Key Findings from *The ECAR Study of Undergraduate Students and Information Technology, 2007*
Tufts Student Responses to The ECAR Study of Undergraduate Students and Information Technology, 2007

In the spring of 2007, 293 Tufts students – 143 seniors, 148 freshmen, and 2 “other” - responded to The ECAR Survey of Undergraduate Students and Information Technology, 2007, conducted at Tufts for the first time by UIT Academic Technology in coordination with the Offices of the Dean for Undergraduate Education, Dean of Student Affairs, and Dean of Student Services, and with support from Dawn Terkla, Associate Provost for Institutional Research. Following are the key findings from Tufts students’ responses as compared with data from other four-year institutions participating in the ECAR study. See the full study for additional information:
http://www.educause.edu/ers0706

Highlights of Tufts Student Responses to The ECAR Survey of Undergraduate Students and Information Technology, 2007

- Using the Web and other online resources for work, school, and recreation
- Electronic device ownership and use
- Communication preferences
- Library and Research
- Media creation
- Course Management System (CMS) usage and experience
- Use of IT in courses
- Student profile and characteristics
- Other

Key Findings on Tufts Student Responses to The ECAR Study of Undergraduate Students and Information Technology, 2007

- Computer Ownership – Laptop vs. Desktop
- Other Electronic Device Ownership
- Communication
- Email
- Instant Messaging
- Library
- Core Technology Use and Skills
- Writing Electronic Documents (Word)
- Spreadsheets (Excel)
- Presentation Software (Powerpoint; Keynote)
- Course Management Systems (CMS)
- Online Syllabus
- Online Readings/Links to Text Documents
- Online Discussions
- Access to Sample Exams and Quizzes for Learning
- Taking Online Exams or Quizzes for Grading
- Keeping Track of Grades and Tests
- Turning in Assignments Online
- Getting Assignments Back from Instructors with Comments and Grades
- Online Sharing of Materials Among Students
- Course Web Site
- Media Creation
- Graphics
- Audio & Video
- Using the Web
- Hours spent on online activities for school, work, and recreation
Frequent method for accessing Internet ................................................................. 16
Creating Web Pages (Dreamweaver; HTML; XML, Java, etc) ...................................... 17
Webcasts Used in Course During the Semester ........................................................ 17
Online Shopping ........................................................................................................... 17
Social Software .............................................................................................................. 17
Social Networks (Facebook; Friendster) ...................................................................... 18
General Preferences/Satisfaction with IT ...................................................................... 18
Preference for IT Use in Courses .................................................................................. 18
More Engaged When Required to Use Technology in Courses ...................................... 18
IT Helps Me Communicate/Collaborate Better with Classmates .................................. 19
IT Allows Me Greater Control of Course Activities than in Courses w/o ...................... 19
IT Use Results in More Prompt Feedback from Instructors ......................................... 19
Instructors Use IT Well ................................................................................................. 20
My School Needs to Give Me More IT Training ............................................................ 20
Using IT in Courses Helps Me Do Better Research ..................................................... 21
Most Valuable Benefits of Using IT in Courses ............................................................ 21
Use of IT in Courses Has Improved My Learning ........................................................ 21
Student Characteristics ............................................................................................... 21
Student Profiles ........................................................................................................... 23
Gender .......................................................................................................................... 23
Age ............................................................................................................................... 23
GPA ............................................................................................................................... 23
Residence ...................................................................................................................... 23
Disciplinary Major ....................................................................................................... 23
Family Income ............................................................................................................. 24
Other Categories .......................................................................................................... 24
Gaming .......................................................................................................................... 24
Computer Maintenance Skill Level .............................................................................. 25
Programming Languages ............................................................................................. 25
Discipline-Specific Technologies ................................................................................. 25
Eportfolios .................................................................................................................... 25
Highlights of Tufts Student Responses to *The ECAR Survey of Undergraduate Students and Information Technology, 2007*

This “Highlights” section provides a summary of interesting points where Tufts students’ responses diverge from those of their ECAR four-year institution peers. The “Key Findings” section that follows includes all relevant comparative data for Tufts Seniors and Tufts Freshmen alongside the ECAR four-year peer responses.

**Using the Web and other online resources for work, school, and recreation**

- Tufts students are online more hours per week than their ECAR peers at four-year institutions, reporting higher than average percentages for 16-25 hours, 26-35 hours, and 36-40+ hours of weekly time spent on online activities for school, work, and recreation.
- Tufts students are above the norm in frequency of wireless use for accessing the Internet. This includes both university wireless and commercial/public wireless. Tufts students report much higher rates of using the university-operated wired access to the Internet, likely because this is a residential college.
- Tufts students show a positive trend in their increasing creation of graphics, audio, and video and their self-reported skill in these technologies. They are more likely than the ECAR average to learn such skills for personal reasons, rather than because of high school or university course requirements.
- Tufts students report much higher than average rates of wiki access and use. They report comparable rates of blog access and use, except in the context of courses, where Tufts students are blogging slightly less than their peers.
- Tufts students report higher rates of using social networks frequently, including such environments as Facebook and Friendster. Tufts students, especially Tufts Seniors, report lower levels of non-participation than their ECAR peers. However, Tufts students report lower than average use of social networking tools in their courses as compared with ECAR four-year institution peers.
- Tufts students also report lower levels of experience with webcasting, likely because this is a residential college.
- Tufts Freshmen show a trend toward online shopping at levels above the average for their ECAR peers.

**Electronic device ownership and use**

- Tufts students are comparatively early and widescale adopters of cell phones and iPods, but not smart phones.
• Tufts Freshmen report a much higher than average usage of podcasting in courses (significant since Tufts Seniors were below average). One reason for the increase is the newly supported use of enhanced podcasts in introductory science courses.
• Tufts students own fewer gaming devices than their peers; however, Tufts Freshmen “game” online and offline at comparable frequency to their four-year peers. Tufts Seniors “game” less frequently as compared with Tufts Freshmen and with their ECAR peers.

Communication preferences
• A higher percentage of Tufts students than the ECAR four-year institution students average prefer email for official correspondence from the university (over paper, Web sites, text messaging, IM). It Since students prefer email to Web for university information, it is possible that the extra link from the official University Relations PostService emails to the full announcement on a Web site would be viewed by students as undesirable.
• A far lower percentage of Tufts Seniors than the ECAR average prefer that their university email accounts be used for communication from the university. Tufts Freshmen, however, report a comparable level of preference for use of their university email accounts for communication from the university.

Library and Research
• Tufts students, especially Seniors, report higher rates of frequent electronic access to library resources and comparably high levels of confidence in their skill with online library resources
• A much lower percentage of Tufts students agree or strongly agree that IT used in their courses helps them do better research, as compared with their ECAR peers. This lack of student perception that IT used in courses helps them to do better research suggests an opportunity for improved links between educational IT resources, including the CMS, and library resources specific to course research.

Media creation
• Tufts students report lower than average experience using HTML, XML and other Web page creation technologies, perhaps because of tools that enable Web presence without knowledge of HTML, such as SparkWikis and SparkBlogs, Facebook, etc.

Course Management System (CMS) usage and experience
• Tufts students report higher rates of having used a CMS, including during the semester of the survey, higher rates of weekly CMS access, and higher self-reported CMS skill levels.
Tufts Seniors report comparable satisfaction overall, and Tufts Freshmen report a more positive overall experience of the CMS.

- Tufts students have access to CMS tools at comparable or higher levels than their ECAR peers, but these tools are not yet integrated into course or educational contexts as frequently at Tufts.
- In terms of particular CMS tools and usefulness, Tufts students are more positive about the usefulness of online readings and links to text documents than their ECAR peers.
- Tufts Seniors find online discussions “useful or somewhat useful” at higher rates than both the ECAR average and Tufts Freshmen. Tufts students rated online discussions “extremely to very useful” at much lower rates than the ECAR average. Tufts students report slightly lower levels of use of the online discussions than ECAR average.
- Tufts students find access to sample exams and quizzes for learning more useful than the ECAR average. By contrast, Tufts students find taking online exams or quizzes for grades via the CMS much less useful than the ECAR average, which is likely correlated with the significantly lower rate of use that Tufts students report for these CMS features as compared with the ECAR average.
- Tufts students appear to be more critical than average of the CMS features that allow them to keep track of grades (Gradebook), turn in assignments (Digital Dropbox), receive assignments back from instructors with comments, and online sharing of materials among students. In each case, students are reporting less use of these features than the ECAR average, lower levels of finding these features “extremely to very useful,” and comparable to higher levels of finding the features “useful to somewhat useful.” For online sharing of materials among students via the CMS, the trend in perceived usefulness is going the wrong way at Tufts, with Freshmen perceiving less usefulness than Seniors. It’s possible that this is a result of the use of new tools, such as wikis, rather than the CMS, to facilitate students’ sharing of materials within a course.

