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Academic work, the Internet and U.S. college students

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ABSTRACT

The aim of this study is to explore, based on a nationally representative sample, U.S. college students' uses of the Internet in their studies and their perceptions of academic life online, and changes in both perception and use since a 2002 report on the topic. Findings show that overall Internet use for academic purposes has increased. Students report generally positive opinions about the Internet's utility for academic work, but satisfaction with it for academic interactions may be on the decline.

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1. Introduction

With record levels of college enrollment (National Survey of Student Engagement, 2006), large numbers of young Americans are spending their college years at institutions of higher learning that in many ways appear quite dissimilar from those attended by their parents and generations previous. Information and communication technology (ICT) and the Internet have become central to academic life on countless college and university campuses across the United States. From the rise of "e-learning" and web-based instruction, to online libraries and research tools, to computer-mediated student–professor interaction, college students today negotiate many aspects of their academic lives online.

The 2002 Pew Internet and American Life Project report, "The Internet Goes to College" (Jones) examined college students' use of the Internet. (*NB*: All references in the text to the "2002 report" or "2002 survey" are to this report.) Jones reports that in addition to recreational and social uses, students made significant use of the Internet in their academic lives, "as an educational tool supplementing traditional classroom education" (p. 19) that has "greatly changed the way they interact with others and with information as they go about their studies" (p. 2). Reports on students and faculty perceptions of ICT and feelings about their impact on college life are mixed. Some express optimism about the pedagogical potential of Internet-based instruction and research tools on university campuses (Cramer, Collins, Snider, & Fawcett, 2007; Grabe, Christopherson, & Douglas, 2004–2005). Others express concern that technologies are being used in limited ways (Selwyn, 2007), and that students are not equipped to evaluate much of the information they encounter online (D'Esposito & Gardner, 1999; Janes, 2007; Jenson, 2004; Metzger, Flanagin, & Zwarun, 2003; Wang & Artero, 2005). Academics and public commentators have weighed in on these issues, but how do students feel?

Kirkwood and Price (2005) stress the importance of hearing directly from students regarding their perceptions of and attitudes towards the Internet and ICT as educational tools and (increasingly important) aspects of student life. They assert, "students' perceptions of the educational benefits of a medium are more significant than its intrinsic characteristics" (p. 270). Moreover, scholars suggest that students' attitudes towards and perceptions of the Internet affect their Internet self-efficacy (Peng, Tsai, & Wu, 2006). It is thus of central importance to assess students' perceptions of their academic environments and the role that the Internet plays, as Internet-based tools become increasingly commonplace and central to students' experiences at institutions of higher learning.

The aim of this study is to explore, based on a nationally representative sample, college students' uses of the Internet in their studies and their perceptions of academic life online, and changes in both perception and use since the 2002 report. What does the incorporation of ICT, Internet-based instruction, and online research tools, to name a few, mean for today's college students' university experiences? What role does the Internet play in college students' academic routines? Has this changed since 2002, and if so, in what ways? What are the implications for faculty–student interactions? How does the Internet affect students' research and writing habits during university? What are the consequences for students' information literacy? This study aims to look at college students' academic uses of and attitudes towards the Internet, and compare the findings to those of the 2002 report.

2. Review of literature

2.1. The Internet on campus

Universities provide an environment for technological diffusion. Goldfarb (2006) argues that in the 1990s, universities "taught a

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generation of students how to use the Internet" (p. 203) and fostered its diffusion. During that time, universities provided necessary equipment and programs for students to go online and to use a technology to which they may not have otherwise had access. Many universities required that students use the Internet for various administrative and course-related functions, which impelled students to use a technology they may not have otherwise had the inclination to try or to incorporate into their academic lives. According to Goldfarb, universities may also have aided in the diffusion of the Internet by emphasizing its value and its potential uses for "online commerce, online communication, and online information searching" (p. 203).

Today, as the Internet becomes increasingly enmeshed in university life, students use it for a wide variety of academic purposes. In particular, students are turning to Internet sources to complete coursework and conduct research, and also to communicate with faculty. Fortson, Scotti, Chen, Malone, and Del Ben (2007) report that in their survey of 411 undergraduates at a southeastern university, 41% of respondents used the Internet on a daily basis for "academic purposes" including "library services [and] course access" (p. 142). The 2002 report identifies other academic Internet uses, including: information searching online [73% reported using the Internet more than the library, (p. 12)]; communicating with instructors, including clarifying assignments (75% reported doing so), setting up appointments (62%), and discussing grades (58%) (p. 9); and contacting fellow students about group projects (75%) (p. 14).

2.2. The Internet and student–professor interactions

E-mail has become an important source of contact between students and professors. Willis and Coakes (2002) found that speed, the ability to maintain a record of the correspondence, and the benefits of asynchronous communication were amongst primary advantages to using e-mail. Other advantages include the international reach of email, document attachment capabilities, and its general appeal as a medium of correspondence for staying in touch. They identify the following as primary disadvantages to using email: excessive numbers of e-mail and potential misinterpretation of e-mail messages. Faculty members preferred face-to-face communication over communication via other mediums, but they used e-mail about the same amount to contact staff, students, outside contacts, and others. The majority of professors in Australia (84%) and in the UK (96%) check their e-mail several times a day. Willis and Coakes also note that the pressure to reply quickly to larges numbers of e-mails can yield hasty replies. Email messages were also thought to be somewhat impersonal.

Jackson, Ervin, Gardner, and Schmitt (2001) highlight the increased communication between students and professors online: "Internet use is encouraged in the university setting, and is almost a necessity as more and more course information and communication between professors and students take place online" (p. 375). Students, furthermore, "value e-mail communication with the instructor" (Brinkerhoff & Koroghlanian, 2005, p. 50). The National Survey of Student Engagement (NSSE) (2005) indicated that 72% of first-year students and 82% of senior students used e-mail to communicate with a professor. Female first-year students were more likely to communicate with professors via e-mail than male first-year students (NSSE, 2006).

2.3. Classroom applications

Instructional uses play an important role in the diffusion of the Internet and online tools on university campuses. Online education has increased as more institutions offer more online courses across disciplines. Allen and Seaman (2005) surveyed over 1000 colleges and universities, of which 55% offer undergraduate online courses and 26% offer online graduate courses. A variety of disciplines offered online courses in the Fall of 2003; the highest online penetration rate was found in business, with 43% of colleges that offer face-to-face courses also offering online courses. During the Fall 2004 semester, over 2.3 million students were enrolled in at least one online course (Allen & Seaman, 2005). Students taking all of their courses online, or distance learners, totaled almost 4000 students from 367 universities in 2006 (NSSE, 2006).

