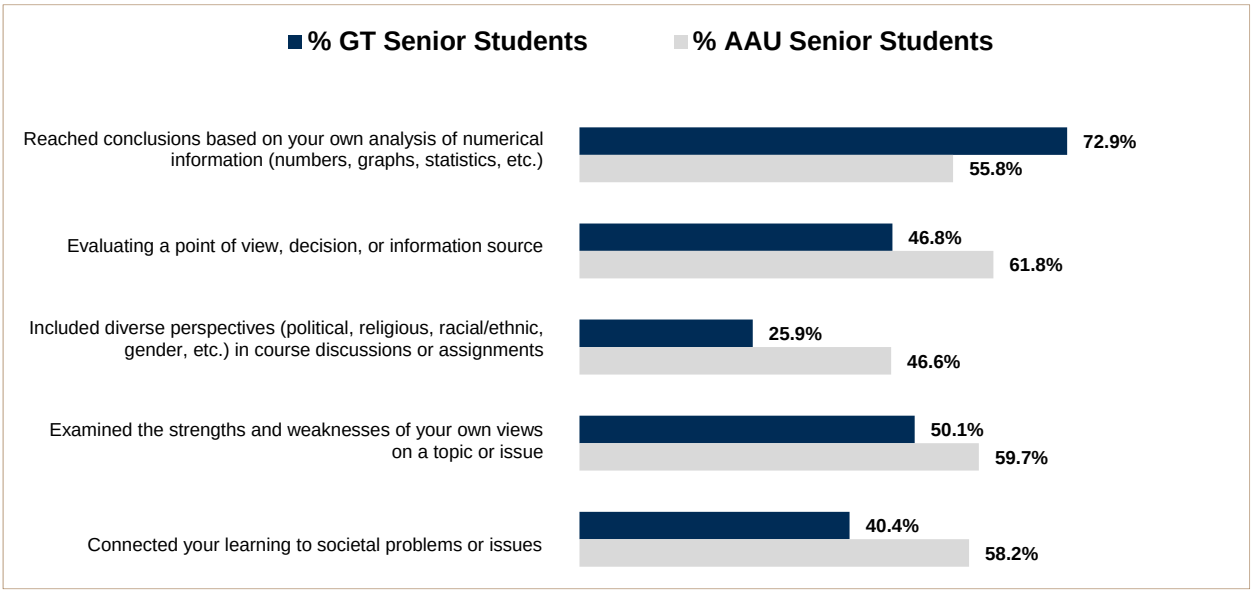
Individual components within the *Academic Challenge* theme were compared between GT and AAU first-year responses. Almost 90% of first-year GT students reported their coursework emphasized "very much" or "quite a bit" *applying information, theories, or methods to new situations,* as compared to only 76.4% of AAU first-year students. First-year GT students also reported they frequently *reached conclusions based on their own analysis of numerical information* (63.9%), more often than did AAU first-year students (53.4%). However, GT first-year students reported less frequent opportunities in their coursework to *evaluate decisions or information* (50.8%) than did first-year AAU students (62.4%). In addition, less than 35% of GT first-year students reported frequently *connecting their learning to societal problems or issues,* as compared to more than 50% of first-year students at AAU institutions. Figure 2 illustrates select differences between first-year students from select items within the *Academic Challenge Student Engagement* theme.

Figure 2. NSSE 2014: Select *Academic Challenge* Components: First-Year Students
(Percentage of Responses to "Very often" / "Often" or "Very much" / "Quite a bit")



Select *Academic Challenge* item responses from senior students at GT and AAU institutions are detailed in Figure 3. While 73% of GT seniors reported frequently *reaching conclusions based on their own analysis of quantitative information*, fewer than 56% of senior AAU students reported the same. However, fewer GT seniors reported frequently *evaluating information* (46.8%), *including diverse perspectives in course discussions or assignments* (25.9%), and *examining strengths and weaknesses of one's view on a topic or issue* (50.1%) than did AAU seniors. Approximately 40% of GT seniors reported that they "very often" or "often" *connected their learning to societal problems or issues* (40.4%), less than did seniors at AAU institutions (58.2%).

Figure 3. NSSE 2014: Select *Academic Challenge* Components: Senior Students
(Percentage of Responses to "Very often" / "Often" or "Very much" / "Quite a bit")



Learning with Peers

Preparing students to collaborate academically and to develop competence socially with diverse thinkers are constructs that contribute to the development of global leaders. The *Learning with Peers* theme

measures two *Student Engagement* indicators: *Collaborative Learning* and *Discussions with Diverse Others*. Sample questions include asking students how often they *worked with others on course projects or assignments* and how often they *engaged in discussions with people of a race or ethnicity other than their own*.

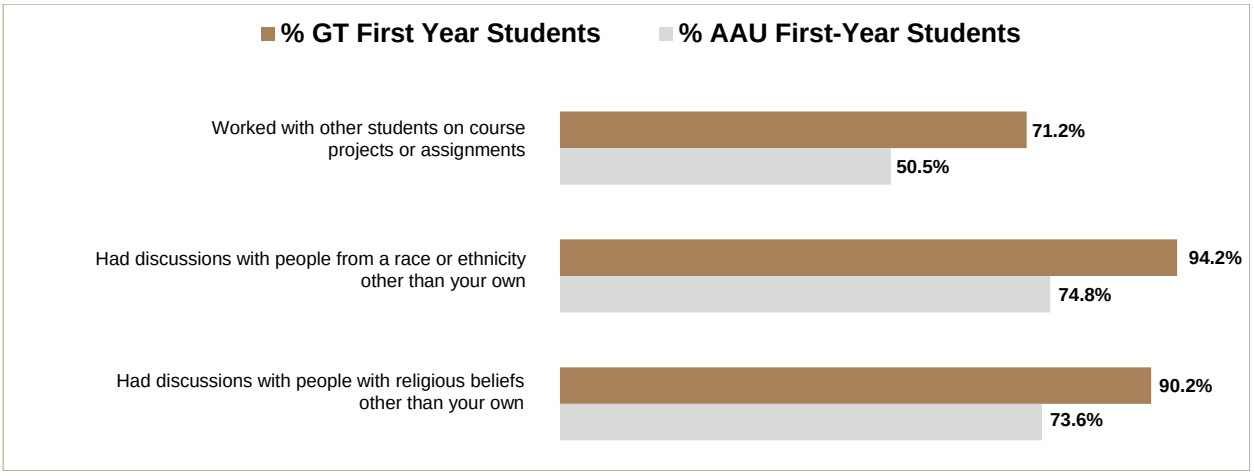
When comparing student responses between GT and AAU institutions, large and moderate differences were found within the *Learning with Peers* indicators. Responses indicate that GT first-year and senior students engaged in moderately more frequent opportunities for *Collaborative Learning* than AAU students. In addition, GT first-year students reported having more frequent *Discussions with Diverse Others* than did AAU first-years, reaching a large effect size. GT seniors reported the same, although differences were small. Table 3 details the mean *Learning with Peers* scale scores from GT and AAU first-year and senior students as well as corresponding effect sizes.