**Use of IT in courses**

- Tufts students report higher rates than the ECAR averages of discipline-specific technologies (Mathematica, Matlab, SPSS, etc.) being used during the semester.
- Tufts students, especially Freshmen, report a slightly higher than average preference for the use of IT in their courses.
- Tufts students find “convenience” to be the most valuable benefit of using IT in courses, with Tufts Freshmen identifying this as the primary benefit at far higher percentage than both the ECAR four-year average and Tufts Seniors. Tufts students do not find that IT used in courses is as helpful for “managing course activities.” Tufts Freshmen rate “managing course activities” as less of a benefit than do Tufts Seniors, though both response rates are roughly comparable to ECAR four-year peers’. Tufts students disagree at higher rates than their peers on the question of whether IT “allows them greater control” of course activities than in courses without.
• Tufts Freshmen agree or strongly agree at comparable levels to the question of whether they’re more engaged when required to use technology in courses, whereas Tufts Seniors respond that they are not necessarily more engaged when required to use technology in courses. This trend may indicate an increased technology comfort among Freshmen, and it may also indicate increased skill among instructors in using technology effectively to engage students in courses.

• Similarly, Tufts Freshmen agree or strongly agree at comparable levels to the question of whether IT helps them communicate and/or collaborate better with classmates, whereas Tufts Seniors agree less and disagree more on this question.

• On the question of whether use of IT in courses has improved their learning, Tufts Seniors agreed or strongly agreed at a much lower rate than their ECAR peers, while Tufts Freshmen agreed or strongly agreed at a comparable rate. Tufts Seniors disagreed at a much higher rate than their ECAR peers, while, again, Tufts Freshmen disagreed at a comparable rate. The higher satisfaction of Tufts Freshmen with the use of IT in improving their learning is a positive trend at Tufts. We imagine this is related to the faculty teaching introductory level courses who are integrating IT in thoughtful ways to address educational challenges, and we want to support this trend through continued faculty development, instructional design consultation, and educational technology support.

• Tufts Freshmen find that use of IT in courses results in more prompt feedback from instructors at higher percentage than their peers. This represents a positive trend from Seniors to Freshmen at Tufts.

• Similarly, Tufts Freshmen perceive their instructors to be using IT well in their courses at much higher percentage than their peers, and this, too, represents a positive trend from Seniors to Freshmen at Tufts.

• Tufts Freshmen say they do not feel that the university needs to give them more IT training, whereas Tufts Seniors wanted the university to give them more IT training at slightly higher percentage than their peers. ECAR posits, and the other survey data also suggest, that the Freshmen prefer learning on their own and from peers, rather than via formal training. ECAR also posits that the students may not have time for training and/or that the institution’s training may not be perceived as effective.

• Comments in this IT training section of the survey analyzed by ECAR surfaced three major issues related to training and support overall among respondents: 1) Faculty themselves need more training on technologies relevant to their courses; 2) Instructors need to give students more training on technologies specifically required for their courses; and 3) problems with help desk availability, wait times, and fees. Since these issues were articulated in comments, we do not have data to determine whether Tufts students perceive these three issues as relevant at Tufts. Next year’s ECAR Study will provide participating institutions with their student comment data, so we could analyze comments for insight on these questions.

Student profile and characteristics
• Tufts students prefer to learn on their own at higher levels than peers.
• Tufts students self-rated much higher than their ECAR peers at the 3.5-4.0 GPA level and slightly higher at the 3.0-3.49 GPA level.
• Tufts students report much higher percentages of family income at the largest income brackets, and Tufts students report much lower percentages of family income in the lowest income brackets.
• A much higher percentage of Tufts Freshmen than their peer average are undecided about their majors. Life sciences majors are surprisingly lower for Tufts students than for peers, considering Tufts’ focus on Health Sciences. Not surprisingly, more Tufts students than average report majoring in social sciences and engineering, while fewer Tufts students report majoring in education than their peers. More Tufts students than average also report majoring in humanities disciplines.

**Other**

• Tufts students report comparable levels of “good to fair” computer maintenance skills (downloading software updates, installing additional memory, organizing files, etc.); however, they report lower levels of “excellent to very good” computer maintenance skills as compared with ECAR peers.
Key Findings on Tufts Student Responses to The ECAR Study of Undergraduate Students and Information Technology, 2007

This “Key Findings” section includes all relevant comparative data for Tufts Seniors and Tufts Freshmen alongside the ECAR four-year peer responses. These key findings are organized by category based on the survey instrument.

Computer Ownership – Laptop vs. Desktop

Laptop ownership leads personal desktop computer ownership overall with 73.7% of Total ECAR respondents reported owning a laptop. 61.5% of ECAR Senior respondents and 83% of ECAR Freshmen respondents report owning a laptop 4 years old or younger. 16% of ECAR Senior respondents and 63% off ECAR Freshmen respondents report owning a laptop less than a year old. With comparison to four-year institutions, less than half - 48% of Senior respondents and 41% of Freshmen respondents – report owning a personal desktop computer that is 4 years old or newer. Tufts students have an even lower rate of desktop computer ownership and a higher rate of laptop ownership. The majority of Tufts Freshmen own a laptop younger than 1 year old.

Laptops
- 85% of Tufts Seniors and 96.5% of Tufts Freshmen owned a laptop 4 years old or younger
- 24.5% of Seniors and 74.1% of Tufts Freshmen owned one less than a year old.

Desktops
- 20.5% of Tufts Seniors and 26.6% of Tufts Freshmen owned a desktop 4 years old or younger;
- 75.9% of Tufts Seniors and 62.6% of Tufts Freshmen did not own a personal desktop computer at all.

Bringing Laptops to Class

In terms of bringing laptops to class, 17.9% of ECAR Senior respondents and 19.6% of ECAR Freshmen respondents reported bringing their laptops to class at least weekly. 66.6% of ECAR Senior respondents and 60.1% of ECAR Freshmen respondents never bring their laptops to class. Tufts’ students are bringing their laptops to class more frequently than their peers.

- 21% of Tufts Seniors and 22.4% of Tufts Freshmen reported bringing their laptops at least once to class during the week.
- 57.3% of Tufts Seniors and 49.7% of Tufts Freshmen never bring their laptops to class.

Other Electronic Device Ownership

Cell Phones (without Web access)
86.7% of ECAR four-year institution Senior respondents and 85.9% of ECAR Freshmen respondents report owning simple cell phones. Tufts Seniors are comparable, but Tufts Freshmen have a 10% higher ownership rate of simple cell phones without Web access.
- 89.4% of Tufts Seniors; 95.9% of Tufts Freshmen

Personal Digital Assistants (PDAs)
Ownership of PDAs (Palm) appears on the decline among students. In 2006, 14.1% of all ECAR responders reported owning a PDA; now it is 8.9%. For Tufts' students, it is even lower.

- 6.7% of Tufts Seniors; 3% of Tufts Freshmen

Smart Phones (combination cell phone & PDA devices such as a BlackBerry)
The ownership of Smart Phones is increasing. More than 1 in 10 (12%) of all ECAR respondents report owning a Smart Phone. For early technology adopters, the number is nearly one-fifth or 18%. For four-year institutions, 22.7% of Seniors and 12.2% of Freshmen report owning Smart Phones. Tufts students show a lower rate of ownership.

- 10.2% of Tufts Seniors reported; 3% of Tufts Freshmen reported

iPods
72.9% of ECAR Senior respondents and 83.1% of ECAR Freshmen respondents report owning an iPod-type device. Tufts students show a higher rate of ownership.

- 84.2% of Tufts Seniors; 87.7% of Tufts Freshmen reported owning a device similar to an iPod

Downloading Media
37.9% of ECAR Senior respondents and 51.7% off ECAR Freshmen report downloading Web-based music or videos often (daily to weekly). Tufts students report slightly higher rates.

- 44.1% of Tufts Seniors; 55.2% of Tufts Freshmen

Podcasting
Despite the proliferation of iPod-type devices, only 4.5% of ECAR Seniors and 5.9% of ECAR Freshmen report podcasting being used in their course during the semester. Tufts Seniors report a much lower rate but Tufts Freshmen a much higher rate.