Students report a generally positive attitude towards the addition of Internet-based components to their offline classroom curricula (Bonds-Raacke, 2006; Brinkerhoff & Koroghlanian, 2005; Cramer et al., 2007). Faculty preferred a combination of digital and paper materials, and students similarly reported they learned best with a combination of materials. Undergraduate students described liking online resources, and 80% believed course websites should be required (Lane & Yamashiro, 2006). Malaney (2004–2005) reported a significant increase in the amount of time students used the Internet for coursework, from 2.50 h per week in 2000, to 5.16 h per week in 2003. Brinkerhoff and Koroghlanian (2005) report that students with previous experience with ICT in the classroom rate its inclusion more favorably than do students without experience with "Internet-based instruction" (Abstract, p. 27). Their finding suggests that students are generally receptive to the inclusion of online tools and that once they have used Internet-based tools as part of their classes, students become increasingly receptive to instructional use of the Internet.

Several studies find reason for optimism when it comes to incorporating ICT and Web-based technologies into university learning environments, though students' enthusiasm for Web-based technologies is not always matched with improved course performance. Murphy and Loveless (2005) laud the benefits of online asynchronous communication, including, "the sharing of experiences, challenging one's own thoughts and frames of cognition, the construction of new knowledge, and promoting collaborative efforts." Grabe et al. (2004–2005) observed improved performance for students who accessed supplementary online lecture notes to an introductory psychology class.

Though students almost uniformly welcome the addition of Web-based tools to their classroom environments, they seem to utilize these tools as a useful supplement to their established academic routines rather than as the basis for a radically new approach to learning. Cramer et al. (2007) report on the outcomes of including a virtual lecture hall (VLH), which consisted of PowerPoint slides with audio attached that could be accessed through a course website, in an introductory psychology class. Frequent users of the VLH (100 min or more during the term) boasted improved midterm grades. Though only a few students accessed the site for 100 min or more, a whopping 93% either agreed or strongly agreed that "the VLH should be offered in other courses" (p. 111–112). Despite students' favorable reviews of the technology, "overall, results showed relatively low utilization of the VLH compared to the total class size" (p. 112). Bonds-Raacke (2006) introduced a course website in a class at a Midwestern university where, she reports, technology was not heavily used and no course management system existed. A survey of students in the course suggests they were receptive to and quite positive about use of the site. Despite students' enthusiasm, "there is not overwhelming support that the use of the course website had a positive influence on student learning" (p. 254).

Although many of these approaches are in their infancy, the studies reviewed here suggest that the incorporation of Internet-based tools, such as the VLH, online class notes, and course websites, does not constitute a significant departure from 'traditional' pedagogical approaches in the university classroom. Writing from a critical perspective, Selwyn (2007) argues that Internet-based tools are part of what he identifies as a broader trend towards neoliberal, managerial approaches to higher education in the United States. Jenson's

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(2004) work supports the statement that instructors, librarians, and others who interact with students have a significant task ahead of them to unleash what many have identified as tremendous social and pedagogical potential of Internet-based tools on campus.

2.4. Library use and information literacy

College students utilize online resources, including online libraries, for research. OCLC (2005) states, "college students are the most familiar with all the electronic resources and show substantially higher use of electronic magazines/journals, online databases, and electronic books," compared to other age groups.

In the 2005 OCLC report, 20% of college students reported being extremely familiar with online libraries, while only 13% of U.S. 18 to 24 year olds felt extremely familiar with online libraries. They also report generally positive regard for online libraries: two-thirds of college students expressed "favorable" or "somewhat favorable" ratings (OCLC, 2005). Kvavik and Caruso (2005) reported 88% of students utilized library resources via the Internet. OCLC reports similar numbers, with 86% of university students using the library website and 85% using the online library catalog (at least) annually. Students who do not use the library website reasoned that other websites have better information.

Although a large majority of college students report having used online library resources, few appear to begin their information searches on library websites. When searching for information online, the OCLC (2005) reported that almost 90% of college students began their research using a search engine. The majority of college students tended to believe that online databases (72%) and electronic magazines/journals (85%) were worthwhile sources of information (OCLC, 2005). Nearly three-quarters (72%) of college students, however, selected a search engine as their number one source of information, preferring it to libraries (physical or online) or bookstores (physical or online). Hembroff (2006) discovered that three-quarters of students used the Internet as their primary source for researching health information, although nearly one fourth (23%) of students had doubts about the Internet as a credible source of information.

While the Internet offers potential educational uses and benefits, it also allows for the potential to engage in academically undesirable and unethical behaviors, such as cheating. Rumbough (2001) reports that students admitted to using the Internet to cheat academic cheating using the Internet, including such activities as: purchasing a paper online (3.5%); using information found online as their own without citing it (18.7%); e-mailing information to students about a test before those students take it (4.9%); and receiving e-mailed information about a test before they themselves take it (5.8%). Additionally, about 15% of students admitted to lying to a professor via e-mail to obtain an excused absence (Rumbough, 2001).

Many commentators express concern regarding students' information literacy and their ability evaluate the quality of information online (D'Esposito & Gardner, 1999; Janes, 2007; Jenson, 2004; Metzger et al., 2003; Wang & Artero, 2005). Wang and Artero (2005) urge that students must increase their "information literacy skills and apply these skills in the electronic information environment" (p. 71). Janes reports findings from Educational Testing Service (ETS), the makers of the SAT, that in a test in which students were given a sample of sites and asked to identify the website that was most objective, authoritative, and timely, only 49% could identify the correct site. Regardless of the tests validity, ETS's finding is in keeping with a broader body of commentary on students' information literacy and its affect on their coursework.

In a comparative study of students and the general adult population, Metzger, Flanagin, and Zwarun (2003) found "that students find information to be more credible than do those from a more general adult population, across several media and considering many different types of media" (Abstract, p. 271) *except*, the authors note, the Internet. Students and members of the general adult population exhibited a similar level of trust of information that appears online. Overall, however, they report, "many students take a relatively uninformed view of online information credibility" (Metzger et al., 2003, p. 287). Although students are skeptical of the quality of the information online, they do little to verify the credibility of what they find. For Metzger et al., it appears that students are more concerned with expediency than with quality of information. They characterize students as "opportunistic" when it comes to finding information online (p. 286).

Wang and Artero's (2005) work suggests that students take a lax attitude towards information obtained on the Web in their academic work. They write:

> Although a majority of the students [surveyed] (approximately 77%) indicated that they critically evaluated information on the Web, an overwhelming number of the students (approximately 58%) agreed or strongly agreed that they would use a piece of information so long as it fitted [sic] their needs (p. 76).

This lax approach towards use of information carried over to attitudes about plagiarizing online content. Wang and Artero report that approximately one fifth of the 647 students they surveyed at "a public university in a territory of the USA in the Pacific Rim" (p. 74) felt it was "appropriate to copy others' work from the Web" (p. 76–77). An additional 15% of respondents were uncertain whether copying others' work was appropriate.

Despite lack of basic education in library research, many students—even those with poor research skills—were confident in their online research abilities (Jenson, 2004). Jenson also notes that students must be taught proper Internet research skills. She advocates, "Only when the language of research is understood are students ready to move on to applying those terms to electronic search methods" (p. 110). As higher education is moving increasingly towards use of online instructional tools, research databases, and libraries, it is important to examine students' attitudes towards the tools they are given on university campuses that inform the ways they develop research habits, interaction with instructors, and information literacy skills.

