University Student Experiences and Expectations In Regard To Technology

Sherry Rodrigue
Nicholls State University

Lori Soule
Nicholls State University

Ronnie Fanguy
Nicholls State University

Betty Kleen
Nicholls State University

This paper reports the results of a study of both entering freshmen and graduating seniors concerning their experiences with and expectations of technology available to facilitate their learning. Based on 179 students surveyed from either university prep courses or senior capstone courses, students agree that technology helps them to collaborate effectively, achieve better grades, helps them feel more engaged in classes, improves their performance and is mostly not a distraction in class. They perceive that technology improves their educational and career opportunities and is preparing them for the workforce. When responses of freshmen were compared to those of seniors, however, statistically significant differences were found.

Based on 179 students surveyed from either university prep courses or senior capstone courses, students at the authors' university agree that technology helps them to collaborate effectively, achieve better grades, helps them feel more engaged in classes, improves their performance and is mostly not a distraction in class. They perceive that technology improves their educational and career opportunities and is preparing them for the workforce; they agree the university provides better technology than high school, values technology, and understands their technology usage.

When responses of freshmen were compared to those of seniors, however, statistically significant differences were found when questioned about the university's technology compared to high school technology, technology helping students achieve better grades, technology engaging the students in class, and technology improving their opportunities.

INTRODUCTION

Many of today's high school students are coming to university campuses with a background where they were immersed in technology. They do not remember a time before the Internet and ubiquitous computing and communication devices. Utilizing these devices is second nature to them, and they have

come to expect their availability and have come to rely on them as an integral part of their life, including their education. For example, McDonald *et al* (2013), and Rodrigue, Soule, and Kleen (2014) found that freshmen students at their individual institutions (considered to be located in more rural environments) expected technology usage in their classrooms and identified technologies such as wireless networks, laptops, smart phones, and digital content as essential for 21st century classrooms.

There is no doubt that technology is having a great impact on university campuses. Online courses and degree programs are becoming increasingly commonplace. Even many traditional courses have some type of online component. Computer laboratories, wireless networking capabilities, online course management systems, and the like are now prevalent in such venues. But, is the technology provided by our universities in line with the expectations of our prospective students? Are universities turning away students who would otherwise matriculate because of a "disconnect" between what faculty and administrators think students want and what they actually have come to expect regarding technology?

In addition to the question of technology's impact on recruiting, one is also left to consider its impact on retention of students. Are universities aiding student learning by providing the technology that students deem necessary to benefit them in their successful progression through their degree programs? Furthermore, do students feel the same about these technologies when they are approaching graduation as they did when they initially enrolled in their college degree program? Hably and McClanahan (2004) summarized three decades of ACT surveys of four-year colleges in which university administrators typically reported student characteristics were more likely to influence attrition than the school's characteristics. If student perceptions of technology are investigated, do the results indicate a different perspective?

Many faculty have found great success in utilizing technology to make their classes more engaging to students. Bates and Sangra (2011), Berk (2009), Junco, Heiberger, and Loken (2011), and Wankel and Blessinger (2013) are four among many groups of researchers who report on the impact various technologies have on engagement, grades, and retention in higher education. Still, a curious faculty member will question whether his/her personal usage of technology in teaching is in line with student expectations.

While technology can be a great way to capture student attention, problems can arise when faculty begin to rely on technology. Problems with reliability and availability of instructional technologies can create serious issues for faculty who rely on them. Any time spent troubleshooting and/or resetting technological devices may be seen as a waste of precious class time or a distraction—especially when compared against a time when chalk and erasers were the extent of classroom technology.

Many faculty expect course management software to be available at the beginning of classes as they load their presentation materials directly from these online storage locations. If these are not available, class presentations may be negatively impacted. Similarly, instructors have come to rely upon an array of technologies—from computing devices and projectors to networks, servers, and the like—to make their classes more interesting and to create more effective learning environments for today's college students. If any of these instructional technologies that an instructor is relying upon is unavailable, the extent to which the faculty is able to adapt to this situation will determine whether the class period is wasted or not. The authors are interested in gauging student opinions in regards to whether university technology is perceived as a help or a hindrance.

From another perspective, do students' technology experiences outside of the classroom have more of a positive or negative impact on students? Word processing software is often seen as a vast improvement over the typewriters of yesteryear. However, when students forget to save their work or have a hard drive crash, are they still as appreciative of this technology? Perhaps this is a one-time-only lesson that needs to be learned to instill the importance of backups and saving.