Table 3. 2014 NSSE: *Learning with Peers* Indicator Means

* *d* > .1; ** *d* > .3; *** *d* > .5	GT First-Year *n* = 421	AAU First-Year *n* = 18,951	Effect Size	GT Senior *n* = 611	AAU Senior *n* = 20,784	Effect Size
Mean Scale Scores (0–60):						
Collaborative Learning	38.3	33.6	.34 **	38.1	33.7	.31 **
Discussions with Diverse Others	49.5	41.9	.50 ***	47.0	42.5	.29 *

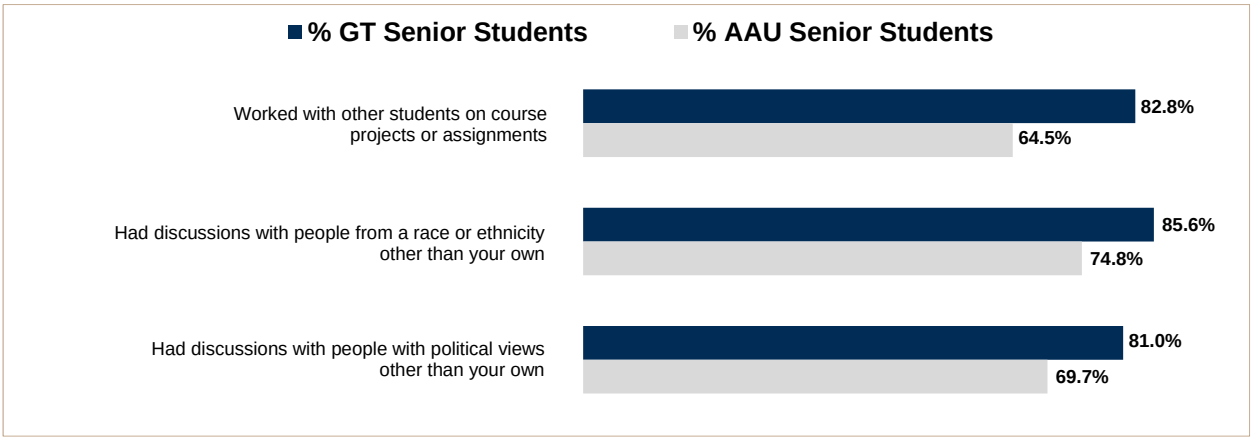
Comparing individual components within the *Learning with Peers* theme, select results for first-year students are illustrated in Figure 4. More than 71% of first-year GT students reported "very often" or "often" *working with other students on course projects and assignments*, as compared to only 50.5% of AAU first-year students. GT first-years also reported having more frequent opportunities for *discussions with people from a different race or ethnicity* (94.2%) and *with people with different religious beliefs* (90.2%) than did AAU first-year students (both less than 75%).

Figure 4. NSSE 2014: Select *Learning with Peers* Components: First-Year Students
(Percentage of Responses to "Very often" / "Often")



Almost 83% of GT seniors reported *working frequently with other students on course projects and assignments*, as compared to only 64.5% of AAU seniors. GT seniors also indicated more frequent *discussions with people from different race or ethnicity* (85.6%) and *with people with different political views* (81.0%) than did AAU seniors. Select individual components from the *Learning with Peers* theme for GT and AAU seniors are displayed in Figure 5.

Figure 5. NSSE 2014: Select *Learning with Peers* Components: Senior Students
(Percentage of Responses to "Very often" / "Often")



Experiences with Faculty

Undergraduate students benefit from interactions with faculty, such as through exposure to role modeling, critical thinking, and problem solving, or by receiving timely and thorough feedback that enhances their understanding. Two engagement indicators, namely *Student-Faculty Interaction* and *Effective Teaching Practices*, are measured within the *Experiences with Faculty Student Engagement* theme. Examples of questions within this theme include asking students how often they *discussed their academic performance with a faculty member* or to what extent their instructors *provided feedback on a draft or work in progress*.

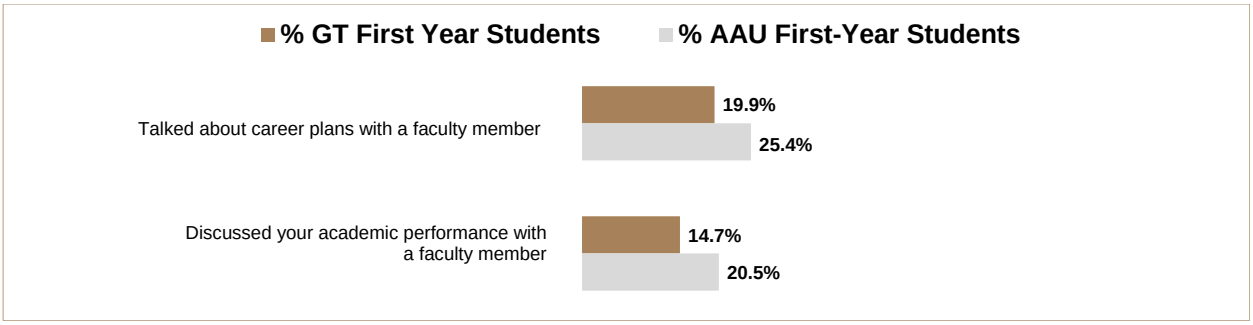
Responses indicate that GT first-year and senior students reported fewer *Student-Faculty Interactions* than did AAU students, although differences were small. A small difference was also found when comparing senior students' responses on the frequency of *Effective Teaching Practices*. Fewer GT seniors reported their instructors used *Effective Teaching Practices* than did AAU seniors. Table 4 contains the mean *Experiences with Faculty* scale scores from GT and AAU students, including the corresponding effect sizes.

Table 4. 2014 NSSE: *Experiences with Faculty* Indicator Means

* *d* > .1; ** *d* > .3; *** *d* > .5	GT First-Year *n* = 421	AAU First-Year *n* = 18,951	Effect Size	GT Senior *n* = 611	AAU Senior *n* = 20,784	Effect Size
Mean Scale Scores (0–60):						
Student-Faculty Interaction	15.8	17.7	-.13 *	20.1	21.6	-.10 *
Effective Teaching Practices	37.4	37.3	.01	35.7	37.6	-.15 *

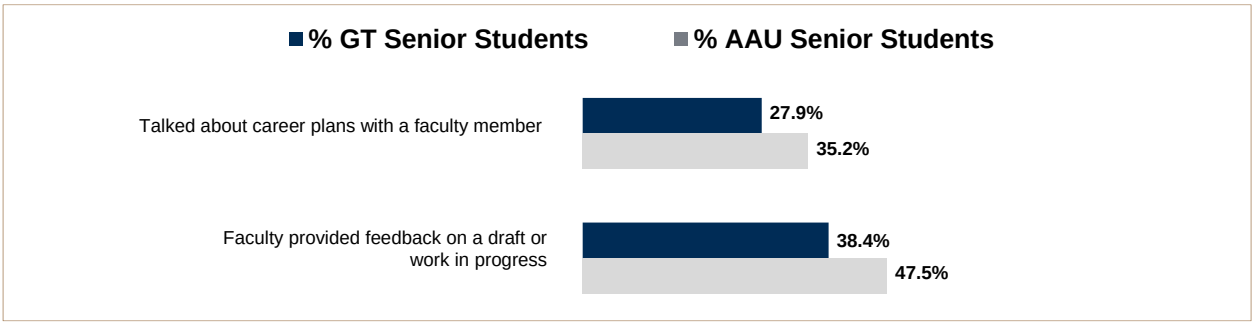
First-year responses to select items within the *Experiences with Faculty* theme are displayed in Figure 6. Less than 20% of first-year GT students reported *speaking* "very often" or "often" *with a faculty member about their career plans* and less than 15% indicated they had "often" or "very often" *discussed their academic performance with a faculty member*, while 25.4% and 20.5%, respectively, of AAU first-year students reported the same.