3. Methodology

During the Spring 2005 academic term an online survey of college students was conducted at two-year and four-year public and private colleges and universities in the continental United States. Participants were recruited through use of mass e-mail to all students at 29 college campuses, and to a random sample of students stratified by class (Freshman, Sophomore, etc.) at 11 other campuses, a total population of 386,189 students. Recruitment yielded 7421 complete surveys, a response rate of 2%.

The sample was intended to produce results that would correspond to the demographics for students as reported by each campus, and overall to produce results that would correspond to the demographics for U.S. college students generally. Individual campuses represented a broad cross-section of types of higher education institutions in the U.S. (public/private, flagship/regional, urban/rural, research-oriented/teaching-oriented, etc.). The overall sample was tested against demographic data for U.S. college students as reported by the National Center for Education Statistics (NCES) (2005). Individual campus respondents and the overall sample were tested against known gender, race and age parameters and found to be reflective of the national population of college students as reported by NCES and reflective of individual campus student populations.

Table 1 compares NCES data and survey responses for gender and shows a general correspondence between the two surveys.

Table 2 compares NCES data and survey responses for race. It, too, shows a general correspondence between the two surveys. It should

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Table 1
College students' gender

	2005 survey	NCES survey
Male	43.5%	42.5%
Female	56.5%	57.5%

Source: Spring 2005 survey of U.S. college students, $n=7421$, and National Center for Education Statistics (NCES), College Student Population in the USA 2003–2004.

be noted that due to the relatively small sample size of American Indian and Asian students, the findings reported in this study include only data for Black non-Hispanic, Hispanic and White non-Hispanic college students.

It should be noted that the survey did not specifically include an "unknown" race category, but 6.7% of respondents did not answer the question asking about race.

Table 3 compares NCES data and survey responses for age. College students below the age of 18 were not surveyed due to restrictions placed on the research by the Institutional Review Boards at the schools at which the surveys were given. Students under the age of 18 were considered minors and thus were ineligible to be surveyed. It should also be noted that NCES data for age include for-profit institutions while the survey used for this study does not include those. And, due to differences in survey construction between this survey and the NCES survey, it is not possible to make direct comparisons of responses from those over 25 years old (13.9% of this study's sample are over 25 years old).

As is common with survey research it is important to note that sampling error may have occurred. For results based on the total sample, one can say with 95% confidence that the error attributable to sampling and other random effects is plus or minus 1 percentage point. In addition to sampling error, question wording and practical difficulties in conducting surveys may introduce some error or bias into the findings.

In addition to the surveys ethnographic data was collected during the Fall 2005, Spring 2006 and Fall 2006 academic terms by a team of graduate and undergraduate student researchers. The researchers were recruited to observe the behaviors of college students engaged in the act of using a computer and performed observations at several institutions of higher education in the upper Midwest. The researchers were trained in ethnographic methods of observation and data collecting, and rotated the times of the day and days of the week they spent in various public settings where college students could be found using computers and accessing the Internet.

Additional material is based on the findings of a survey of the U.S. population about their use of the Internet. These results are based on data from telephone interviews conducted by Princeton Survey Research Associates in two waves. The first interviews took place May 4–June 7, 2005, among a sample of the U.S. population, 18 and older. For results based on the total sample of 2001, one can say with 95% confidence that the error attributable to sampling and other random effects is plus or minus 2 percentage points. For results based on the number of Internet users, 1336, one can say with 95% confidence that the error attributable to sampling and other random effects is plus or minus 3 percentage points. The second interviews took place November 24–December 31, 2005, among a sample of the U.S. population, 18 and older. For results based on the total sample of 3011, one can say with 95% confidence that the error attributable to sampling and other random effects is plus or minus 2 percentage points. For results based on the number of Internet users, 1931, one can say with 95% confidence that the error attributable to sampling and other random effects is plus or minus 2 percentage points. In addition to sampling error, question wording and practical difficulties in conducting telephone surveys may introduce some error or bias into the findings of opinion polls and may be a limitation of the study. At least 10 attempts were made to complete an interview at every household in the sample. The calls were staggered over times of day and days of the week to maximize the chances of making contact with a potential respondent. Interview refusals were re-contacted at least once in order to try again to complete an interview.

Table 2
College students' race

	2005 survey	NCES survey
American Indian	1.0%	1.0%
Asian	6.1	5.9
Black, non-Hispanic	11.7	12.0
Hispanic	9.7	11.0
White, non-Hispanic	64.9	59.5
Missing/unknown	6.7	7.5

Source: Spring 2005 survey of U.S. college students, $n=7421$, and National Center for Education Statistics (NCES), College Student Population in the USA 2003–2004.

Table 3
College students' age

	2005 survey	NCES survey
14–17 years old	-	1.5%
18 and 19 years old	25.1%	28.7
20 and 21 years old	34.2	28.2
22–24 years old	21.2	19.2

Source: Spring 2005 survey of U.S. college students, $n=7421$, and National Center for Education Statistics (NCES), College Student Population in the USA 2003–2004.

4. Results and discussion

College students continue to have a positive opinion about the Internet's impact on their educational experience. Indeed, the percentage of college students with a positive opinion has risen to 84%, as against 79% in 2002. But, of today's college students 7% disagree with a positive assessment of the Internet's impact on their academic experience, compared to 4% in 2002. Far fewer are now of the belief that its impact has been neutral, with 8% choosing that response today compared with 16% choosing it in 2002. While these figures do not portend a very strong shift in students' assessment of the Internet in relation to their academic life, they may be evidence of a shift nevertheless, and will be worth tracking over time.

No matter their assessment, all college students surveyed reported using the Internet for information searching. Their preferred means of information searching are search engines such as Google or Yahoo! (95% of college students reported using those), followed by library websites (68%), news websites (64%) and online encyclopedias (48%).

The vast majority of college students surveyed, 84%, are using the Internet to communicate with professors, a number similar to the one reported in 2002 (87%). E-mail is the most popular method for doing so, with 79% of college students using it to reach their instructors. Course websites and e-mail lists were also popular means of communication with professors, with about one-quarter (23%) using e-mail lists and close to half (45%) using course websites. Instant messaging, wikis and chat rooms represented only a small percentage of students' means of communication with faculty (4% combined). Although e-mail continues to be most used by students to get in touch with professors, it is less used now than was reported in 2002, when 94% of college students reported using it. E-mail lists and course websites have risen in popularity since 2002, when 8% and 20% of students reported using those (respectively). (In 2005 Jones and Johnson-Yale reported that only 6% of college faculty reported using e-mail lists although 55% reported using course websites.).

Students generally stated that the frequency of their communications with professors via the Internet seldom or rare, with most having contact every two weeks or less (61%). Only about 1 in 8 (12%) described themselves as being in frequent or very frequent contact

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with professors via the Internet (defined as several times a day or week). However, those who reported contacting their professors occasionally—about once a week—has more than doubled since 2002, from 11% to 26%. Fewer than half (43%) report that they are required by professors to use e-mail to contact them, but nearly all students (92%) reported that they used e-mail to contact professors.