Other anecdotal evidence that has been gathered by the authors makes them believe that the enthusiasm for instructional technology which many incoming students often bring with them may be tempered by the time they graduate due to errors within technological systems. For example, when a conscientious student carefully prepares for an online quiz and in turn earns a 100% score, their opinion about instructional technology is sure to be lowered when the instructor assigns them a 0% because their

system view shows that the student never submitted the quiz. A similar situation is likely when a student is attempting to submit required work to a textbook's companion web site if it is malfunctioning. It is not uncommon for students to report being marked wrong for correct answers. While it is sometimes in actuality the student's mistake, it may be a problem with the technology. If student work that is actually being done correctly is reported as incorrect, confusion and doubt about course content will almost surely delay the confidence that instructors hope their students will develop. If this continues, student frustration will almost surely grow. This is not a good indicator for high retention. Furthermore, word-of-mouth will have a negative impact on recruiting efforts.

Purpose

The purpose of this research project is to extend the work begun by the authors (as reported in 2014) related to the technology experiences and expectations of incoming freshmen. In this year's project the authors have a two-part goal. The first goal is to survey the new incoming class of freshmen to see if their responses are in agreement with the previously collected results. The second goal is to survey graduating seniors to see the degree to which their experiences and expectations are similar to those of incoming freshmen.

Instrument

The basic instrument used for this study is the 2011 CDW-G 21st Century Classroom Assessment Tool. The instrument, which is free to download and use, is designed to gather student perceptions concerning technology used in their secondary education environment as well as in their university education environment. The final questionnaire used in this study totaled 36 questions. Some questions in the original CDW-G instrument were modified to better fit the current study.

The Target Population

The target population of this study is comprised of two distinct groups at the researchers' university. The first group is incoming freshmen, and the second group is graduating seniors enrolled in various capstone courses throughout the university.

Since incoming freshmen typically schedule the UNIV 101 course during their first semester, this course was selected for survey administration. The UNIV 101 course is a university prep course designed for entering freshmen and transfer students with less than 30 hours. The course helps students adjust to the university, provides a support system, and promotes understanding of the requirements of the student's major.

Various capstone courses across the university were also selected for survey administration. These courses effectively capture the population of graduating seniors as the prerequisite structure in place helps to ensure that students enrolled are graduating in the current semester or will be graduating very soon.

Procedures

The survey was administered using a convenience sampling technique. Several faculty members who teach numerous sections of the one-credit-hour UNIV 101 course agreed to have their students participate in the project. To facilitate allowing students to acclimate to the university and the technology available, the instrument was administered after the fall midterm break at the university. The same timeline was used for the seniors enrolled in participating capstone courses. The survey was administered as an online survey through Google Forms. Participating faculty members informed their students that their participation was both voluntary and anonymous. This information was repeated at the top of the online survey instrument.

DATA ANALYSIS

This study targets two particular sets of students—freshmen who were just entering the university and seniors who were about to graduate. These groups were selected because the authors were interested in comparing results to a 2013 study (Rodrigue, Soule, and Kleen, 2014) conducted by the authors. Also, by

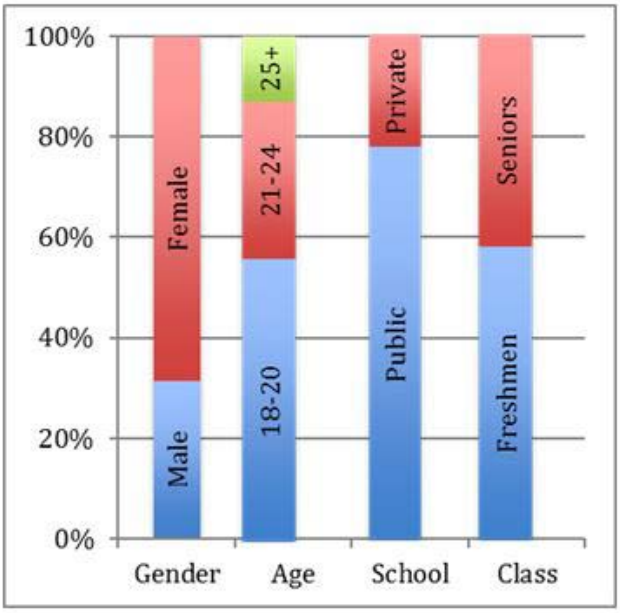
surveying and gathering opinions of both freshmen and seniors, results could be analyzed to determine if any significant differences in responses were found.