- 2.1% of Tufts Seniors; 15.8% of Tufts Freshmen

Communication

Email
Creating, reading and sending email daily.
89% of ECAR Senior respondents and 77% of ECAR Freshmen respondents create, read, and send email daily. Tufts students report creating, reading, and sending email at higher rates.

- 97.9% of Tufts Seniors; 96.6% of Tufts Freshmen

Preferred method of official communication from institution
87.5% of ECAR Senior respondents and 83.3% of ECAR Freshmen respondents prefer their universities using email over IM, text messaging, web site or paper mail. Tufts students prefer email at an even higher percentage.

- 93.7% of Tufts Seniors; 93.2% of Tufts Freshmen

Preferred email account for communication from your university
80% of ECAR Senior respondents and 87.9% of ECAR Freshmen respondents report preferring their university email account be used for communication from their university. A far lower percentage of Tufts Seniors (only about half) and a slightly lower percentage of Tufts Freshmen prefer their university accounts be used.

- University email: 51.4 % of Tufts Seniors; 82.4% of Tufts Freshmen
- Other email account: 48.6% of Tufts Seniors; 17.6% of Tufts Freshmen

Email used in courses
96.9% of ECAR Senior respondents and 96% of ECAR Freshmen report email being used in their courses during the semester. This is comparable with Tufts students' experience.
• 96.5% of Tufts Seniors; 98% of Tufts Freshmen

**Instant Messaging**

**Creating, reading and sending IM daily**
42.6% of ECAR Senior respondents and 59.2% of ECAR Freshmen respondents report using IM daily. Tufts Seniors report a much higher rate but Tufts freshmen report a slightly lower rate.

• 63.4% of Tufts Seniors; 52.4% of Tufts Freshmen

**Creating, reading and sending IM several times per week or weekly**
25.1% of ECAR Senior respondents and 23.2% of ECAR Freshmen respondents report using IM at least weekly. Tufts freshmen report a slightly higher rate.

• 24% of Tufts Seniors; 30.6% of Tufts Freshmen

**IM Used in Courses**
11.4% of ECAR Seniors and 17.3% of ECAR Freshmen report IM being used during the semester. This is higher than Tufts students' experience.

• 5.6% of Tufts Seniors; 5.4% of Tufts Freshmen

**Library**

**Uses electronic access to library resource or university library Web site**
46.4% of ECAR Senior respondents and 40.7% of ECAR Freshmen respondents report using electronic access to university library resources often (daily to weekly). Tufts Seniors report a much higher rate of usage and Tufts Freshmen are comparable to the ECAR four-year sample.

• Often (daily to weekly): 65.2% of Tufts Seniors; 45.3% of Tufts Freshmen

50% of ECAR Senior respondents and 50% of ECAR Freshmen respondents report rarely using electronic access to library resources (monthly and less). Again, Tufts Seniors use the library more often than the ECAR Senior norm but Tufts Freshmen are comparable.

• Rarely (monthly and less): 29.6% of Tufts Seniors; 51.3% of Tufts Freshmen

**Skill level with using online library resources**
51.8% of ECAR Senior respondents and 37.3% of ECAR Freshmen respondents report their online library skills being excellent to very good. Tufts Freshmen show a slightly higher assessment of their skills.

• Excellent to Very Good: 50.3% of Tufts Seniors; 41.3% of Tufts Freshmen

41.9% of ECAR Senior respondents and 52.9% of ECAR Freshmen respondents report a good to fair skill level. This is comparable with Tufts students.

• Good to Fair: 41.7% of Tufts Seniors; 52.7% of Tufts Freshmen

**Core Technology Use and Skills**

The ECAR data identifies a set of core technologies used regularly by the majority of respondents during the semester of the survey. These include email, Course Management Systems (CMS), course Web sites, spreadsheets, and presentation software. Tufts students report use levels similar to those of ECAR four-year respondents.

**Writing Electronic Documents (Word)**
90.1% of ECAR Senior respondents and 88.3% of ECAR Freshmen respondents report using an electronic device for writing documents for their coursework. Tufts Seniors report a comparable rate, and Tufts Freshmen report a higher rate of usage.

• Often (daily to weekly): 89.5% of Tufts Seniors; 96.6% of Tufts Freshmen
Spreadsheets (Excel)

Use
40.4% of ECAR Senior respondents and 23.3% of ECAR Freshmen respondents report using an electronic device to create spreadsheets at least weekly. Tufts Freshmen show a much higher rate of daily to weekly use.
- Often (daily to weekly): 43.6% of Tufts Seniors; 36.3% of Tufts Freshmen

Slightly more than a quarter of ECAR students report using electronic spreadsheets at least monthly: 25.8% of ECAR Senior respondents and 25.6% of ECAR Freshmen respondents
- Monthly: 23.9% of Tufts Seniors and 21.9% of Tufts Freshmen

22.2% of ECAR Senior respondents and 7.3% of ECAR Freshmen respondents report never using spreadsheet software.
- Never: 12% of Tufts Seniors; 11.6% of Tufts Freshmen

Skill level
50.8% of ECAR Senior respondents and 35.2% of ECAR Freshmen respondents report an excellent to very good skill level using spreadsheet software. Tufts students report a slightly higher skill level.
- Excellent to Very Good: 53.2% of Tufts Seniors; 43.2% of Tufts Freshmen

38.8% of ECAR Senior respondents and 44.5% of ECAR Freshmen respondents report a good to fair skill level. This is comparable to Tufts students.
- Good to Fair: 34.4% of Tufts Seniors; 44% of Tufts Freshmen

Reason for learning

High School requirement
36.8% of ECAR Senior respondents and 58% of ECAR Freshmen report learning spreadsheet software as a high school requirement. Tufts Seniors report a slightly higher level.
- 45.8% of Tufts Seniors; 58.8% of Tufts Freshmen

University or course requirement
28.1% of ECAR Senior respondents and 9.4% of ECAR Freshmen respondents report learning spreadsheet software as a university or course requirement. Tufts students report a lower level.
- 16.2% of Tufts Seniors; 8.8% of Tufts Freshmen

Personal Interest
9.4% of ECAR Senior respondents and 8.1% of ECAR Freshmen respondents report learning this software out of personal interest. This is comparable for Tufts Seniors, while Tufts Freshman report personal interest as the reason for learning at a higher percentage.
- 8.5% of Tufts Seniors; 13.5% of Tufts Freshmen

Used in courses this semester
56% of ECAR Seniors and 43.9% of ECAR Freshmen report spreadsheets being used during the semester. This is comparable to Tufts students' reported experience.
- Yes: 50.7% of Tufts Seniors; 45.2% of Tufts Freshmen
- No: 49.3% of Tufts Seniors; 54.8% of Tufts Freshmen

Presentation Software (Powerpoint; Keynote)

Daily to Weekly Use
20.5% of ECAR Senior respondents and 11.6% of ECAR Freshmen respondents report creating presentations often (daily to weekly). This is slightly higher than Tufts students.

- Often (daily to weekly): 16.4% of Tufts Seniors; 7.5% of Tufts Freshmen

**Monthly Use**
35.9% of ECAR Senior respondents and 30.1% of ECAR Freshmen respondents report creating presentations at least monthly. This is higher than Tufts students.

- 29.3% of Tufts Seniors; 21.1% of Tufts Freshmen

**Once a Semester**
32.7% of ECAR Senior respondents and 37.8% of ECAR Freshmen respondents report using presentation software once during the semester. Tufts Freshmen report much higher rates of using this software once during the semester.

- 32.1% of Tufts Seniors; 52.4% of Tufts Freshmen

**Never Used**
Only 4.8% of ECAR Senior respondents and 9.9% of ECAR Freshmen respondents report never using presentation software. Tufts Seniors show much higher rates of non-usage.

- 12.1% of Tufts Seniors; 9.5% of Tufts Freshmen

**Skill level**
63.2% of ECAR Senior respondents and 58% of ECAR Freshmen respondents report having excellent to very good skills with presentation software. Tufts Seniors report a slightly lower rate of competency.

- Excellent to Very Good: 56.4% of Tufts Seniors; 58.8% of Tufts Freshmen

30.8% of ECAR Senior respondents and 30.8% of ECAR Freshmen respondents report good to fair skills. Tufts students are comparable.