At least 50% of students cited their primary reasons for e-mailing professors as: to report an absence (68%), for clarification of an assignment (68%), to set up an appointment (57%), and to discuss or find out a grade (56%). Over three-quarters (78%) of students surveyed had e-mailed assignments to professors. These results are consistent with those collected in the 2002 college student survey. Additional reasons for contact professors provided by today's college students included to alert their instructors to websites or information related to class, and to ask for recommendation letters.

Conversely, the primary reasons, according to students, that professors contact them via the Internet includes class announcements (74%), information about class assignments (68%), and to provide additional course material and information (58%). Less than half (42%) reported that they received feedback via the Internet from professors on class assignments. Students felt that professors were less prone to e-mail them to send grades (44%), to discuss course-related problems or complaints (41%), or to handle attendance matters (16%).

Just over half (53%) of students felt that they had more face to face communication with professors than via e-mail. Yet about 1 in 5 (18%) felt they had more communication with professors via e-mail than they did face to face. These findings are consistent with student responses in the 2002 report. However, college students appear slightly less satisfied than they were in 2002 with e-mail as a communication tool for expressing ideas to professors. 38% of students agreed or strongly agreed that e-mail allowed them to express ideas to professors that they would not have expressed in class, down from 46% in 2002. Close to half (44%) of students disagreed that they knew their professors better because of e-mail contact with them, while the same number disagreed or strongly disagreed that their professors knew them better because of e-mail. Only about half that number agreed or strongly agreed (24% that they know their professors better, and 26% that their professors know them better). These findings are consistent with student responses from 2002, and point toward e-mail serving a functional, rather than personal, purpose in regard to student–professor communication.

Interviews with college students revealed that they made quite conscious decisions about which medium to use to communicate with professors. Several said they often felt uneasy talking to their professors in person, and even more awkward speaking to them on the phone. One student described feeling like it was an "intrusion into (a professor's) personal life" to call them on their cell phone, even if the professor gave the class his or her cell phone number. The students generally agreed that e-mail seemed least personal, and meeting with a professor after class was usually quick and more relevant to the students' interests. But they also agreed that e-mail led to less pressure on them, because, for instance, a professor could not ask them questions to which they would have to respond immediately, as would be the case in a face-to-face meeting. Some students also mentioned hesitation about using the telephone to call a professor out of a concern for inconveniencing a professor by calling at an awkward time and getting on his or her "bad side" as a result.

Nevertheless, half of college students surveyed (51%) felt that e-mail in particular had improved their interactions with professors and only 2% felt that e-mail had worsened their interactions with professors. When evaluating the impact of Internet communication on the overall quality of their relationships with professors, almost half (47%) agreed or strongly agreed the Internet has had a positive impact.

More than three-quarters (78%) of college students use the Internet to communicate with one another about their classes. E-mail and IM are the most common means of communication (55% and 33%, respectively), but in response to open-ended questions some students also reported using Facebook for academic purposes. Most students (58%) reported that none of their classes required that they use the Internet to communication with classmates, while 40% reported that they were required to do so. Unlike their communications with professors, students were more frequently in contact with classmates via the Internet, with 30% reporting communicating with classmates several times a week, and 8% reporting doing so daily. But over half (55) felt their contacts with classmates online were seldom (every few weeks) to rare (once or twice per semester/term).

Collaboration on group projects was the primary reason cited by students for contacting other classmates using the Internet, with 55% of college students reporting it as the reason for such contact. Exchanging notes (47%) and studying for exams (43%) were also common reasons. Many students reported that they often contacted classmates for assignment clarifications and to find out what work they had missed after missing a class meeting.

Students' feelings about the impact of the Internet on their relationships with other students were about the same as ones found in the 2002 report (Jones, 2002); about two-thirds (63%) were in agreement that the Internet had had a positive impact on their relationships with classmates, while only about 5% disagreed with that assessment.

4.1. Plagiarism

Plagiarism has long bedeviled Internet use in education. Amid claims that the Internet has made it easier than ever to copy and paste others' work into one's papers or homework assignments there have arisen websites such as turnitin.com that purport to detect plagiarism in text submitted to them. Some teachers use search engines to detect whether parts of a paper may be found online, indicating that a student may have copied and pasted it. Websites exist at which students can buy term papers on numerous topics. Particularly given recent trends in the use of collaborative online technologies (such as wikis) some students may believe that it is all right to copy and paste someone else's material, or to turn in material they may not have entirely authored themselves. As the waters are no more clear now than they were when the Web first gained widespread use, it is important to know students' opinions and ideas as well as behaviors.

Fewer than 2% of college students admitted submitting an assignment to a professor in which they had copied and pasted material from the Internet and claimed it as their own. Only 25 of the over 7000 college students surveyed reported having purchased a paper online and turning it as their own work. However, close to half (46%) of students reported knowing someone who had copied materials from the Internet to submit as their own work for an assignment.

Of those who had done so only 15% said they were caught plagiarizing. Given the publicity surrounding plagiarism detection tools available to teachers (sites such as turnitin.com, or ones available through online courseware systems like Blackboard) it is interesting that so few report being caught.

When students were asked whether they felt it was okay to copy and paste a paper posted on the Internet for use as their own work in a class, 88% disagreed or strongly disagreed that it was okay to do so. The others were mostly neutral on the issue (10%), with only a few (2%) agreeing that it was okay to copy and paste material they found online and claim it as their own work. When asked how they would feel about the practice of copying and pasting papers posted online for use as their own if they knew they would not be caught, students were slightly less disagreeable. About three-quarters (76%) still disagreed with the practice, while those who were neutral rose to 18%, and those who agreed that it was okay rose to 4%.

Students also seemed aware of limited paraphrasing as a type of plagiarism. When asked whether changing a few words in each paragraph of an Internet document was okay by comparison to

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copying and pasting whole papers, the major of students disagreed (84%). About 1 in 7 (14%) agreed that such paraphrasing of online material was okay. Most students (84%) also felt that they were very careful to cite others' material, and that claiming others' work as your own is one of the worst academic offenses. Fewer than 5% disagreed with the notion.

Nearly one-third (31%) of students surveyed said they knew someone who had used a cell phone, laptop computer or Personal Digital Assistant (PDA) to cheat on an exam by storing answers in the device, contacting a friend for answers, or other similar activities. Connecting to the Internet during class for personal (i.e., not related to the course) reasons is generally a somewhat common practice, with just over one-quarter (26%) of college students reporting so doing. Observers regularly witnessed college students' use of text messaging in class, although in every case the messages were almost certainly ones of a personal nature, as classroom activity at the time of observation was limited to lecture and discussion.

4.2. Online-only courses

Much has been written about online education, and much research has been undertaken to try to determine the value of the Internet for teaching and learning. There are likely very few courses at U.S. colleges that do not in some way or another employ the Internet, even if it is only to use courseware or for communication between professors and students. "Blended" or "hybrid" courses, ones that use the Internet in lieu of some, but not all, class meetings, lectures, discussions, etc., are increasingly common at many U.S. college campuses, according to Allen, Seaman and Garrett (2007).