Figure 6. NSSE 2014: *Select Experiences with Faculty* Components: First-Year Students
(Percentage of Responses to "Very often" / "Often" or "Very much" / "Quite a bit")



Almost 28% of GT seniors surveyed said they *spoke "very often" or "often" with a faculty member about their career plans*, while over 35% of their AAU peers reported the same. When asked how much their *instructors provided feedback on a draft or work in progress*, 38.4% of GT seniors replied "very much" or "quite a bit" as compared with 47.5% of AAU seniors. Figure 7 illustrates senior responses on select items from the *Experiences with Faculty* theme.

Figure 7. NSSE 2014: Select *Experiences with Faculty* Components: Senior Students
(Percentage of Responses to "Very often" / "Often" or "Very much" / "Quite a bit")



Campus Environment

A positive and supportive campus environment that fosters effective relations among students, faculty, and staff creates a successful foundation for learning. The NSSE measures *Campus Environment* through two engagement indicators: *Quality of Interactions* and *Supportive Environment*. This theme includes items such as asking students how much the Institute emphasized *using learning support services (tutoring services, writing center, etc.)* and *attending events that addressed important social, economic, or political issues*. Other questions include asking students to rate the *quality of interactions with others on campus including students, academic advisors, and staff*.

Responses suggested that GT first-year students believe the Institute emphasizes a supportive campus environment more than did first-year students at AAU institutions, although the effect size was small.

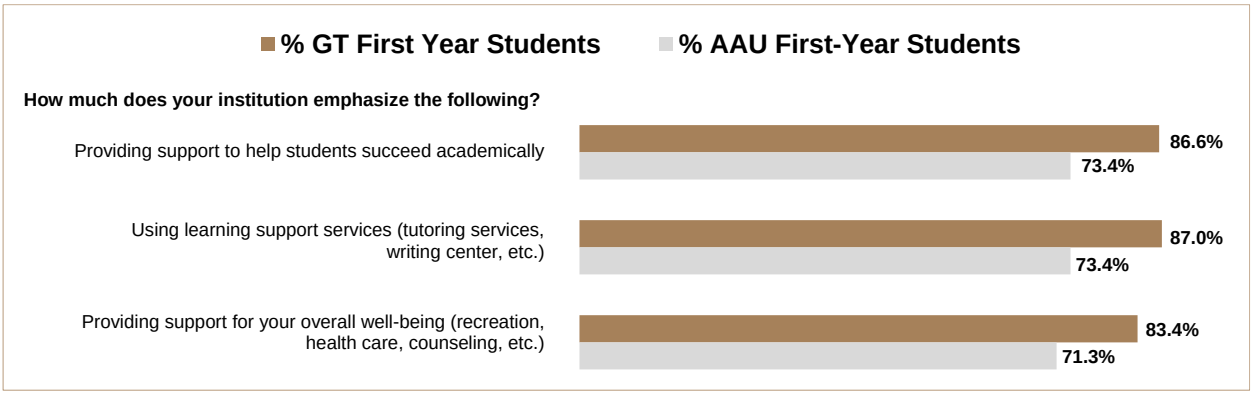
No differences were found within the *Quality of Interactions* indicator. Means and effect sizes by seniors and first-years for *Campus Environment* indicators are presented in Table 5.

Table 5. 2014 NSSE: *Campus Environment* Indicator Means

* *d* > .1; ** *d* > .3; *** *d* > .5	GT First-Year *n* = 421	AAU First-Year *n* = 18,951	Effect Size	GT Senior *n* = 611	AAU Senior *n* = 20,784	Effect Size
Mean Scale Scores (0–60):						
Quality of Interactions	40.9	40.1	.07	40.5	39.9	.06
Supportive Environment	38.7	35.8	.22 *	32.5	31.7	.05

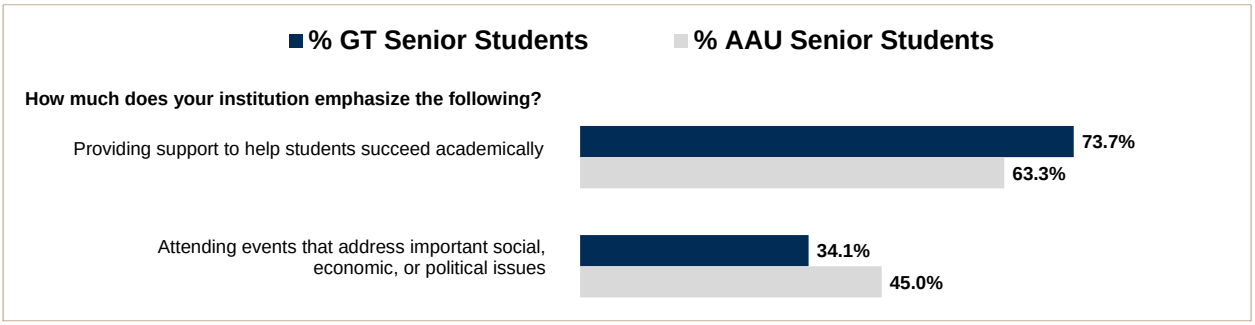
Select responses from first-year students on individual items within the *Campus Environment* theme were compared between GT students and their AAU peers in Figure 8. Approximately 87% of first-year GT students reported that the Institute emphasized *providing support to help students succeed academically* "very much" or "quite a bit," as well as *using learning support services*. Less than 74% of first-year AAU students reported the same on both items. GT first-year students also indicated a high level of *institutional support for their overall well-being* with over 83% noting the Institute emphasized these measures "quite a bit" or "very much." In comparison, only 71% of AAU first-year students reported the same.

Figure 8. NSSE 2014: Select *Campus Environment* Components: First-Year Students
(Percentage of Responses to "Very much" / "Quite a bit")



Almost 74% of GT seniors noted the Institute frequently emphasized *providing academic support*, while only 63.3% of AAU institutions noted the same. However, only 34.1% of seniors at GT indicated the Institute frequently emphasized *attending events that addressed social, economic, or political topics*, compared with 45.0% of AAU seniors. Figure 9 illustrates select *Campus Environment* item comparisons for GT and AAU senior students.

Figure 9. NSSE 2014: Select *Campus Environment* Components: Senior Students
(Percentage of Responses to "Very much" / "Quite a bit")