- Good to Fair: 31% of Tufts Seniors; 31.1% of Tufts Freshmen

**Reason for learning**
**High School requirement**
44.6% of ECAR Senior respondents and 73.1% of ECAR Freshmen respondents learned how to use presentation software in high school. This is comparable to Tufts students.

- 49.3% of Tufts Seniors; 72.3% of Tufts Freshmen

**University requirement**
34.6% of ECAR Senior respondents and 5.3% of ECAR Freshmen respondents learned how to use presentation software as a university or course requirement. Less than 20% of Tufts Seniors learned to use this software because of a course requirement. A slightly higher percentage of Tufts Freshmen than the ECAR four-year Freshmen report learning because of a university requirement.

- 19.7% of Tufts Seniors; 8.8% of Tufts Freshmen

**Personal Interest**
7.5% of ECAR Senior respondents and 7.9% of ECAR Freshmen respondents had personal reasons for learning to use presentation software. Tufts students report learning based on personal interest at a higher percentage.

- 11.3% of Tufts Seniors; 12.8% of Tufts Freshmen

**Used in courses this semester**
77.2% of ECAR Senior respondents and 63.1% of ECAR Freshmen respondents report presentation software (PowerPoint, Keynote) being used in their courses during the semester. This is comparable to Tufts students' experience.

- 72.5% of Tufts Seniors; 63.9% of Tufts Freshmen
Course Management Systems (CMS)

Taken a course using CMS
86.8% of ECAR Senior respondents and 78.1% of ECAR Freshmen respondents report having taken a course using CMS. Tufts students report higher rates.
• 94.4% of Tufts Seniors; 92.6% of Tufts Freshmen

Using a CMS in a course this semester
77.2% of ECAR Senior respondents and 78.2% of ECAR Freshmen respondents report using a CMS the semester of the survey. Tufts students report a higher rate of CMS use during the semester of the survey.
• 88.8% of Tufts Seniors; 88.5% of Tufts Freshmen

Rate of Accessing CMS
Daily: 22.5% of ECAR Senior respondents and 26.4% of ECAR Freshmen respondents report accessing their CMS daily. Tufts Seniors show a much lower rate of daily access, but Tufts Freshmen are comparable.
• 7.7% of Tufts Seniors; 28.4% of Tufts Freshmen

Weekly: 48.1% of ECAR Senior respondents and 46.1% of ECAR Freshmen respondents report accessing their CMS several times per week or weekly. Tufts students show a higher rate of weekly access.
• 67.5% of Tufts Seniors; 56.1% of Tufts Freshmen

Never: 13.8% of ECAR Senior respondents and 19.2% of ECAR Freshmen respondents report never accessing a CMS. Tufts Seniors are comparable, but fewer Tufts Freshmen report never accessing their CMS.
• 14.1% of Tufts Seniors; 13.5% of Tufts Freshmen

CMS Skill level
54% of ECAR Senior respondents and 46.3% of ECAR Freshmen respondents report excellent to very good skills using a CMS. Tufts Freshmen showed a higher skill level.
• Excellent to Very Good: 51.1% of Tufts Seniors; 54% of Tufts Freshmen

29.5% of ECAR Senior respondents and 31.7% of ECAR Freshmen respondents report good to fair CMS skill levels. This is comparable to Tufts students.
• Good to Fair: 33.6% of Tufts Seniors; 30.4% of Tufts Freshmen

14.9% of ECAR Senior respondents and 20.3% of ECAR Freshmen respondents report not using a CMS (no skill level report). Tufts Freshmen report a slightly lower percentage of non-use.
• Do not Use: 14.7% of Tufts Seniors; 15.5% of Tufts Freshmen

Overall Experience with CMS
76% of ECAR Senior respondents and 77.2% of ECAR Freshmen respondents report their overall CMS experience is very positive or positive. Less than 1 in 20 (4.6%) report a negative experience. Tufts Seniors show comparable satisfaction, but Tufts Freshmen are more positive.
• Very Positive or Positive: 78.2% of Tufts Seniors; 86.1% of Tufts Freshmen

5.4% of ECAR Senior respondents and 3.4% of ECAR Freshmen respondents report very negative or negative experiences using CMS. Tufts students report no “very negative” experiences and fewer negative experiences overall.
• Negative: 3% of Tufts Seniors; .7% of Tufts Freshmen

The following categories rate the usefulness of CMS features.
Online Syllabus

68.8% of ECAR Senior respondents and 63.7% of ECAR Freshmen respondents report online syllabi as being extremely to very useful. This is comparable to Tufts students.

- Extremely to Very Useful: 68.9% of Tufts Seniors; 66.4% of Tufts Freshmen

28.2% of ECAR Senior respondents and 31.7% of ECAR Freshmen respondents report online syllabi as being useful to somewhat useful. This is comparable to Tufts students.

- Useful to Somewhat Useful: 28.9% of Tufts Seniors; 27.7% of Tufts Freshmen

Online Readings/Links to Text Documents

63.1% of ECAR Senior respondents and 57.1% of ECAR Freshmen respondents report online readings and documents extremely to very useful. Tufts students are more positive about the usefulness of these resources.

- Extremely to Very Useful: 71.8% of Tufts Seniors; 66.2% of Tufts Freshmen

32.6% of ECAR Senior respondents and 35.5% of ECAR Freshmen respondents report these resources as useful to somewhat useful. Tufts students are comparable.

- Useful to Somewhat Useful: 33% of Tufts Seniors; 29.5% of Tufts Freshmen

Online Discussions

34.1% of ECAR Senior respondents and 30.8% of ECAR Freshmen respondents found online discussions extremely to very useful. This is much higher than Tufts students.

- Extremely to Very Useful: 17.8% of Tufts Seniors; 13.3% of Tufts Freshmen

41.9% of ECAR Senior respondents and 37.7% of ECAR Freshmen respondents found online discussions to be useful or somewhat useful. Tufts Seniors report a higher percentage in this category; Tufts Freshmen are comparable.

- Useful to Somewhat Useful: 53.3% of Tufts Seniors; 39.2% of Tufts Freshmen

12% of ECAR Senior respondents and 22.6% of ECAR Freshmen respondents did not use the CMS discussion tool. Tufts students show slightly higher rates of non-use.

- Did not use: 14.8% of Tufts Seniors; 28.9% of Tufts Freshmen

Access to Sample Exams and Quizzes for Learning

67.9% of ECAR Senior respondents and 67.2% of ECAR Freshmen respondents report access to sample exams and quizzes for learning as extremely to very useful. Tufts students are much more positive about the usefulness of these exams and quizzes. This is clearly one of the most favored uses of a CMS at Tufts, especially for Tufts Freshmen, who report higher levels of finding access to sample exams and quizzes extremely to very useful.

- Extremely to Very Useful: 70.4% of Tufts Seniors; 81.8% of Tufts Freshmen

18.9% of ECAR Senior respondents and 18.7% of ECAR Freshmen respondents report access to sample exams and quizzes for learning as useful to somewhat useful.

- Useful to Somewhat Useful: 18.5% of Tufts Seniors; 13.1% of Tufts Freshmen

Taking Online Exams or Quizzes for Grading

47.3% of ECAR Senior respondents and 45.4% of ECAR Freshmen respondents report taking online exams and quizzes for grading as extremely to very useful. This is in sharp contrast to Tufts students.

- Extremely to Very Useful: 6.7% of Tufts Seniors; 12.5% of Tufts Freshmen

27.3% of ECAR Senior respondents and 24.2% of ECAR Freshmen respondents report taking online graded quizzes and exams as useful to somewhat useful. Again Tufts students report lower levels of usefulness.

- Useful to Somewhat Useful: 14.9% of Tufts Seniors; 14.6% of Tufts Freshmen
Only 18.4% of ECAR Senior respondents and 25.6% of ECAR Freshmen respondents report this CMS feature not being used. Again the contrast with Tufts is sharp with far more Tufts students reporting that they are not taking online quizzes and exams for grading purposes in their CMS.

- Did Not Use: 72.4% of Tufts Seniors; 65% of Tufts Freshmen

**Keeping Track of Grades and Tests**

78.8% of ECAR Senior respondents and 77.4% of ECAR Freshmen respondents report the ability to keep track of grades on assignments and tests online as extremely to very useful. Fewer Tufts students found this useful.

- Extremely to Very Useful: 58.5% of Tufts Seniors; 61.3% of Tufts Freshmen

14.1% of ECAR Senior respondents and 15.3% of ECAR Freshmen respondents found this CMS feature to be useful to somewhat useful. Tufts students rated this feature higher in this category.