Since the 2002 report of college students' Internet use (Jones, 2002), there appears to have been a substantial increase in the number of students who have taken an online-only course, from around 6% in 2002 to over one-quarter (27%) of today's college students. The latter are also more satisfied with the quality of online-only courses than those surveyed in 2002. About two-thirds (67%) reported that taking an online-only course was a satisfying experience and almost as many (61%) said an online-only course was worth their tuition dollars.

By comparison, however, only about 1 in 4 (27%) felt the learning experience was comparable to a traditional, face-to-face course. Interestingly, around half (53%) felt they learned less in their online course than they might have learned in the same class meeting face to face. This finding is consistent with the one from the 2002 report. In terms of course difficulty, 20% of students actually felt the online course was more difficult than a traditional face to face equivalent would have been. Another 42% felt their online course was easier than a traditional course; one-third (36%) neither agreed nor disagreed when asked whether the online-only course was harder or easier than the traditional equivalent.

The majority of students (69%) who had taken online-only courses reported that the course they took was not offered by colleges other than the one from which they were going to earn their degree, e.g., the course was unique and not available elsewhere.

4.3. Computer labs and convenience

Although only 8% of college students reported most often going online from a computer in a computer lab on campus, 70% reported going online in a campus computer lab at one time or another. While 38% of college students reported using wi-fi connections, in interviews it became clear that use of laptops on campus was still relatively rare, due to a lack of convenient power outlets and due to the weight and size of most laptops. Students routinely said that they already had enough books and papers to carry around with them and did not want to add weight of a laptop to their daily load. Nevertheless, there were numerous occasions when one could observe a student working on a laptop, and infrequent occasions when groups of students would gather, perhaps due to the availability of a wireless connection or a convenient power outlet, and form a sort of spontaneous "computer lab." A couple of times it was observed that students would be seated together to play an online game against one another on their laptops or to participate in a study group. One student gave preference to using wireless access off campus because "many of the programs I use daily are not allowed (to be used) on campus." More often than not, however, if a hardwired Internet connection was available, one would see a laptop connected to it even if a wireless connection was present, presumably because the hardwired connection would provide faster connection speeds.

The majority of students observed in campus computer labs entered and without so much as taking off their coats checked e-mail or a website and left. The typical amount of time they spent in the lab was under 5 min. Many of the ones interviewed said that they stopped in to the lab en route to a class or meeting. Some of the busiest times in a lab (apart from weeks during which midterm or final exams took place) seemed to be over the lunch hour, as students would apparently forego at least some part of the time available for lunch to check e-mail, Facebook and course websites. Such use primarily occurred during the day, most often between 10am and 3pm. One student said that he mainly uses a campus computer lab to "kill time between classes."

A common observation was of students who would enter a lab, sit down, and within a minute or two get up and go over to a shared printer. Students routinely said that they most often used campus computer labs to print out papers or assigned readings. In many cases they did so for the convenience of not having to carry bulky papers from home, but in other cases they said that their university allotted a certain number of printed pages to them and they preferred to use up their quota before using paper and ink for which they also had to pay.

However, a number of students spent significantly more time in the computer lab. These students engaged in what might be considered a "ritual" when entering the lab. Once they found an unoccupied computer they would sit down, take books, papers, pens, cell phones from backpacks, and create a kind of "personal office space" at the workstation. The majority wore headphones and listened to music. Among the students who spent more than a few minutes at a workstation all seemed to be engaged in some form of multi-tasking. In some instances they may be doing schoolwork, but have several applications open (word processing, Web, statistics, etc.) as they labor on an assignment. In other instances students would mix in elements of entertainment and include windows open to MySpace or Facebook, AOL Instant Messenger, e-mail, or the like. The amount of time devoted to any one of these applications varied greatly from person to person. However, in almost every case it seemed like another ritual was followed. The first thing most every student did was check e-mail, open an instant messaging client to see if any of their friends were online at that time, then go to a website, and only then would they begin to work on an assignment. Every interviewee said they first check their e-mail whenever they go online. Although observers were not always close enough to make precise determinations, and were instructed to respect the privacy of those they were observing, it often appeared that students were primarily checking e-mail accounts other than the one provided by their university. Most commonly they would check Gmail, Hotmail or Yahoo!

During observations it was uncommon to see students express much emotion while they worked in front of the monitor. The few times that emotions were expressed publicly revolved around frustration with a computer or Internet related problem (such as a computer crash or freeze, or loss of Internet connection). Students using these labs appeared to be very intent on the functionality of the technology, and on the activity on the screen, largely to the exclusion of whatever else was going on around them.

The most common intrusion into students' use of computers in a lab was the ringing or vibrating of a cell phone, followed by a usually

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brief conversation with the caller. In some cases the interruptions from phone calls occurred every few minutes. Perhaps the most interesting occurrences, however, were those that clearly involved discussion of websites or other online activities. It was not uncommon to see, for instance, a student who was having trouble with a computer program or website call someone to ask for help. It was also not uncommon to see a person browsing the Web and discussing what they were seeing with a caller (who may or may not have been looking at the same sites).

For some students a campus computer lab served as a social space, perhaps much as the library did (and still does). They might arrange to meet a friend at the lab, they might be "regulars" at a particular lab and recognize friends there, or they might be waiting for friends to arrive and in the meantime doing work, checking e-mail or browsing the Web. One student said, "Some people stay in the lab because they want company. You want to feel there is somebody around." Whichever the case it should not be overlooked that campus computer labs are not only places in which students sit and stare into screens but that they also serve for some students as focal points for other kinds of student activity.

When asked how many hours in a typical week they used the library both in person and online, three-quarters of college students surveyed, 75%, reported using it less than 3 h. This figure is slightly less than the 81% who reported using it less than 3 h in the 2002 survey. In 2002 nearly three-quarters (73%) of college students surveyed said they used the Internet more than the library when searching for academic resources and information. For the current survey questions concerning library use were added, with interesting results (Table 4). While search engines remain college students' favored site for getting information, library websites come in second.

Observations in public computer labs showed that many students would initially go to a search engine such as Google or Yahoo! but they would usually continue their search at their university library's website. But the library's choice as a study location or site of information may have eroded for many, possibly idiosyncratic, reasons. One student expressed a degree of impatience with asking people, such as librarians, for information: "I don't want to lose my time listening to long explanations. I'm a person who wants fast response. That's what I like (about) the Internet." Another student expressed a desire to study at a coffee shop that offered free wireless access so as to "feel as if I am not cooped up at home or in the library, to have some semblance of a social life." Another student who regularly went to a coffee shop for Internet access offered that doing so has had a "negative (impact) on my schoolwork when compared to the amount (of work) I could get done in a library."

5. Conclusion

While there are notable changes in college students' Internet use for academic purposes between 2002 and 2005 (see Table 5) the change is evolutionary rather than revolutionary.