Demographics

A total of 179 students participated in the survey during the fall semester of 2014. Figure 1 depicts the demographics of this group of participants.

Gender, age, classification, and type of high school attended were used as independent variables for the study. Of the 179 participants responding to gender type, 31.5% were male and 68.5% were female. The data for age were collected using the choices of 18-20 years of age, 21-24 years of age, 25-30 years of age, and 31 and over years of age. Since the choice of 31 and over years of age had minimal numbers, the data choice was collapsed into a new group, 25 years of age or older. Using the new grouping, 55.9% were 18-20 years of age, 31.3% were 21-24 years of age, and the remaining 12.8% were 25 years of age and older.

FIGURE 1
DEMOGRAPHIC DISTRIBUTION



The variable type of high school attended had four choices (public, public charter/magnet, private, and homeschool) when the data were captured. Once again, due to the small number of entries in a couple of the choices, the data collected from the 179 responses were collapsed into public (77.7%) and private (22.3%). Data for classification were collected using the traditional freshman, sophomore, junior, and senior choices. Due to the minimal number of entries in the sophomore choice and the fact these students were enrolled in freshman orientation course, the data were collapsed into freshman. This resulted in 58.1% being reported as freshmen and 41.9% reported as seniors.

Overall Opinions and Perceptions

The mean and standard deviation for each of the dependent variables were computed. These dependent variables related to the university's technology and how it affects the student's:

- Collaboration
- Grades
- Engagement

- Performance
- Distraction
- Opportunity Improvement
- Workforce Preparation

The authors also gauged the university by asking students how they perceive that it

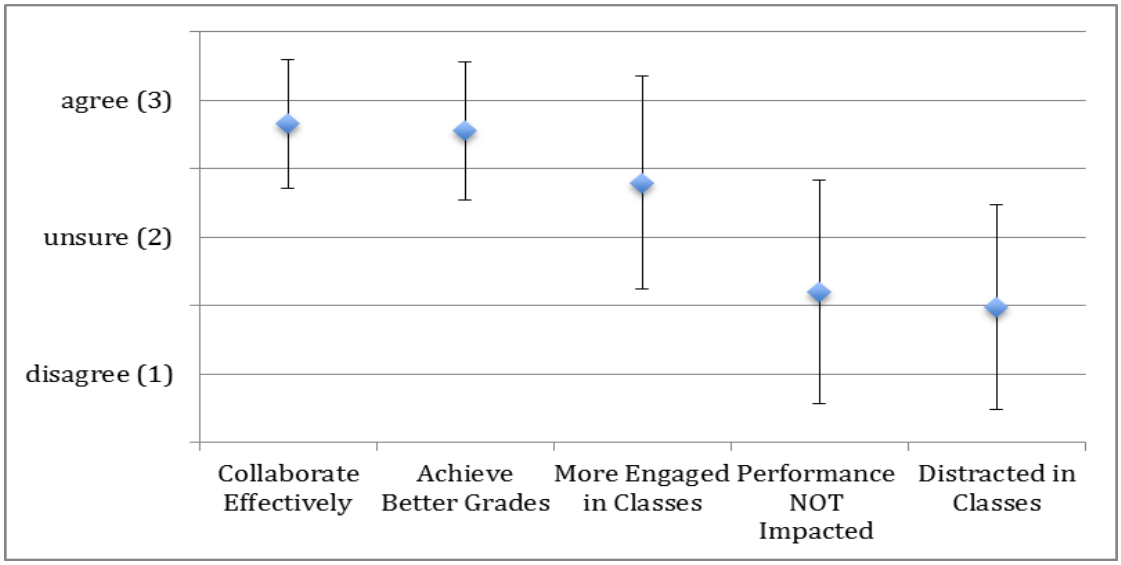
- Values Technology
- Prepares Students for the Workforce

Additionally, students' opinions of the university were measured by asking whether the university was

- current with technology,
- up-to-date in relation to the student's high school, and
- understanding of how the student used technology.