- Useful to Somewhat Useful: 26.7% of Tufts Seniors; 21.2% of Tufts Freshmen

Only 5.9% of ECAR Senior respondents and 6.5% of ECAR Freshmen respondents report this feature not being used. More Tufts students do not use the gradebook feature in their CMS.

- Did Not Use: 11.1% of Tufts Seniors; 16.8% of Tufts Freshmen

**Turning in Assignments Online**

58.7% of ECAR Senior respondents and 50.3% of ECAR Freshmen respondents report the ability to turn in assignments online as an extremely or very useful feature of their CMS. Tufts students, especially Tufts Freshmen, do not rate this feature as highly.

- Extremely to Very Useful: 46.6% of Tufts Seniors; 30.9% of Tufts Freshmen

26.4% of ECAR Senior respondents and 27.3% of ECAR Freshmen respondents report this feature as useful to somewhat useful. A higher percentage of Tufts students agreed.

- Useful to Somewhat Useful: 31.1% of Tufts Seniors; 32.4% of Tufts Freshmen

Only 10.7% of ECAR Senior respondents and 18.2% of ECAR Freshmen respondents report not using this feature. Tufts students report higher rates of not using this CMS feature.

- Did Not Use: 20% of Tufts Seniors; 32.4% of Tufts Freshmen

**Getting Assignments Back from Instructors with Comments and Grades**

46.1% of ECAR Senior respondents and 40.6% of ECAR Freshmen respondents report getting assignments back from instructors with comments and grades as extremely to very useful. This is a much higher percentage than Tufts students.

- Extremely to Very Useful: 20.2% of Tufts Seniors; 21.9% of Tufts Freshmen

22.6% of ECAR Senior respondents and 22% of ECAR Freshmen respondents report this feature as useful to somewhat useful. Again this is higher than Tufts students.

- Useful to Somewhat Useful: 16.4% of Tufts Seniors; 13.8% of Tufts Freshmen

25.5% of ECAR Senior respondents and 33.1% of ECAR Freshmen respondents report this CMS feature as not used. Tufts students report a much higher rate of non-use.

- Did Not Use: 59.7% of Tufts Seniors; 62% of Tufts Freshmen
Online Sharing of Materials Among Students
38.2% of ECAR Senior respondents and 31.2% of ECAR Freshmen respondents report online sharing of materials among students as extremely to very useful. This is much higher than Tufts students report.
• Extremely to Very Useful: 13.2% of Tufts Seniors; 16% of Tufts Freshmen

29% of ECAR Senior respondents and 27% of ECAR Freshmen respondents report this feature as useful to somewhat useful. Tufts Seniors agree, but Tufts Freshmen show a lower response.
• Useful to Somewhat Useful: 31.9% of Tufts Seniors; 14.7% of Tufts Freshmen

26.9% of ECAR Senior respondents and 37.8% of ECAR Freshmen respondents report not using this feature. Tufts students a much higher rate of non-use.
• Did Not Use: 51.1% of Tufts Seniors; 65.7% of Tufts Freshmen

Course Web Site
57.4% of ECAR Seniors and 65.9% of ECAR Freshmen report using a Course Web Site the semester of the survey. This is much higher than Tufts students.
• Yes: 37.1% of Tufts Seniors; 48.6% of Tufts Freshmen
• No: 62.9% of Tufts Seniors; 51.4% of Tufts Freshmen

Media Creation

Graphics
Creating Graphics with Electronic Device (Photoshop, Flash, etc.)
18.7% of ECAR Senior respondents and 19.8% of ECAR Freshmen respondents report creating graphics using software often (daily to weekly). This is slightly higher than Tufts students.
• Often (daily to weekly): 15% of Tufts Seniors; 14.9% of Tufts Freshmen

43.6% of ECAR Senior respondents and 42.7% of ECAR Freshmen respondents report creating graphics with software monthly to once per semester. This is comparable to Tufts students.
• Monthly to once per semester: 42.1% of Tufts Seniors; 45.9% of Tufts Freshmen

27.2% of ECAR Senior respondents and 27.3% of ECAR Freshmen respondents report never using graphics software. Tufts Freshmen report comparable non-use but Tufts Seniors non-use is higher.
• Never: 36.4% of Tufts Seniors; 26.4% of Tufts Freshmen

Skill level
18.8% of ECAR Senior respondents and 21.7% of ECAR Freshmen respondents report excellent to very good skill levels in using graphics software. This is comparable with Tufts students.
• Excellent to Very Good: 18.2% of Tufts Seniors; 20.4% of Tufts Freshmen

43% of ECAR Senior respondents and 41.2% of ECAR Freshmen respondents report good to fair skill levels with graphics software. Tufts Seniors report less skill at this level, but Tufts Freshmen are comparable.
• Good to Fair: 33.6% of Tufts Seniors; 40.8% of Tufts Freshmen

Reason to Learn
39% of ECAR Senior respondents and 41.5% of ECAR Freshmen respondents report learning graphics software for personal reasons. This is comparable to Tufts with a slightly higher rate of Tufts Freshmen learning for this reason.
• Personal Interest: 32.9% of Tufts Seniors; 48.6% of Tufts Freshmen
7% of ECAR Senior respondents and 15.9% of ECAR Freshmen respondents learned how to use graphics software as a high school requirement. This is higher than Tufts students report.

- High School requirement: 4.9% of Tufts Seniors; 10.8% of Tufts Freshmen

10% of ECAR Senior respondents and 2% of ECAR Freshmen respondents report learning graphics software for a university course requirement. This is higher than Tufts students report.

- University requirement: 5.6% of Tufts Seniors; 1.4% of Tufts Freshmen

37.8% of ECAR Senior respondents and 36.9% of ECAR Freshmen respondents do not use graphics software. Tufts Seniors report a higher level of non-use, but Tufts Freshmen are comparable.

- Do Not Use: 49.7% of Tufts Seniors; 36.5% of Tufts Freshmen

**Used in courses**
13.2% of ECAR Seniors and 10.5% of ECAR Freshmen report graphics software being used in their courses during the semester. This is slightly higher than Tufts students report.

- Using this semester: 9.1% of Tufts Seniors; 7.5% of Tufts Freshmen

**Audio & Video**

**Creating audio or video files**
4.1% of ECAR Senior respondents and 5% of ECAR Freshmen respondents report creating audio or videos with software (Director, iMovie) often (daily to weekly). Tufts Seniors report a lower level, while Tufts Freshmen report a comparable level.

- Often (daily to weekly): 2.8% of Tufts Seniors; 4.8% of Tufts Freshmen

68.1% of ECAR Senior respondents and 65.5% of ECAR Freshmen respondents report never creating audio or video files with software. Tufts students report slightly higher levels.

- Never: 73.4% of Tufts Seniors; 68% of Tufts Freshmen

**Skill level**
7.9% of ECAR Senior respondents and 9.7% of ECAR Freshmen respondents report excellent to very good skills in creating audio or video files with software such as Director or iMovie. Tufts Freshmen report a higher rate of skill.

- Excellent to Very Good: 4.9% of Tufts Seniors; 12.9% of Tufts Freshmen

69.8% of ECAR Senior respondents and 67.3% of ECAR Freshmen respondents do not use this software. Tufts Seniors report a higher rate of non-use, Tufts Freshmen report comparable levels of non-use.

- Do Not Use: 76.9% of Tufts Seniors; 68.29% of Tufts Freshmen

**Reason to Learn**
17.7% of ECAR Senior respondents and 19.8% of ECAR Freshmen respondents report learning to use video or audio software for personal reasons. This is the most popular reason and is comparable to what Tufts students report.

- Personal: 15.4% of Tufts Seniors; 19.6% of Tufts Freshmen

**Used in courses during the current semester**
6.8% of ECAR Seniors and 6.3% of ECAR Freshmen report video or audio software being used during the semester. This is higher than Tufts students report.

- 5.6% of Tufts Seniors; 4.1% of Tufts Freshmen

**Using the Web**

**Hours spent on online activities for school, work, and recreation**
Overall ECAR respondents report spending an average of 18 hours per week actively doing online activities for work, school, or recreation. This number represents all respondents, including community college.

Despite the popular notion that students are constantly online using the Web, only 19% of ECAR Senior respondents and 18% of ECAR Freshmen respondents report being online from 26 to 40+ hours a week. Tufts students are online more often in this category: 28% of Tufts Seniors and 23.8% of Tufts Freshmen.