One of the most interesting and important areas of difference is in the realm of student–professor online interaction. Students overall reported a slight decline in preference for using email to contact professors. Students also report less satisfaction with their email contact with professors. Amongst the students who do use email to contact faculty about once per week (26%), they report doing so with significantly greater frequency than in 2002 (11%). As more and more social and professional relationship involve online interactions, it may be that email has come to be regarded as an even more functional, rather than personal, tool. Students and faculty with an eye towards expediency may well appreciate their ability to negotiate interactions online and 'on their time.' Students' dip in satisfaction with their email relationships with professors is worthy of note and should be specifically probed in future studies. This finding is curious given the overall rise in students' perception of the Internet as having a positive impact on their educational experience. What constitutes a 'satisfying' email interaction for students, and for professors? Perhaps these groups prioritize different aspects of their mutual email communication.

Concerns for students' attitudes towards information remain salient. Student reports suggest that plagiarism, particularly from online source materials, is problematic. Future research should examine whether reports of plagiarizing from online sources decrease as online plagiarism detection programs are used with greater frequency on college campuses. Relatedly, a significant number of students indicate that others use ICTs to cheat on exams, whether by storing information on personal electronic devices, such as cell phones, laptops or PDAs, or contacting others for information. Instructors and universities may have to address issues of this nature at an institutional level in the future.

While today's college students are increasingly partaking of online courses compared to those surveyed in 2002, they are not moving to online education in droves. Their choice to take an online course seems, more often than not, to be predicated on convenience both in regard to time and to place. If an online course can solve a scheduling problem (and one must keep in mind that a "scheduling problem" may mean simply avoiding having to go to a class on a Friday) or help a student avoid going to a class in a building far away from one's residence hall or apartment, the choice to take it is clear. Such decision-making, coupled with a newfound interest on many campuses to accommodate more students without new building construction by freeing up classroom space with online and "hybrid," or "blended," courses, will likely continue to fuel growth in online education. Whether the majority of college students, however, are likely to make online education a significant part of their time in college is unknown, for there are many aspects of college life that are non-academic and strongly tied to place. As Rebekah Nathan (2005) noted in her ethnography, *My Freshman Year: What a Professor Learned by Becoming a Student*, "Most professors and administrators overestimate the role that academics plays in student culture, and as a result magnify the impact of teachers and classes on student life and decisions" (p. 140). Today's college students are, if nothing else, smart consumers. Whether one agrees or disagrees with

Table 4
Where do you search for information online? (Select all that apply.)

Search engines	95%
Library websites	68%
News websites	64%
Online encyclopedias	48%
Other sources	10%

Source: Spring 2005 survey of U.S. college students, $n = 7421$.

Table 5
Comparison of key findings from 2002 and 2005 surveys

	2002	2005
Use Internet to communication with professors	87%	84%
Use email to communicate with professors	94	79
Occasionally (about once a week) contact professors via Internet	11	26
More communication with professors face-to-face than email	54	53
More communication with professors via email than face-to-face	19	18
Email lists used in classes	8	23
Use course websites	20	45
Agree/strongly agree email allows expression of ideas to professors not otherwise expressed in class	46	38
Taken an online-only course	6	27
Internet had a positive impact on relationships with classmates	60	63
Internet did not have a positive impact on relationships with classmates	4	5

Sources: Spring 2005 survey of U.S. college students, $n = 7421$, and Jones (2002).

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their decisions, they rarely make uninformed decisions, and usually carefully weigh the pros and cons of most everything related to their college life. The extent to which they choose online courses will, for the majority of them, ultimately be driven by the quality and value of the courses.

Perhaps the most surprising finding is that of an absence of particularly innovative uses of the Internet in academic activities. That is not to say that college students are not doing interesting things online, or that there are not academic programs that utilize the Internet in useful and interesting ways. However, generally speaking, this study did not uncover evidence of any disruptive technology (Christensen, 1997). By and large Internet technologies are supplanting or replacing traditional methods of instruction and communication, but they would appear to be doing so in a relatively steady manner. While much has changed about the technology a college student encounters today compared with the technology one encountered twenty years ago, it is likely that the vast majority of other aspects of college life have changed little. And, even in those technological areas in which change has been greatest, what change has occurred has for the most part been in service of college students' existing academic interests. Though students spend increasingly greater amounts of time online and for different purposes than they have in the past, it appears the fundamental changes to their daily and academic lives is not as overwhelming as is sometimes suggested.

Appendix A. Survey instrument

Please answer the questions to the best of your ability. There are no right or wrong answers. Your thoughtful and sincere answers are important to the success of this study. Please give each question your careful consideration.

Click on the check box of the answer(s) you choose. *Please check only one box unless otherwise instructed*. Thank you for your cooperation!

1) How many years have you been using computers (not only for Internet access)?
   a) 0–1 year
   b) 1–5 years
   c) 6–10 years
   d) 11–15 years
   e) 16–20 years
   f) More than 20 years
   g) I do not use computers (Skip to question #76)
2) Do you own any of the following? (choose all that apply)
   a) A desktop computer
   b) A laptop computer
   c) I do not own a computer
3) Which do you use the most (choose only one)
   a) A desktop computer
   b) A laptop computer
   c) A friend's computer
   d) A computer at my school
   e) A computer at work
4) Where is the computer you use the most?
   a) School (computer lab or office
   b) School (dorm room, apartment)
   c) Parents' home
   d) Workplace
   e) Friend/Family
   f) Multiple, I have a laptop
5) How long have you been using the Internet?
   a) 0–1 year
   b) 1–5 years
   c) 6–10 years
   d) 11–15 years
   e) More than 15 years
6) *Where* did you *first* begin using the Internet:
   a) At home
   b) At school (K-12)
   c) In college
   d) In the workplace
7) Choose the statement which best describes your experience:
   a) My parent/s used the internet before I learned to use it
   b) I used the internet before my parent/s learned to use it
   c) My parent/s and I learned to use the internet at the same time
   d) My parent/s do not use the internet
   e) Other (write in space here)
8) Which of the following technologies do you use to connect to the internet (choose all that apply)?
   a) a desktop computer at home, work, or school
   b) a laptop computer
   c) a personal digital assistant (PDA), such as a Palm Pilot
   d) a cell phone
   e) I don't know/other
9) I USUALLY access the Internet (choose all that apply):
   a) at my school residence
   b) at my parents' home
   c) at a friend or other family member's home
   d) at work
   e) at a public computer lab or internet café
   f) at multiple locations using wireless Internet access
10) I MOST OFTEN access the Internet (choose only one):
   a) at my school residence
   b) at my parents' home
   c) at a friend or other family member's home
   d) at work
   e) at a public computer lab or internet café
   f) at multiple locations using wireless Internet access
11) What time of day do you most often go online?
   a) In the morning
   b) In the afternoon
   c) In the evening
   d) Overnight
   e) Many times throughout the day, I can't specify
12) How long do you go online each day?
   a) Less than 1 our each day
   b) 1 to 2 h each day
   c) 2 to 3 h each day
   d) 3 or more hours each day
   e) I'm not sure
13) Which communication medium do you use the MOST while on the Internet:
   a) Email
   b) Instant Messaging
   c) Chat Rooms
   d) Blog
   e) Newsgroups
   f) I'm not sure
14) I use the Internet MOST OFTEN to:
   a) Engage in class work (i.e. study, research, or access class related web material)
   b) Communicate socially (i.e. email, instant messenger, or chat)
   c) Be entertained (i.e. music, video, games, surfing or browsing the web for fun)
   d) Communicate professionally (i.e. email, instant messenger, or chat about work)
   e) Be creative (write blog entries, post photos or drawings, share music)
   f) Make money (eBay/auctions, selling)