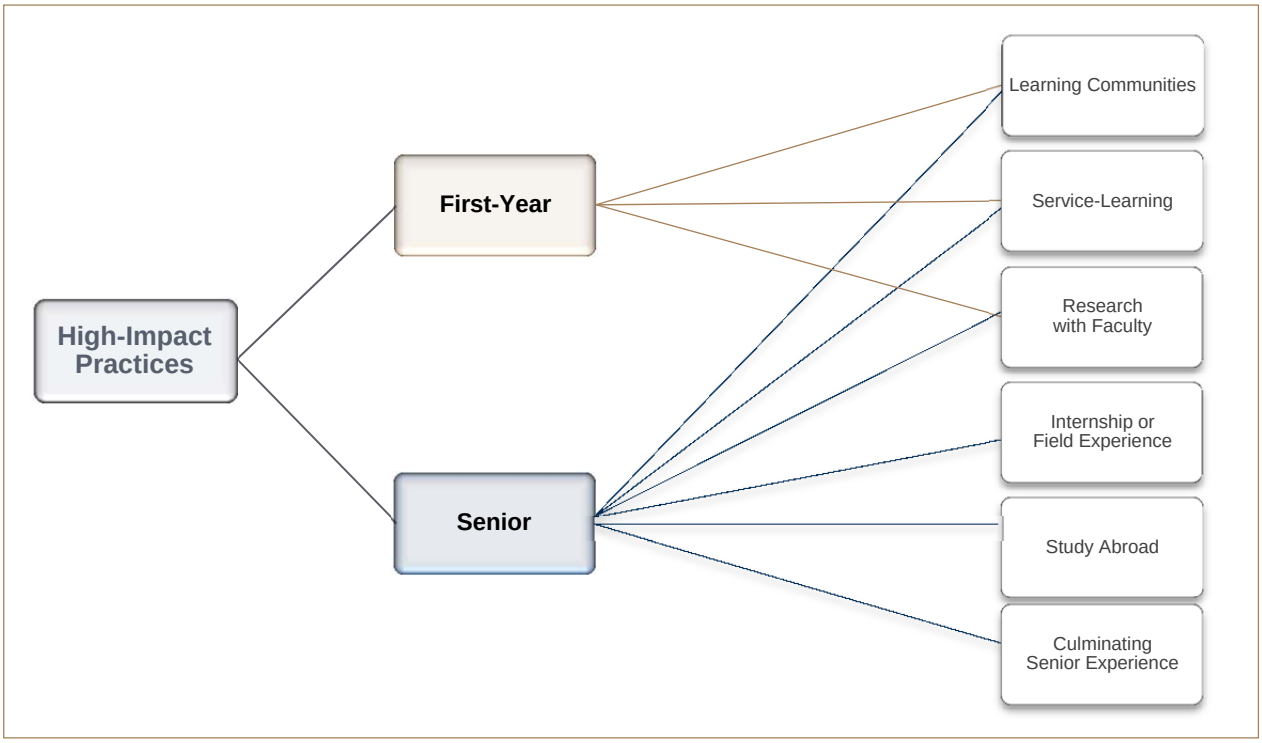


High-Impact Practices

In addition to four *Student Engagement* themes, the NSSE measures six *High-Impact Practices* (HIPs) that reflect student participation in deep undergraduate learning experiences. Considered life-changing opportunities (Kuh, 2008),[3] research has shown positive associations between HIPs and student learning and retention.

The NSSE surveyed student participation in the following areas: involvement in a *Learning Community*, completion of courses with *Service-Learning*, conducting *Research with Faculty* members, accomplishment of an *Internship or Field Experience*, participation in a *Study Abroad* program, and completion of a *Culminating Senior Experience*. As depicted in Figure 10, three of these experiences were surveyed for first-year students and all six were examined for senior students.

Figure 10. NSSE High-Impact Practices (HIPs)



Student participation in HIP learning opportunities was measured using the percentage of responses to "Done" or "In Progress" for all practices except for *Service-Learning*, which was measured using the percentage of responses to "all," "most," or "some" of their courses involving a community-based project (*Service-Learning*). It is important to note that NSSE survey responses for HIP items are based on self-reporting of student participation over the course of their undergraduate experience.

At GT, just over 32 percent of first-year students reported that at least some of their courses included *Service-Learning*, compared to 43.3% of first-years at AAU institutions. While 8.3% of GT first-years responded that they performed *Research with Faculty*, only 5.5% of AAU first-years reported the same. Both of these differences were found to have small effect sizes.

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[3] Kuh, G. D., Schneider, C. G., & Association of American Colleges and Universities. (2008). *High-impact educational practices: What they are, who has access to them, and why they matter*. Washington, DC: Association of American Colleges and Universities.

Fewer Tech seniors reported involvement in *Learning Communities* (21.9%) and in courses with *Service-Learning* components (36.7%), than their peers at AAU institutions. However, more GT seniors reported participation in *Internships or Field Experiences* (71.6%) and in *Studying Abroad* (35.2%) than did AAU seniors. In addition, more seniors at GT indicated performing *Research with Faculty* (49.1%) than did AAU seniors (34.3%), a moderate effect size. Reaching a large effect size, when GT seniors were asked about *Culminating Senior Experiences* such as a capstone course, project, thesis, comprehensive exam or portfolio, 68.5% reported participation, as compared to only 41.2% of seniors at AAU institutions.

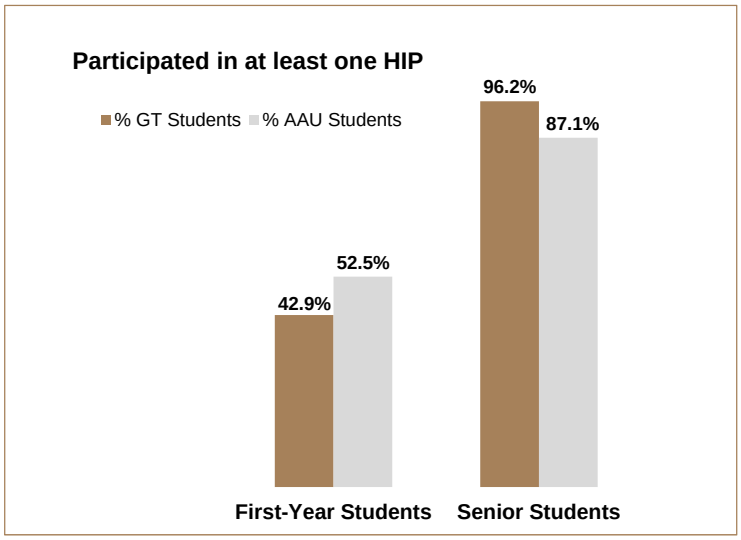
Table 6 compares survey responses from first-year and senior students at GT and AAU institutions to participation in HIP experiences.

Table 6. 2014 NSSE: Percentage of *High-Impact Practice* participation
(Percentage of Responses to "Done or In Progress")

* *h*> .1; ** *h* > .3; *** *h* > .5	GT First-Year *n* = 421	AAU First- Year *n* = 18,951	Effect Size	GT Senior *n* = 611	AAU Senior *n* = 20,784	Effect Size
Mean Scale Scores (0–60):						
Learning Community	15.2	18.6%	-.09	21.9	26.7	-.11 *
Service-Learning[1]	32.1	43.3%	-.23 *	36.7	46.3	-.20 *
Research with Faculty	8.3	5.5%	.11 *	49.1	34.3	.30 **
Internship or Field Experience	--	--	--	71.6	60.1	.24 *
Study Abroad	--	--	--	35.2	22.3	.29 *
Culminating Senior Experience	--	--	--	68.5	41.2	.56 ***

[1] Percentage of responses to "All," "Most," or "Some" of their courses included a community-based project (*Service-Learning*).

Figure 11. NSSE 2014: Overall *High-Impact Practices* Participation
(Percentage of students who participated in at least one HIP)



Overall, fewer GT first-year students reported participation in at least one *High-Impact Practice* than did AAU first-year students. However, GT seniors reported more participation in at least one HIP than AAU seniors. Specifically, over the course of their undergraduate education at Tech, over 96% of seniors reported participating in at least one *High-Impact Practice*. Figure 11 illustrates the comparison of GT and AAU student participation in at least one HIP.