6-15 hours
45.5% of ECAR Seniors; 44.3% of ECAR Freshmen respondents
32.2% of Tufts Seniors; 43.5% of Tufts Freshmen
This is a lower level for Tufts Seniors and a comparable level for Tufts Freshmen.

16-25 hours
23.7% of ECAR Senior respondents and 21.3% of ECAR Freshmen respondents
35% of Tufts Seniors; 26.5% of Tufts Freshmen
Tufts students report higher levels at this frequency of Web use.

26-35 hours
9.5% of ECAR Senior respondents and 8.4 % of ECAR Freshmen respondents
14.7% of Tufts Seniors; 12.3% of Tufts Freshmen
Tufts students report higher levels at this frequency of Web use.

26-40+ hours
9.5% of ECAR Senior respondents and 9.6 % of ECAR Freshmen respondents
13.3% of Tufts Seniors; 11.5% of Tufts Freshmen
Tufts students report higher levels at this frequency of Web use.

Frequent method for accessing Internet
Wireless as the first line of contact is increasing, with 21.8% of all ECAR respondents now using this as their primary Internet connection. Overall, wireless connectivity has increased in the study from 12.4% in 2005 to 24% in 2007. These percentages are slightly higher for ECAR 4-year university respondents: 20.7% of ECAR 4-year university Senior respondents and 23.6% of ECAR 4-year university Freshmen respondents. Tufts Seniors are above the norm in frequency of wireless use for accessing the Internet at 30.8%.

Wireless: Commercial Network
12.5% of ECAR Senior respondents and 5.5% of ECAR Freshmen respondents most frequently use a commercial wireless network for access to the Internet. Tufts Seniors report almost twice the rate of accessing the Internet through commercial wireless.
  • 23.8% of Tufts Seniors; 0.7% of Tufts Freshmen

Wireless: University-Operated Network
8.2% of ECAR Senior respondents and 18.1% of ECAR Freshmen respondents most frequently use the wireless university network to access the Internet. This is higher than Tufts students.
  • 7% of Tufts Seniors; 11.5% of Tufts Freshmen

Wired: Commercial Broadband (DSL modem, cable modem)
49.9% of ECAR Senior respondents and 15.4% of ECAR Freshmen respondents most frequently used commercial wired access. This is much higher than Tufts students report.
  • 30.8% of Tufts Seniors; 1.4% of Tufts Freshmen

Wired: University-Operated
22.7% of ECAR Senior respondents and 51% of ECAR Freshmen respondents most frequently used the wired Internet access provided by the university. Tufts students report much higher rates of using the university wired access.

- 35.7% of Tufts Seniors; 83.8% of Tufts Freshmen (residential dorms)

Creating Web Pages (Dreamweaver; HTML; XML, Java, etc)

Students are rarely creating Web pages with software such as Dreamweaver or by learning HTML, XML, or Java. 65.9% of ECAR Senior respondents and 76% of ECAR Freshmen respondents report never creating Web pages. An even larger percentage of Tufts students report never creating Web pages.

- Never: 76.6% of Tufts Seniors; 80.8% of Tufts Freshmen

Only 20.3% of ECAR Senior respondents and 13.9% of ECAR Freshmen respondents report creating a Web page at least once a semester using this type of software or coding. This is higher than Tufts students report.

- At least once a semester: 12% of Tufts Seniors; 9.6% of Tufts Freshmen

Webcasts Used in Course During the Semester

4.2% of ECAR Seniors and 4.4% of ECAR Freshmen report Webcasts being used during the semester. This is higher than Tufts students' experience.

- 2.1% of Tufts Seniors; 1.4% of Tufts Freshmen

Online Shopping

Monthly

41.7% of ECAR Senior respondents and 32.3% of ECAR Freshmen respondents report shopping online monthly. Tufts Freshmen report a much higher percentage.

- Monthly: 45.7% of Tufts Seniors; 45.2% of Tufts Freshmen

Once per semester

28.8% of ECAR Senior respondents and 25.7% of ECAR Freshmen respondents report shopping online once per semester. Again Tufts Freshmen report a higher percentage.

- Once per semester: 27.1% of Tufts Seniors; 33.6% of Tufts Freshmen

Social Software

Wikis

Wikis have now “taken off” with 41.7% of all ECAR respondents accessing or using a wiki weekly.

Frequent Access or Use (Daily, several times per week, or weekly)

23.1% of ECAR Senior respondents and 22.3% of ECAR Freshmen respondents report accessing or using a wiki frequently. Tufts students report much higher rates of use and access.

- 45.1% of Tufts Seniors; 56.9% of Tufts Freshmen

Never Accessed or Used a Wiki

57.8% of ECAR Senior respondents and 57.5% of ECAR Freshmen respondents report never having accessed or used a wiki. This is much lower for Tufts students.

- 35.2% of Tufts Seniors; 26% of Tufts Freshmen

Blogging (Individual)

Frequent (Daily, several times per week, or weekly)

9.4% of ECAR Senior respondents and 11.2% of ECAR Freshmen respondents report blogging frequently. Tufts students show comparable rates of blogging.

- 9.1% of Tufts Seniors; 11.6% of Tufts Freshmen
Never Blogged
72.9% of ECAR Senior respondents and 70.6% of ECAR Freshmen respondents report never having blogged. Tufts students show a slightly higher rate of never blogging.
  • 76.9% of Tufts Seniors; 76% of Tufts Freshmen

Blogging Use in Courses
7.9% of ECAR Seniors and 9.9% of ECAR Freshmen report blogs being used in their courses during the semester. This is higher than Tufts students report.
  • 6.4% of Tufts Seniors; 7.6% of Tufts Freshmen

Social Networks (Facebook; Friendster)
Frequent Access or Use (Daily, several times per week, or weekly)
68.5% of ECAR Senior respondents and 89.6% of ECAR Freshmen respondents frequently access an online social network. Tufts students report higher rates of use.
  • 84.6% of Tufts Seniors; 95.2% of Tufts Freshmen

Never participate
22.2% of ECAR Senior respondents and 7.3% of ECAR Freshmen respondents report never participating. Tufts students report lower rates of non-participation.
  • 7.7% of Tufts Seniors; 3.4% of Tufts Freshmen

Used in Courses
16.9% of ECAR Seniors and 27.3% of ECAR Freshmen report social networks being used in their courses during the semester. This is higher than Tufts students’ experience.
  • 10.6% of Tufts Seniors; 10.2% of Tufts Freshmen

General Preferences/Satisfaction with IT
Preference for IT Use in Courses
Moderate Use
58.3% of ECAR Senior respondents and 61.4% of ECAR Freshmen respondents prefer a moderate amount of IT in their courses. This is comparable to Tufts students with Tufts Freshmen reporting a slightly higher percentage.
  • 61.5% of Tufts Seniors; 66.2% of Tufts Freshmen

Extensive Use
26.1% of ECAR Senior respondents and 19% of ECAR Freshmen respondents prefer courses that use IT extensively or exclusively. This is slightly lower for Tufts Seniors and comparable for Tufts Freshmen.
  • 21% of Tufts Seniors; 20.3% of Tufts Freshmen

Limited or No Use
15.5% of ECAR Senior respondents and 19.6% of ECAR Freshmen respondents prefer limited or no use of IT in their courses. Tufts Seniors report a comparable preference, while Tufts Freshmen report less preference for no use.
  • 17.5% of Tufts Seniors; 13.5% of Tufts Freshmen

More Engaged When Required to Use Technology in Courses
Agree/Strongly Agree
43.8% of ECAR Senior respondents and 37.4% of ECAR Freshmen respondents strongly agreed or agreed that they are more engaged in courses that require them to use technology than in courses that don’t. This is much higher than Tufts Seniors but only slightly higher than Tufts Freshmen.
• 27.3% of Tufts Seniors; 32.5% of Tufts Freshmen

Disagree/Strongly Disagree
29.7% of ECAR Senior respondents and 21.5% of ECAR Freshmen respondents didn’t agree with this statement. This was comparable to Tufts students’ response.
• 26.6% of Tufts Seniors; 26.4% of Tufts Freshmen

Neutral
36.6% of ECAR Senior respondents and 41% of ECAR Freshmen respondents were neutral in terms of engagement and IT use. Tufts Seniors were more neutral.
• 46.2% of Tufts Seniors; 41.2% of Tufts Freshmen