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g) Gambling
h) I'm not sure

15) I usually access my email (choose only one):
a) at my school residence/home
b) at work
c) at a public computer lab or internet café
d) at multiple locations using wireless Internet access
e) I do not use email (Skip to question #17)

16) I usually check my email:
a) continuously or almost continuously
b) several times a day
c) about once a day
d) a few times a week
e) once a week
f) less than once a week

17) How long have you been using Instant Messaging (IM)?
a) 0–1 year
b) 1–5 years
c) 6–10 years
d) 11–15 years
e) More than 15 years
f) I do not use IM (Skip to Question 20)

18) I usually IM from (choose only one):
a) my school residence/home
b) work
c) a public computer lab or internet café
d) multiple locations using wireless Internet access

19) I am usually on IM:
a) continuously or almost continuously
b) several times a day
c) about once a day
d) a few times a week
e) once a week
f) less than once a week

20) How long have you been blogging?
a) 0–1 year
b) 1–5 years
c) 6–10 years
d) 11–15 years
e) More than 15 years
f) I do not blog (Skip to question #22)

21) I usually write blog entries:
a) continuously or almost continuously
b) several times a day
c) about once a day
d) a few times a week
e) once a week
f) less than once a week

22) Do you use the Internet to communicate with professors about your classes?
a) yes
b) no
IF YOU CHOSE b) no, SKIP TO QUESTION #27

23) Which type of Internet communication do you use to communicate with professors? (Choose all that apply)
a) email
b) email list
c) chat rooms
d) wiki
e) instant messaging
f) Course web site/web board
g) video/audio conferencing
h) none of the above/other

24) How often do you communicate with professors via the Internet?
a) very frequently (at least once a day or more often)
b) frequently (several times a week)
c) occasionally (about once a week)
d) seldom (once every two or three weeks)
e) rarely (once or twice a term/semester)
f) I don't know

25) I have emailed a professor (choose all that apply):
a) that I will be absent from class
b) that I was not able to finish a homework assignment
c) for clarification of an assignment
d) to complain about class/classmates
e) to complain about an assignment
f) to discuss/find out grades
g) to set up an appointment
h) I do not use the internet to contact my professors

26) Are you required to use email in any of your classes to contact the professor?
a) yes
b) no

27) Do professors use email to contact you?
a) yes
b) no
IF YOU CHOSE b) no, SKIP TO QUESTION #30

28) For what reasons do they contact you? (choose all that apply)
a) class announcements
b) information about class assignments
c) feedback on class assignments
d) provide additional course materials and information
e) send grades
f) handle attendance matters
g) discuss course-related problems or complaints

29) Do you communicate more, less or about the same with your professors through email versus face-to-face?
a) I communicate with them more through e-mail than face-to-face
b) I communicate with them less through e-mail than face-to-face
c) I communicate with them about the same amount through e-mail as face-to-face
d) I don't know

30) Have you ever submitted an assignment to a professor via the Internet?
a) yes
b) no

31) Have you ever submitted an assignment to a professor in which you copied and pasted material from the Internet and claimed it as your own?
a) yes
b) no

32) If you answered "yes" to Question 31, were you caught at it? If you answered "no" to Question 31, please skip to the next question.
a) yes
b) no

33) Have you ever purchased a paper on the Internet and turned it in as your own work?
a) yes
b) no

34) If somebody puts their paper on the Internet, that means that I can copy and paste it, and make use of it as if I had written the paper myself.
a) strongly agree
b) agree
c) neutral
d) disagree
e) strongly disagree
f) I don't know

35) If I was sure I wouldn't be caught, I would copy and paste a paper from the Internet.
a) strongly agree
b) agree
c) neutral

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d) disagree
e) strongly disagree
f) I don't know

36) I don't copy and paste entire papers, but I change a couple of words on each paragraph I get from the Internet. That's paraphrasing, and that's okay.
a) strongly agree
b) agree
c) neutral
d) disagree
e) strongly disagree
f) I don't know

37) I am very careful when citing other's material. Claiming others' work as yours is one of the worst academic offenses.
a) strongly agree
b) agree
c) neutral
d) disagree
e) strongly disagree
f) I don't know

PLEASE RATE YOUR RESPONSES TO THE FOLLOWING STATEMENTS:

38) Email has enabled me to express ideas to my professor that I would not have expressed in class:
a) strongly agree
b) agree
c) neutral
d) disagree
e) strongly disagree
f) I don't know

39) I feel I know my professors better because of email:
a) strongly agree
b) agree
c) neutral
d) disagree
e) strongly disagree
f) I don't know

40) I feel my professors know me better because of email:
a) strongly agree
b) agree
c) neutral
d) disagree
e) strongly disagree
f) I don't know

41) Email has:
a) improved my interaction with professors
b) worsened my interaction with professors
c) not affected my interaction with professors
d) I don't know/I have no opinion

42) Internet communication has had a positive impact on my relationship with professors:
a) strongly agree
b) agree
c) neutral
d) disagree
e) strongly disagree
f) I don't know

43) Have you used the Internet to take an online-only course (one that did not meet in a campus classroom) for college credit?
a) yes, I took one
b) yes, I have taken more than one
c) no, I have never taken an online course

IF YOU CHOSE C) NO, SKIP TO QUESTION #49

44) Do you believe the online course you took was worth your time?
a) yes
b) no

45) Do you believe the online course you took was worth your tuition dollars?
a) yes
b) no

46) Comparing online-only courses to courses on campus, would you say that you:
a) learned more from most online-only courses than from most campus courses
b) learned LESS from the online-only course than from most campus courses
c) learned about the SAME from an online-only course as from most campus courses
d) don't know whether you learned more, less or about the same

47) Comparing online-only courses to courses on campus, would you say that the online-only course(s) you took were:
a) harder than most campus courses
b) easier than most campus courses
c) about the same difficulty as most campus courses
d) don't know whether are harder, easier or about the same

48) Was any online course you took for college credit offered by a college other than the one from which you will receive your degree?
a) yes
b) no

49) Do you use the Internet to communicate with other students about classes?
a) yes
b) no

IF YOU CHOSE B) NO, SKIP TO QUESTION #55

50) Which type of Internet communication do you most often use to communicate with classmates? (Choose ONLY one answer)
a) email
b) email list
c) chat rooms
d) wiki
e) instant messaging
f) Course web site/web board
g) video/audio conferencing
h) none of the above/other

51) Are you required to use the Internet to contact other students in all, some or none of your classes?
a) all
b) some
c) none

52) How often do you communicate with classmates via the Internet?
a) very frequently (at least once a day or more often)
b) frequently (several times a week)
c) occasionally (about once a week)
d) seldom (once every two or three weeks)
e) rarely (once or twice a term/semester)
f) I don't know