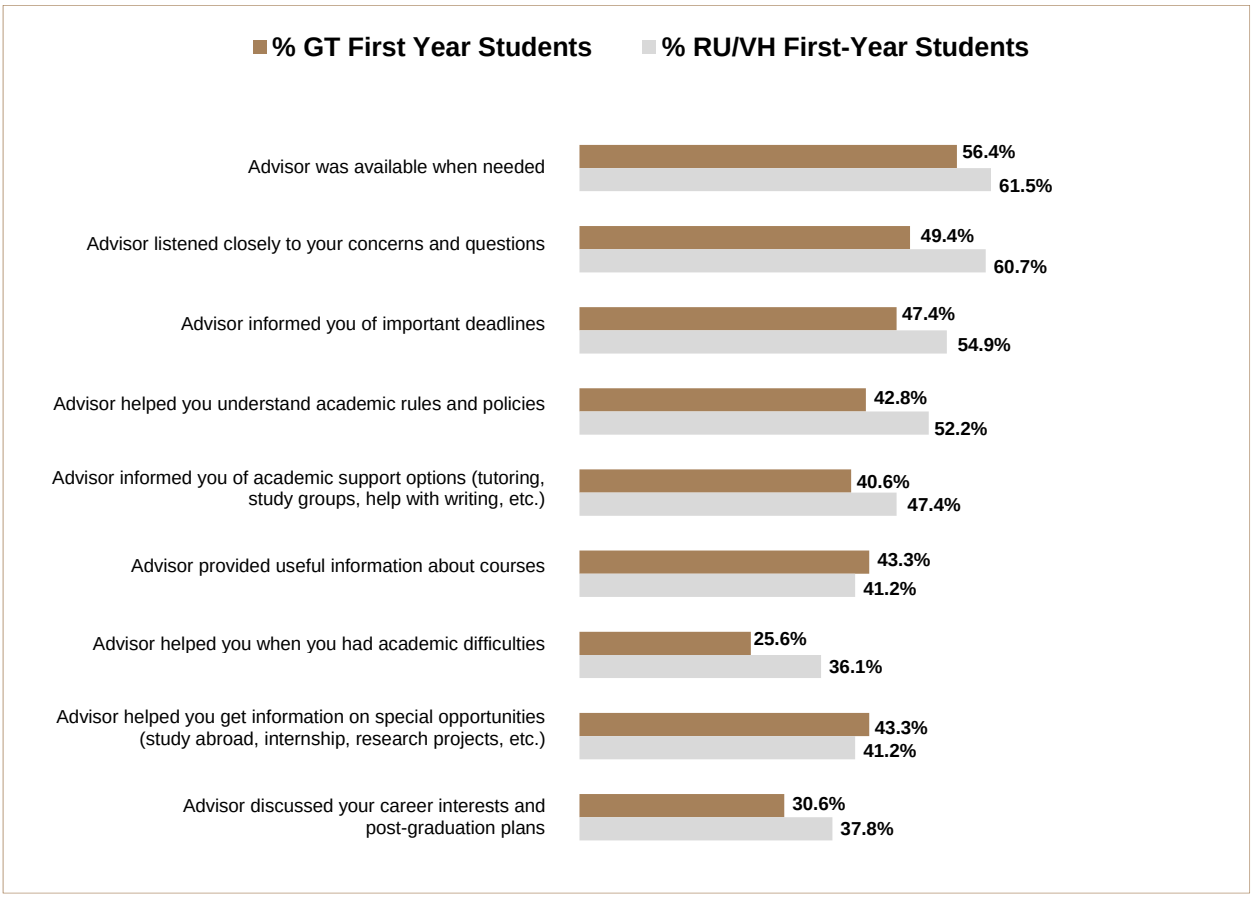
Academic Advising

Undergraduate academic advisors assist students with transition and guidance through the collegiate experience. Included in a new module of survey questions for 2014, students were asked about their experiences with academic advising, including frequency, accessibility, and the types of information available. Select responses were compared to responses from six Carnegie Research University/Very High (RU/VH) institutions, previously identified in the Organization of the Report section (page 3).

Overall, first-year GT students reported *discussing their academic interests, course selections, or academic performance* fewer times with their advisors than did freshman students at RU/VH institutions (an average of 1.6 times compared with 2.2 times), yielding a moderate effect size. Seniors at GT also reported fewer opportunities for discussions with their advisors than did seniors at RU/VH institutions (an average of 1.9 times, as compared to 2.1 times), presenting a small effect size.

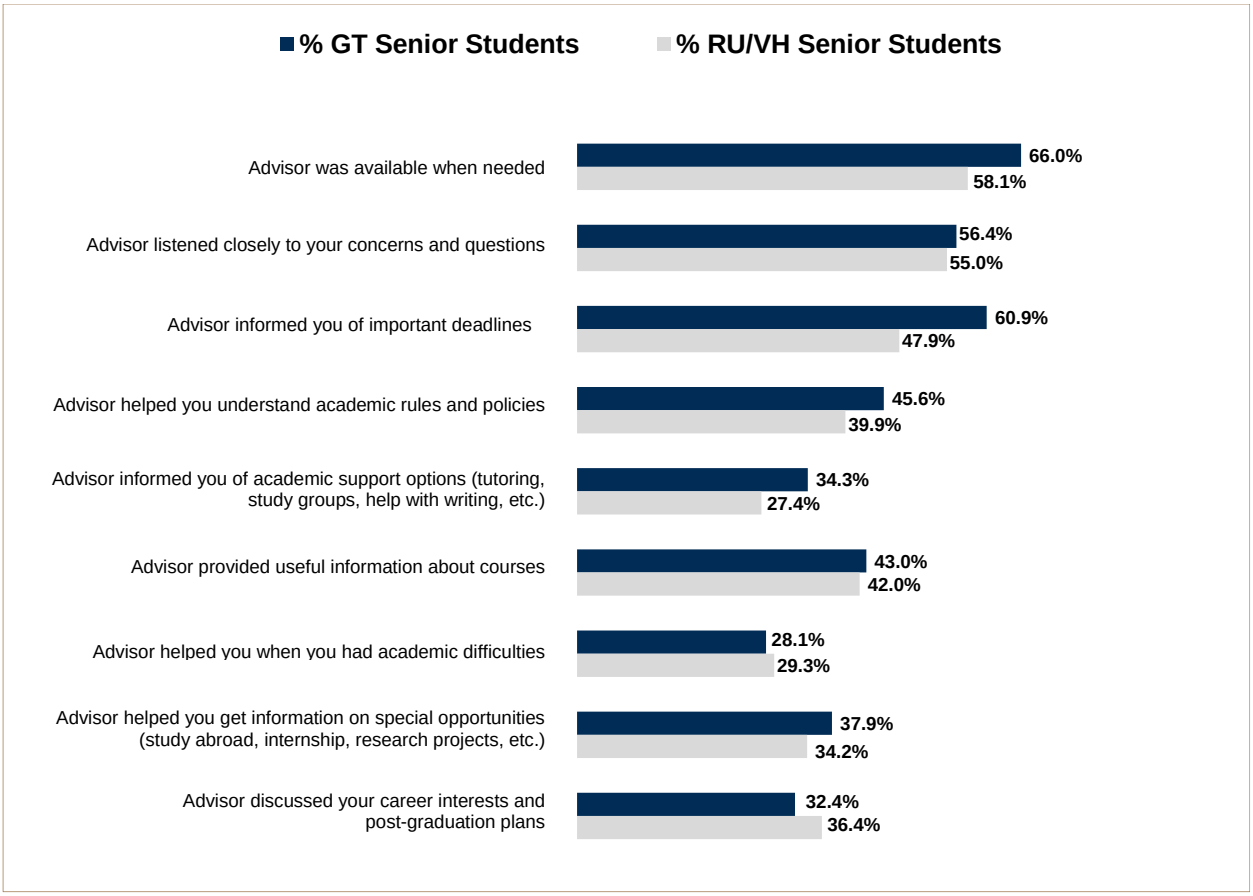
Generally, first year students at GT expressed lower levels of advising support than their RU/VH peers. For example, less than 50% of GT first-year students responded that their advisor frequently *listened to their concerns and questions*, while 60.7% of first-year students felt the same at RU/VH. First-year responses to *Academic Advising* items are summarized in Figure 12.