IT Helps Me Communicate/Collaborate Better with Classmates
Agree/Strongly Agree
62.6% of ECAR Senior respondents and 55.7% of ECAR Freshmen respondents thought the use of IT in their courses helped them better communicate and collaborate with their classmates than in courses that did not use technology. Tufts Seniors reported a lower percentage of agreement.
• 49% of Tufts Seniors; 52.7% of Tufts Freshmen

Disagree/Strongly Disagree
13.1% of ECAR Senior respondents and 14% of ECAR Freshmen respondents strongly disagreed or disagreed that IT used in courses helped communication and collaboration with their peers. A higher percentage of Tufts Seniors disagreed or strongly disagreed, but Tufts Freshmen report comparable levels of disagreement.
• 21% of Tufts Seniors; 16.3% of Tufts Freshmen

Neutral
24.3% of ECAR Senior respondents and 30.4% of ECAR Freshmen respondents were neutral as to the effect of IT on peer communication and collaboration in courses. Seniors are more neutral, but Freshman are comparably neutral on this question.
• 30.1% of Tufts Seniors; 31.1% of Tufts Freshmen

IT Allows Me Greater Control of Course Activities than in Courses w/o
Agree/Strongly Agree
59.7% of ECAR Senior respondents and 60.3% of ECAR Freshmen respondents thought the use of IT in their courses gave them greater control of their course activities than courses that did not use IT. This was higher than Tufts students.
• 46.9% of Tufts Seniors; 50.3% of Tufts Freshmen

Disagree/Strongly Disagree
13% of ECAR Senior respondents and 9.9% of ECAR Freshmen respondents disagreed. Again Tufts students reported higher percentages of disagreement.
• 18.9% of Tufts Seniors; 15% of Tufts Freshmen

Neutral
27.3% of ECAR Senior respondents and 29.8% of ECAR Freshmen respondents were neutral. A higher percentage of Tufts students responded neutrally to this question.
• 34.3% of Tufts Seniors; 34.7% of Tufts Freshmen

IT Use Results in More Prompt Feedback from Instructors
Agree/Strongly Agree
74.4% of ECAR Senior respondents and 73.9% of ECAR Freshmen respondents agreed. Tufts Seniors were slightly lower in agreement, while Tufts Freshmen were slightly higher.
  • 64.8% of Tufts Seniors; 77% of Tufts Freshmen

Disagree/Strongly Disagree
23.7% of ECAR Senior respondents and 28.9% of ECAR Freshmen respondents disagreed. Tufts students reported less disagreement on this question.
  • 12% of Tufts Seniors; 10.2% of Tufts Freshmen

Neutral
15.9% of ECAR Senior respondents and 8.8% of ECAR Freshmen respondents. Tufts students were more neutral on this question.
  • 23.2% of Tufts Seniors; 12.8% of Tufts Freshmen

Instructors Use IT Well
Agree/Strongly Agree
58% of ECAR Senior respondents and 57.7% of ECAR Freshmen respondents thought their instructors used IT well. Tufts Freshmen agree at a much higher percentage.
  • 50% of Tufts Seniors; 70.9% of Tufts Freshmen

Disagree/Strongly Disagree
14.9% of ECAR Senior respondents and 12.2% of ECAR Freshmen respondents disagreed. Tufts Seniors disagreed more often, while Tufts Freshmen disagreed less often.
  • 21.8% of Tufts Seniors; 8.1% of Tufts Freshmen

Neutral
26.1% of ECAR Senior respondents and 30.1% of ECAR Freshmen respondents were neutral. Tufts Freshmen were less neutral and more positive.
  • 28.2% of Tufts Seniors; 20.9% of Tufts Freshmen

Note that 41% of ECAR Senior respondents and 50% of Tufts Senior respondents had neutral to negative opinions about their instructors using IT well. 32.3% of ECAR Freshmen respondents and 29% of Tufts Freshman respondents had neutral to negative opinions about their instructors using IT well.

My School Needs to Give Me More IT Training
ECAR respondents generally gave themselves relatively high marks for their technology skills and disagreed or were neutral about their schools providing them more IT training.

Disagree or Neutral
71.3% of ECAR Senior respondents and 76.9% of ECAR Freshmen respondents. Tufts Freshmen reported less disagreement and less neutrality.
  • 78.4% of Tufts Seniors; 43.4% of Tufts Freshmen

The ECAR report offers various reasons for this “lackluster interest in institutional training.”
  • Students prefer learning from others instead of formal training.
  • Their institution’s training is not effective.
  • They don’t have enough time for training.

Analysis of respondents’ written comments surfaced three major issues about training and support:
  • The need for an instructor to give students more training on technologies specifically required for a course.
• The need for faculty themselves to get more training.
• Problems with help desk availability, wait times and fees.

**Using IT in Courses Helps Me Do Better Research**

**Agree/Strongly Agree**
72.1% of ECAR Senior respondents and 69.5% of ECAR Freshmen respondents think using IT helps them do better research. This is higher than Tufts students.
• 46.9% of Tufts Seniors; 50.3% of Tufts Freshmen

**Disagree/Strongly Disagree**
7.9% of ECAR Senior respondents and 6.6% of ECAR Freshmen respondents did not agree. Tufts students report slightly more disagreement on this question.
• 11.2% of Tufts Seniors; 8.8% of Tufts Freshmen

**Neutral**
20.1% of ECAR Senior respondents and 23.9% of ECAR Freshmen respondents remained neutral. Tufts levels of neutrality are comparable.
• 23.1% of Tufts Seniors; 29.7% of Tufts Freshmen

**Most Valuable Benefits of Using IT in Courses**

**Convenience** *(This is the clear winner)*
57.3% of ECAR Senior respondents and 54.2% of ECAR Freshmen respondents thought convenience was the most valuable benefit of using IT in their courses. Tufts Freshmen rated convenience even higher.
• 57% of Tufts Seniors; 71.9% of Tufts Freshmen

**Manage Course Activities**
18.9% of ECAR Senior respondents and 21.1% of ECAR Freshmen respondents chose this benefit. Tufts Seniors were comparable, whereas Tufts Freshmen chose this benefit at lower levels.
• 21.1% of Tufts Seniors; 15.1% of Tufts Freshmen

**Use of IT in Courses Has Improved My Learning**

**Agree/Strongly Agree**
64.1% of ECAR Senior respondents and 57.2% of ECAR Freshmen respondents agreed that IT use in their courses improved their learning. Tufts student agreement on this question was lower.
• 52.2% of Tufts Seniors; 55.2% of Tufts Freshmen

**Disagree/Strongly Disagree/Neutral**
35.9% of ECAR Senior respondents and 42.8% of ECAR Freshmen respondents disagreed or were neutral. Tufts Seniors reported higher levels of disagreement and neutrality, while
• 46.9% of Tufts Seniors; 44.9% of Tufts Freshmen

**Student Characteristics**

**IT Innovators & Early Adopters**
36.9% of ECAR Senior respondents and 34.8% of ECAR Freshmen respondents described themselves as among the first to try new technologies. Tufts students reported similar rates with Tufts Freshmen self-reporting as IT innovators and early adopters at a slightly higher percentage.
• 35% of Tufts Seniors; 39.8% of Tufts Freshmen

**IT Mainstream Adopters**
49.9% of ECAR Senior respondents and 52.9% of ECAR Freshmen respondents described themselves as using new technologies when most other people had used them. Tufts students reported similar rates.

- 53.1% of Tufts Seniors; 53.4% of Tufts Freshmen

Learn Best Alone
35.4% of ECAR Senior respondents and 31.5% of ECAR Freshmen respondents learned best alone. Tufts students reported higher rates.

- 41.8% of Tufts Seniors; 37.2% of Tufts Freshmen

Learn Best With Others
14% of ECAR Senior respondents and 15.1% of ECAR Freshmen respondents learned best with others. Tufts Seniors reported a lower percentage and Tufts Freshman reported a slightly lower percentage of learning best with others.

- 9.2% of Tufts Seniors; 13.5% of Tufts Freshmen

Learn best equally well with both
48.5% of ECAR Senior respondents and 49.1% of ECAR Freshmen respondents learned best equally well alone or with others. Tufts students were comparable.

- 45.4% of Tufts Seniors; 45.3% of Tufts Freshmen

How do you like to learn
It is not surprising that most respondents now like to learn by doing Internet searches (72%), but of greater interest is that about one-third of respondents like to learn through either text-based conversations (35.1%) or contributing to Web sites (32.6%).