53) Have you ever used the Internet to communicate with classmates for any of the following reasons (choose all that apply):
a) exchange notes
b) study for exams
c) group projects
d) complain about class/classmates
e) none of the above

54) Rate your response to the following statement: "Internet communication has had a positive impact on my relationship with classmates."
a) strongly agree
b) agree
c) neutral
d) disagree

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e) strongly disagree
f) I don't know

55) Have you personally known students who have copied materials from the internet to submit as their own work for a school assignment?
a) yes
b) no

56) Have you ever used a cell phone, laptop, or other technology to connect to the internet during class for personal reasons?
a) yes
b) no

57) Have you personally known students who have used cell phones, laptops, or other technologies in order to cheat during an exam (e.g. text messaged a friend for answers, stored answers to a test on a personal digital assistant or calculator)?
a) yes
b) no

58) Rate your response to the following statement: "Internet communication has had a positive impact on my college academic experience in general."
a) strongly agree
b) agree
c) neutral
d) disagree
e) strongly disagree
f) I don't know

59) Do you use the Internet for information searching?
a) Yes
b) No (If no, please skip to question #56)

60) Where do you search for information online (Choose all that apply)?
a) Search engines such as Google or Yahoo
b) News web sites
c) Library web sites
d) Online encyclopedias
e) I don't know/other

61) How often have you used the internet for the following activities

	Several times a day	Every/almost every day	Several times a week	Once a week	Twice a month	Once a month	Less than once a month	Never or almost never
Register for classes								
Look for religious or spiritual information								
Look for information about a product or service you are thinking about buying								
Make a phone call online, using the Internet								
Pay bills or do your banking								
Check sports scores								
Look for financial aid or other kinds of grants/scholarships								
Obtain geographical information such as city maps or street directions								
Look for health or medical information								
Look for information about a job								
Look for information about a place to live or search for a roommate								
Participate in an online auction (e.g. Ebay)								
Check weather reports								
Purchase textbooks for your classes								
Plan get-togethers or meetings for groups or clubs to which you belong								
Listen to music or watch videos								
Download music or videos by using a file-sharing application								
Look for information from a local, state, or federal government web site								
Buy tickets for a concert, movie, play or sporting event								
Sell textbooks you had purchased for your classes								
Play games								
Get information about travel, (*e.g.*, check airline ticket or hotel rates and availability								
Buy or make a reservation for travel								
Apply for student loan								
Pursue hobbies								
Play poker or other gambling games								
Look for information about movies, music, books or other leisure activities								
Visit an adult web site								
Purchase everyday items like groceries and household items								

62) Have you ever used a file sharing application such as Kazaa or BitTorrent?
a) Yes
b) No
c) Not sure

63) How would you describe your feelings regarding the privacy of your personal data on the Internet.
a) Very concerned
b) Somewhat concerned
c) Not very concerned
d) Not concerned at all

64) Do you take any security measures to protect the privacy of your data on the Internet?
a) Yes (Write in section here)
b) No

65) How much time a week do you use the Internet for social (e.g., non-academic) communication?
a) Less than 1 h each week
b) 1 to 2 h each week
c) 2 to 3 h each week
d) 3 or more hours each week
e) I'm not sure

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66) With whom do you communicate the MOST while using the Internet:
   a) Family
   b) Friends
   c) Romantic partner
   d) Work colleagues
   e) Professors
67) Have you ever formed a relationship online before meeting in person?
   a) Yes
   b) No
68) Have you ever tried online dating?
   a) Yes
   b) No
69) How much do you use the Internet now, compared to six months ago?
   a) I use the Internet MORE now
   b) I use the Internet LESS now
   c) I use the Internet about the SAME
   d) I don't know
70) Do you feel the Internet takes up time you would prefer to spend in other social activities?
   a) Yes
   b) No
71) What type of friends do you MOST often communicate with while online?
   a) Friends at other universities
   b) Friends you have made while on campus
   c) Friends from high school or childhood
   d) Friends who are working and not attending a university
   e) I'm not sure
72) What type of social activity do you MOST often engage in while online:
   a) Communicating with friends on campus
   b) Communicating with boyfriends or girlfriends on or off campus
   c) Forwarding messages to friends or family
   d) Forwarding messages to friends or family
   e) Communicating with coworkers or friends about academic or work related activities
   f) I'm not sure
73) I am more likely to use the phone than the Internet to communicate with friends and relatives.
   a) Strongly agree
   b) Agree
   c) Don't know
   d) Disagree
   e) Strongly disagree
74) I am more likely to use Instant Messaging (IM) than the phone to communicate with my friends.
   a) Strongly agree
   b) Agree
   c) Don't know
   d) Disagree
   e) Strongly disagree
75) You are a:
   a) male
   b) female
76) Your age is:
   a) 15–18
   b) 19–20
   c) 21–22
   d) 23–25
   e) 26+
77) You identify yourself as:
   a) American Indian or Alaskan Native
   b) Asian or Pacific Islander
   c) White, not of Hispanic origin
   d) Hispanic/Latino, not of European origin
   e) Black, African American, not of Hispanic origin
78) You are a:
   a) freshman
   b) sophomore
   c) junior
   d) senior
   e) graduate student
79) In what college are you enrolled? (Choose ONLY one.)
   a) Art or Architecture
   b) Business Administration
   c) Medicine/Dentistry/Nursing/Pharmacy/Health Sciences
   d) Education
   e) Engineering
   f) Liberal Arts and Sciences
   g) Social Work
   h) Urban Planning, Public Administration
   i) Other
80) In what type of school are you enrolled?
   a) 4 year public
   b) 4 year private
   c) 2 year public
   d) 2 year private
81) How many classes are you taking this term?
   a) 1
   b) 2–3
   c) 4–5
   d) more than 5
82) How many hours per week do you study for classes?
   a) Less than 3 h
   b) 4 to 7 h
   c) 8 to 11 h
   d) 12 or more hours
83) How many hours per week do you use the library (both in person and online)?
   a) Less than 3 h
   b) 4 to 7 h
   c) 8 to 11 h
   d) 12 or more hours
84) Please estimate your annual income:
   a) under $10,000
   b) $10,001 to $15,000
   c) $15,001 to $20,000
   d) $20,001 to $30,000
   e) $30,001 to $40,000
   f) $40,001 to $50,000
   g) $50,001 to $75,000
   h) more than $75,000
85) Please estimate your family's annual income:
   a) under $10,000
   b) $10,001 to $15,000
   c) $15,001 to $20,000
   d) $20,001 to $30,000
   e) $30,001 to $40,000
   f) $40,001 to $50,000
   g) $50,001 to $75,000
   h) more than $75,000
   i) don't know
86) Are you an International student?
   a) Yes
   b) No
87) Which of the following would best describe your permanent residence?
   a) Urban/major metropolitan area
   b) Suburban
   c) Rural

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88) Where do you currently reside?
   a) At home with parents/relatives
   b) An off-campus apartment/house
   c) An on-campus apartment/house
   d) College Dormitory
   e) Fraternity or Sorority house
   f) Other (please specify)_____

Thank you for taking the time to fill out this survey, it is greatly appreciated!

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