Figure 12. NSSE 2014: *Academic Advising* Module: First-Year Students
(Percentage of Responses to "Very much" / "Quite a bit")



For GT seniors, opinions on advising support were generally higher than those of their RU/VH peers. For example, almost 61% of seniors at GT indicated their advisors frequently *informed them of important deadlines*, as compared with 47.9% of seniors at RU/VH institutions. In addition, the majority of seniors noted their advisors have been "very much" or "quite a bit" *available when needed* and *listened closely to their concerns and questions*. Figure 13 illustrates senior responses to *Academic Advising* items.

Figure 13. NSSE 2014: *Academic Advising* Module: Senior Students
(Percentage of Responses to "Very much" / "Quite a bit")



COMPARISON BRIEF: BCSSE 2013 TO NSSE 2014

During the 2013–14 academic year, the Georgia Tech (GT) Office of Assessment administered the BCSSE and the NSSE surveys to the freshman class. The BCSSE was administered in the Fall to entering first-year students, and the NSSE was offered in the Spring to the same cohort of students. The BCSSE scales and the NSSE engagement indicators include six overlapping areas of content, including: *Learning Strategies*, *Quantitative Reasoning*, *Collaborative Learning*, *Discussions with Diverse Others*, *Student-Faculty Interaction*, and *Supportive Environment*. The opportunity to compare student responses between the surveys provides insight into differences in student expectations and actual engagement over the course of their first year as an undergraduate.

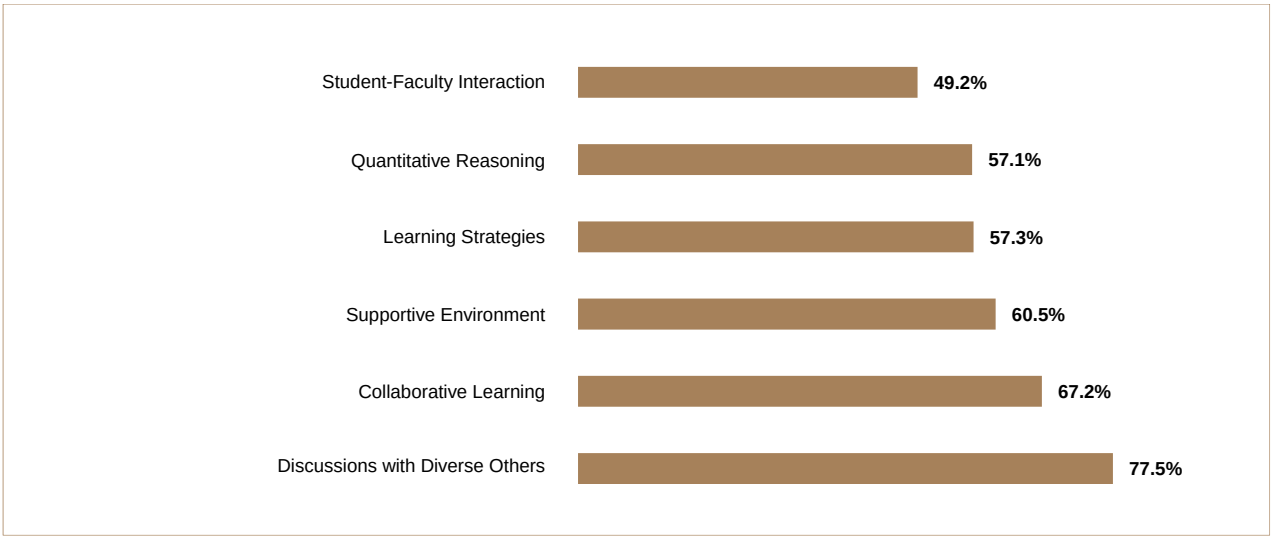
For each of the six overlapping content areas, individual student responses from the BSCCE and from the NSSE were classified into low, medium, or high, relative to other respondents nationwide. For each matched student, BSCCE classifications were mapped to the corresponding classification on the NSSE. Experiences were then sorted into favorable and unfavorable categories. Ideally, first-year students engage in their undergraduate experiences at a level that either *maintains or exceeds* their expectations. That is, favorable comparison results were defined as responses that maintained the level of medium or high, that indicated an increase from low to medium or low to high, or that moved from medium to high. Conversely, non-favorable results were deemed those that stayed low, those that moved from medium to low, or those that went from high to low or high to medium. Table 7 provides a description of favorable and unfavorable categories.

Table 7: BCSSE 2013 to NSSE 2014 Favorable and Unfavorable Categories

		NSSE Responses		
		Low	**Medium**	**High**
BSCCE Responses	**Low**	Unfavorable	Favorable	Favorable
	Medium	Unfavorable	Favorable	Favorable
	High	Unfavorable	Unfavorable	Favorable

Results from favorable comparisons are based on 381 GT first-year students who participated in both the BCSSE and the NSSE. Analyses indicate almost 78% of first-year GT students reported favorable experiences from *discussions with diverse others*, while 49.2% indicated favorable experiences with *faculty interaction*. Figure 14 provides a summary of favorable comparisons from six areas of content.

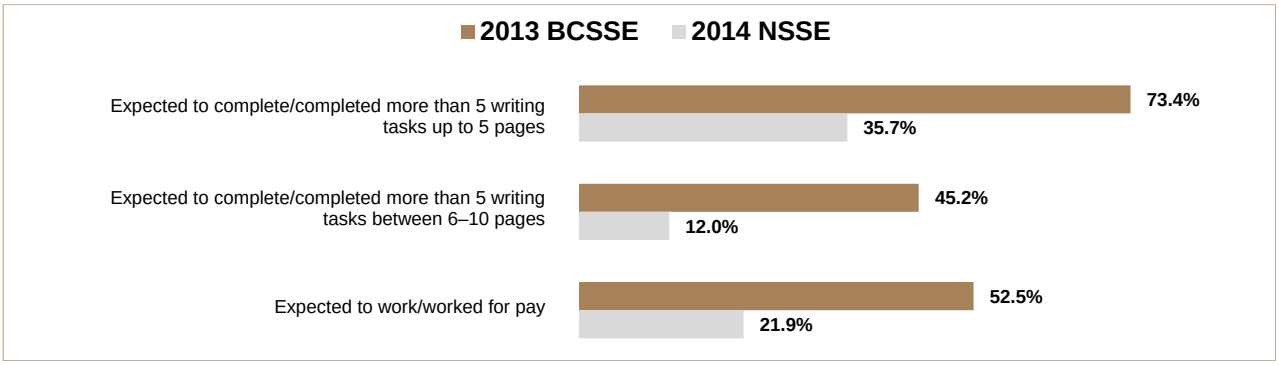
Figure 14. BCSSE 2013 to NSSE 2014: GT First-Year Student Favorable Scale Comparisons
(Percentage of favorable responses)



Analyses were also conducted on similarly constructed, individual survey items. Item comparisons were based on 2,293 responses (85.8% of first-year class) from the BCSSE and 421 responses (18% of the first-year class) from the NSSE. Differences in responses can help to identify instances where entering student expectations might not match their campus experiences during their first year as an undergraduate.