Tufts students, however, expressed fewer preferences for those methods of learning. A majority students from 4-year institutions (53.3%) like learning through programs they can control (video games; simulations.) Tufts Freshmen indicate a similar preference. Educators internationally are currently pursuing the deployment and use of digital game-based learning to meet this demand.

By running Internet Searches (Highest Preference for how students like to learn)
75.8% of ECAR Senior respondents and 67.5% of ECAR Freshmen respondents agreed. Tufts students reported comparable percentages.

- 72.9% of Tufts Seniors; 68% of Tufts Freshmen

Text-based conversation (email, IM, text messaging)
37% of ECAR Senior respondents and 33.2% of ECAR Freshmen respondents prefer this method of learning. This is higher than Tufts students.

- 25% of Tufts Seniors; 28.3% of Tufts Freshmen

Through contributing to Web sites, blogs, wikis.
32.9% of ECAR Senior respondents and 32.6% of ECAR Freshmen respondents preferred learning through these contributions. This is higher than Tufts Seniors’ preference, but similar to Tufts Freshmen’s preference.

- 22% of Tufts Seniors; 31.3% of Tufts Freshmen

Through programs I can control (video games; simulations)
53.1% of ECAR respondents enjoy learning this way. This is much higher than Tufts Seniors preference, but comparable to the level of Tufts Freshmen preference.

Yes: 38.4% of Tufts Seniors; 51% of Tufts Freshmen
Student Profiles

Gender
61.8% of ECAR Senior respondents and 62.3% of ECAR Freshmen respondents were female. 38.2% of ECAR Senior respondents and 37.7% of ECAR Freshmen respondents were male. Tufts student respondents were similar in terms of gender.
• Female: 63.8% of Tufts Seniors; 57.8% of Tufts Freshmen
• Male: 36.2% of Tufts Seniors; 42.2% of Tufts Freshmen

Age
Seniors: 20-24 98.6%; Freshmen: 18-19 96.6%

GPA
3.00-3.49
36.8% of ECAR Seniors and 33.1% of ECAR Freshmen reported this GPA range. Very similar percentages of Tufts students self-report in this GPA range, with slightly higher percentage of Tufts Freshman reporting themselves in this range.
37.4% of Tufts Seniors; 37% of Tufts Freshmen

3.5 – 4.0
40% of ECAR Seniors and 33% of ECAR Freshmen reported this GPA range. A much higher percentage of Tufts students self-report in this GPA range.
56.1% of Tufts Seniors; 54% of Tufts Freshmen

Residence
A higher percentage of Tufts Seniors (40.8%) live on campus than the 22.9% on campus ECAR norm. A lower percentage of Tufts Freshmen (.7%) live off campus than the 20.3% ECAR norm.
On campus
40.8% of Tufts Seniors; 99.3% of Tufts Freshmen
Off campus
59.2% of Tufts Seniors; 0.7% of Tufts Freshmen

Disciplinary Major
ECAR does not divide Senior and Freshmen percentages for each Major. The largest differences between the overall ECAR respondents and Tufts are in the Social Sciences, Humanities and Engineering, where Tufts students have a much higher percentage and in Business and Education where Tufts is much lower due to a lack of a business school or undergraduate education major. Interestingly, about a quarter of Tufts Freshmen are Undecided as to their major compared to only 6.9% of ECAR respondents.

Social Sciences
23% of ECAR Senior respondents and 15% of ECAR Freshmen respondents
• 51% of Tufts Seniors; 61.5% of Tufts Freshmen

Humanities
12.3% of ECAR Senior respondents and 8.4% of ECAR Freshmen respondents
• 28% of Tufts Seniors; 25.7% of Tufts Freshmen

Fine Arts
8.4% of ECAR Senior respondents and 8.8% of ECAR Freshmen respondents
• 6.3% of Tufts Seniors; 11.5% of Tufts Freshmen
Life sciences (includes health sciences)
14.8% of ECAR Senior respondents and 17.8% of ECAR Freshmen respondents
   • 9.1% of Tufts Seniors; 14.9% of Tufts Freshmen

Physical sciences
7% of ECAR Senior respondents and 8.2% of ECAR Freshmen respondents
   • 12.6% of Tufts Seniors; 10.1% of Tufts Freshmen

Engineering
9.4% of ECAR Senior respondents and 9.7% of ECAR Freshmen respondents
   • 18.2% of Tufts Seniors; 23% of Tufts Freshmen

Business
18% of ECAR Senior respondents and 19.2% of ECAR Freshmen respondents
   • 1.4% of Tufts Seniors; 4.1% of Tufts Freshmen

Education
13.8% of ECAR Senior respondents and 12.2% of ECAR Freshmen respondents
   • Tufts does not have an undergraduate Education major.

Undecided as to Major:
6.9% ECAR Freshmen
   • Tufts Freshmen 25.7%

Family Income
ECAR four-year institution respondents report much higher percentages in the lower income ranges than Tufts students. Whereas only 18.2% of Tufts Seniors and only 15.7% of Tufts Freshmen report family incomes below $74,999, ECAR respondents report 44.8% of Seniors and 31.6% of Freshmen.

   • Less than $30K: 2.8% of Tufts Seniors; 7.5% of Tufts Freshmen
   • $30K to $74,999: 15.4% of Tufts Seniors; 8.2% of Tufts Freshmen

In this moderate family income range, ECAR four-year institution respondents report similar percentages in comparison to Tufts students: 20.9% of Seniors and 21% of Freshmen.

   • $75K to $149,999: 21% of Tufts Seniors; 20.4% of Tufts Freshmen

Not surprisingly, the largest difference between Tufts students and ECAR four-year institution respondents is in the $150K or more family income range. ECAR respondents report 7.9% of Seniors and 8.5% of Freshmen family income in this category.

   • $150K or more: 21.7% of Tufts Seniors; 15.6% of Tufts Freshmen

27.4% of ECAR four-year Seniors decline to report or don’t know their family income; 38.9% of ECAR four-year Freshmen also provide no family income information. Tufts percentages are higher in this category.

   • Decline to answer: 16.1% of Tufts Seniors; 21.1% of Tufts Freshmen
   • Don't Know: 23.1% of Tufts Seniors; 27.2% of Tufts Freshmen

Other Categories

Gaming
Ownership of electronic game devices (Gameboy, Xbox)
51.1% of ECAR Seniors and 62.1% of ECAR Freshmen report owning an electronic game device. This is a higher rate of ownership than Tufts students report.
   • Own: 33.1% of Tufts Seniors; 44.6% of Tufts Freshmen
48.9% of ECAR Seniors and 37.9% of ECAR Freshmen report NOT owning an electronic game device. This is lower than Tufts students report.

- Do Not Own: 66.9% of Tufts Seniors; 55.4% of Tufts Freshmen

Playing computer games (online and offline)
36.1% of ECAR Seniors and 45.7% of ECAR Freshmen report playing computer games at least weekly (daily, several times per week, weekly) online or offline. This is a higher rate than for Tufts Seniors, but comparable for Tufts Freshmen.

- 26.7% of Tufts Seniors; 46.9% of Tufts Freshmen

**Computer Maintenance Skill Level**
(downloading software updates; installing additional memory, organizing files)

Excellent to Very Good
43.5% of ECAR Seniors and 40.3% of ECAR Freshmen report excellent to very good skill levels in computer maintenance. This is higher than Tufts students report.

- 35.9% of Tufts Seniors; 39.2% of Tufts Freshmen

Good to Fair
44.1% of ECAR Seniors and 47.3% of ECAR Freshmen report good to fair levels in computer maintenance. Tufts students report higher levels in this category.

- 52.8% of Tufts Seniors; 52.7% of Tufts Freshmen

**Programming Languages**
10.9% of ECAR Seniors and 11.9% of ECAR Freshmen report Programming Languages being used during the semester. This is comparable to Tufts students' experience.

Used in Courses this semester

- 7.7% of Tufts Seniors; 12.9% of Tufts Freshmen

**Discipline-Specific Technologies**
(Mathematica, Matlab, Stella, AutoCAD)
19.3% of ECAR Seniors and 18.1% of ECAR Freshmen report discipline-specific technologies being used during the semester. This is lower than Tufts students' experience.

- 23.8% of Tufts Seniors; 28.1% of Tufts Freshmen

**Eportfolios**
9% of ECAR Seniors and 4.8% of ECAR Freshmen report eportfolios being used during the semester. This is higher than Tufts students' experience.

- 0.7% of Tufts Seniors; 2% of Tufts Freshmen