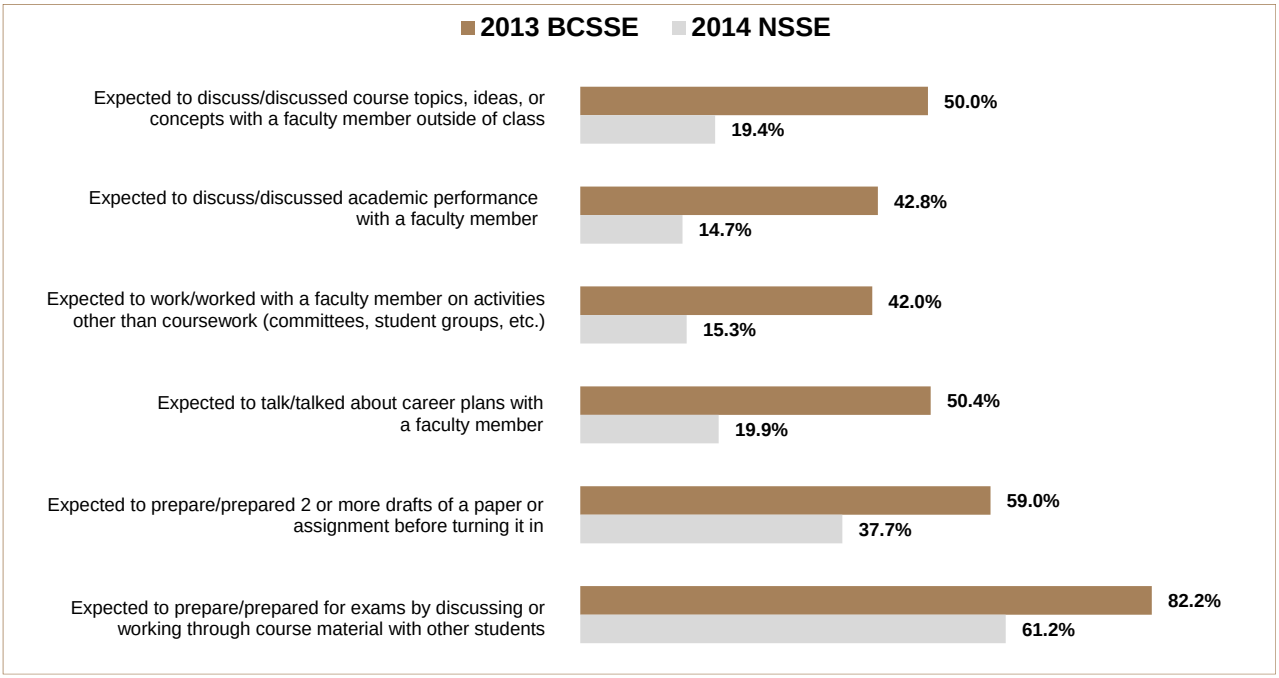
NSSE results indicated that 12.0% of first-year students *completed more than five writing tasks between six-to-ten pages in length*, and that 35.7% *completed more than five writing tasks up to five pages in length*. BCSSE responses indicated first-year students entered with higher *writing assignment expectations* (45.2% and 73.4%, respectively). Results from the NSSE also suggested that under a quarter of freshmen students (21.9%) ended up *working for pay* during their first year, while according to the BCSSE, the majority (52.5%) had *expected to work*. Select differences are illustrated in Figure 15.

Figure 15. BCSSE 2013 to NSSE 2014: GT First-Year Student Select Item Comparisons
(Percentage of Responses)



In the area of student faculty interactions, findings indicated a gap in expectations and the experiences of first-year students at GT. For example, 42.8% *expected to speak* "very often" or "often" *with faculty members about their academic performance*, while only 14.7% reported this occurrence. Similarly, 19.9% reported "very often" or "often" *discussing their career plans with a faculty member*, whereas originally 50.4% had expected this interaction during their first year.

Figure 16. BCSSE 2013 to NSSE 2014: GT First-Year Student Additional Select Item Comparisons
(Percentage of Responses to "Very often" / "Often")



LONGITUDINAL NSSE DATA BRIEF: NSSE 2005 TO NSSE 2014

In 2013, the NSSE underwent a major revision, with the majority of survey items either modified or newly added to the instrument. As a result, many longitudinal statistical comparisons could not be performed due to item revisions or to response option changes. For survey items with minor revisions or with similar wording, longitudinal trends were investigated and summarized. Table 8 provides GT survey participant numbers by first-year and senior respondents for the 2005, 2011, and 2014 NSSE.

Table 8. GT NSSE: Participants by Administration Year

GT NSSE 2005		GT NSSE 2011		GT NSSE 2014	
First-Year Students	Senior Students	First-Year Students	Senior Students	First-Year Students	Senior Students
1,239	625	637	820	421	611

From 2005 to 2014, increasing trends were found in GT student responses to the *opportunity to deliver class presentations* as well as in the student perception of how much the Institute has *contributed to the development of their speaking skills*. First-year GT students reported an increase in how often they *gave a course presentation*, up to 34.0% in 2014 from 23.5% in 2005. GT seniors also reported an increase in how often they *gave a course presentation*, up to 57.0% from 46.1% during the same time. In addition, the percentage of GT first-year students, responding "quite a bit" or "very much" to how much their experience at the Institute *contributed to speaking skills clearly and effectively*, increased to 43.7% in 2014 from 33.9% in 2005. GT senior percentages also increased to 57.4% from 48.3% over the same range of time. GT student response percentages are illustrated in Figures 17 and 18.

Figure 17. Gave a Course Presentation

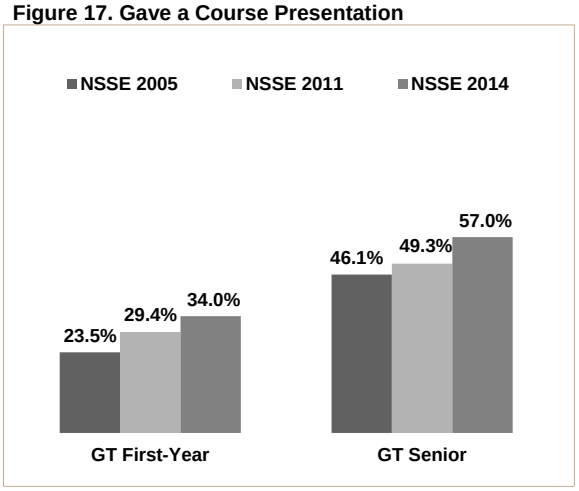
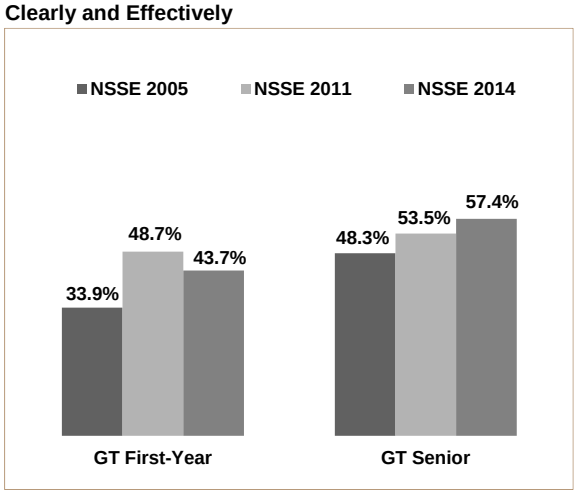


Figure 18. Institutional Contribution to Speaking Clearly and Effectively



Additional trends in student engagement emerged from GT student responses to the NSSE over the last decade. From 2005 to 2014, the percentage of GT seniors responding to how often they *worked with other students on course projects or assignments* has remained relatively stable, with approximately 80% indicating "very often" or "often" experiences. As shown in Figure 19, there was an increase in the percentage of GT first-year students responding they had frequent *discussions with people from diverse race or ethnicities*, up to 94.2% in 2014 from 68.6% in 2005. For GT seniors, the percentage was up to

85.6% from 66.2% over the same time. An upward trend was also found in GT first-year students reporting frequent opportunities to *apply facts, theories, or methods to practical problems or new situations within their coursework*, from 79.3% in 2005 to 89.9% in 2014. GT senior students also reported a slight increase on the same item, from 80.9% in 2005 to 85.9% in 2014.

Figure 19. Had Discussions with People of a Race or Ethnicity Other Than Own

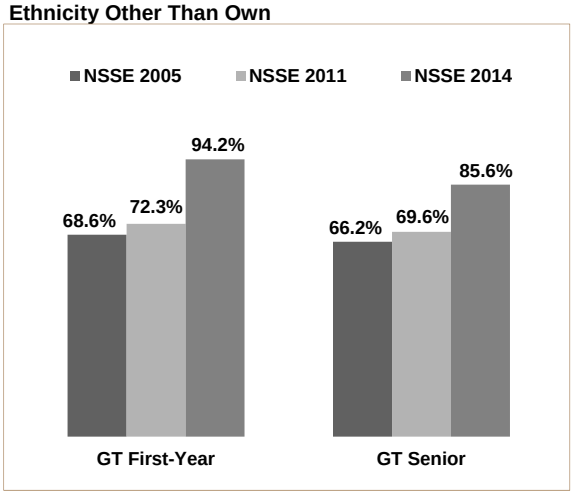
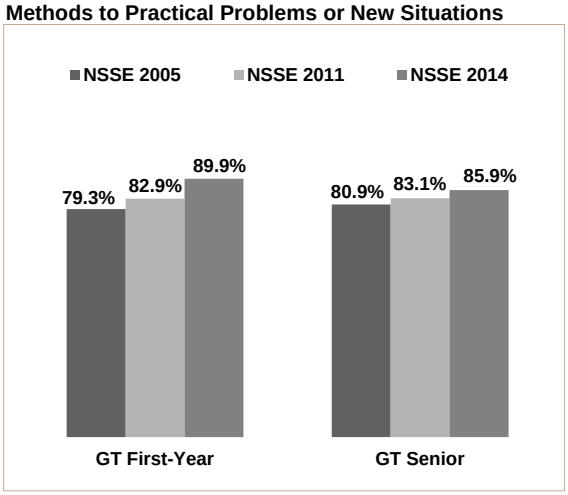
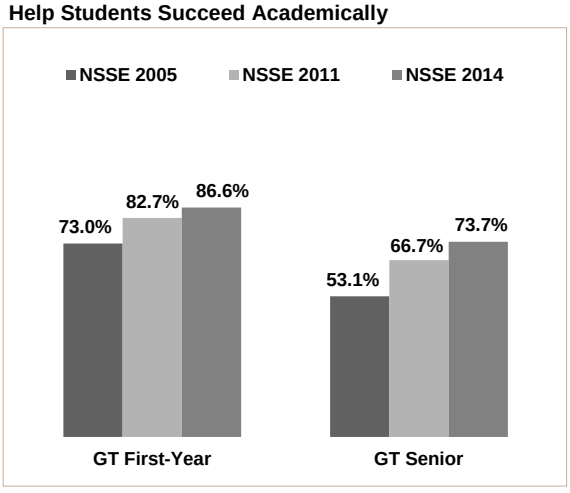


Figure 20. Coursework Applied Facts, Theories, or Methods to Practical Problems or New Situations



When analyzing student engagement in *Service-Learning*, an increase was discovered in GT senior responses. Specifically, the percentage of seniors at GT reporting that their courses included a community-based (*Service-Learning*) project "very often" or "often" was 21.4% in 2005; while in 2014, almost 37% of GT seniors responded that "some," "most," or "all" of their courses included *Service-Learning*.

Figure 21. Institute Emphasized Providing Support to Help Students Succeed Academically



Finally, according to the NSSE, trends in student and faculty interactions held fairly stable, while the perception of institutional support increased. From 2005 to 2014, the percentage of GT first-year and senior students reporting that they received frequent *prompt and detailed feedback from faculty on tests or completed assignments* held steady at approximately 50%. Also holding steady, from 2005 to 2014, approximately 28% of GT seniors reported having "very often" or "often" *discussions with faculty about their career plans.* An increase was discovered in the percentage of students reporting that GT emphasized *providing academic support to help them succeed*. As illustrated in Figure 21, the percentage of first-year GT students rating "quite a bit" or "very much" was up to 86.6% in 2014 from 73.0% in 2005, and for GT senior students, similar ratings were up to 73.7% from 53.1%.

SUMMARY

The 2014 NSSE provides a current lens into the GT undergraduate student experience. Overall, when compared with their AAU peers, GT students reported more frequent opportunities for *Learning with Peers*, through both *Collaborative Academic Experiences* as well as through *Discussions with Diverse Others*. Tech students also indicated more frequent opportunities for *Quantitative Reasoning*. Of the engagement indicators, GT students reported fewer opportunities for *Reflective and Integrative Learning* and for *Interactions with Faculty* than did their AAU peers. Further, more first-year students expressed that GT emphasized a *Supportive Campus Environment* than did first-year students at other AAU institutions.

In looking at *Academic Advising*, GT first-year students rated the frequency of many of their *experiences with academic advisors* lower than those of their Carnegie RU/VH peers. However, GT seniors were generally more positive about their *experiences with their academic advisors* than seniors at RU/VH institutions.

Contributing to the richness of their undergraduate experiences at Tech, first-year students reported more participation in *Research with Faculty* than their AAU peers. In addition, GT seniors reported more participation in several *High-Impact Practices* than did seniors at AAU institutions, including opportunities for *conducting Research with Faculty, performing Internships, Studying Abroad,* and *completing a Culminating Senior Experience*. However, when compared with students at AAU institutions, both first-year and senior GT students reported fewer *Service-Learning* experiences in their courses.

Favorable BCSSE/NSSE indicator comparisons from first-year students provided additional support for the quality of GT undergraduate learning experiences, especially within two *Student Engagement* measures: *Collaborative Learning* and *Discussions with Diverse Others*. Longitudinal data from the NSSE highlighted increasing trends in the opportunity for students to give a course presentation as well as in the student perception of how much the Institute has contributed to the *development of their speaking skills*. Additional increasing trends were found for individual survey items, including the frequency of *discussions with people of a difference race or ethnicity*, the *application of knowledge in coursework*, and the institutional emphasis to *provide a supportive campus environment*.

The Office of Assessment will continue to serve our students and our campus through the collection, analysis, and reporting of data on student engagement and participation at the Georgia Institute of Technology.