As Figure 2 depicts, when examining the opinions and perceptions of all the respondents, the figure shows students perceive that technology helps them to collaborate effectively, achieve better grades, helps them feel more engaged in classes, improves their performance and is mostly not a distraction in class. These five questions had three possible choices (agree, unsure, disagree). Of these five questions, the dependent variable "Technology has enabled me to collaborate more efficiently with faculty and other students" had the highest mean (M = 2.83, SD = .468). It was closely followed by responses received to the survey item "Technology has enabled me to achieve better grades" *(M = 2.78, SD = .503)*. As the researchers hoped, "Technology is a distraction in classes, and has negatively impacted my performance" had the lowest mean (M = 1.49, SD = .746). Closely behind was the survey item "Technology has not impacted my performance in the classroom" *(M = 1.60, SD = .746)*. As Figure 2 suggests, students also perceived technology has helped them to feel more engaged in classes.

FIGURE 2
STUDENT AGREEMENT WITH OPINIONS REGARDING TECHNOLOGY AT THE UNIVERSITY (MEAN ± 1 STANDARD DEVIATION)

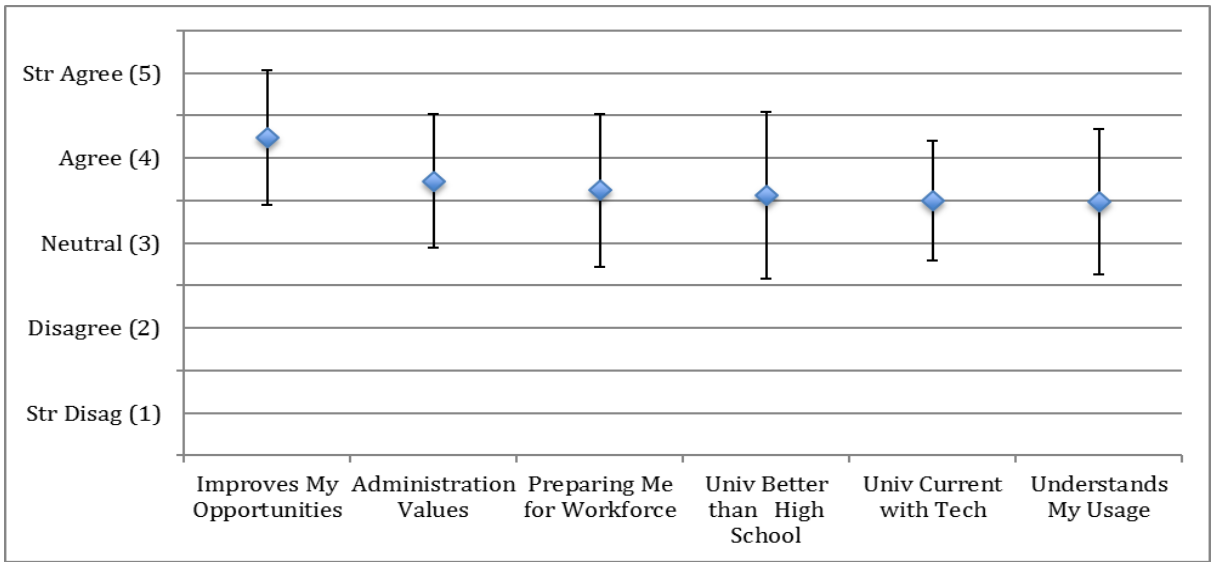


When compared to the 2013 study of 159 freshmen, higher means were found in 2014 regarding support for collaborating effectively, achieving better grades, and more engaged in class. The 2013 and 2014 means for technology as a distraction or performance not impacted were very similar.

As Figure 3 depicts, when examining the opinions and perceptions of all the respondents on questions using a five-point Likert scale, students agree with all six items. Students perceive that technology improves their educational and career opportunities and is preparing them for the workforce; they believe the university provides better technology than high school, values technology, understands their technology usage, and has current technology. The dependent variable "Learning and mastering technology skills will improve my educational and career opportunities in the future" had the highest mean (M = 4.24, SD = .796) and the dependent variable "My college/university understands how I use or want to use technology as a learning tool" had the lowest mean (M = 3.49, SD = .857). In addition to the two items already mentioned, students perceive that:

- Administration values technology as a learning tool
- The university is preparing them to successfully use technology as a business/professional tool when they enter the workforce
- The university technology compares favorably to the technology available at their high school, and
- The level of technology at the university is favorable.

FIGURE 3
STUDENT OPINIONS REGARDING TECHNOLOGY—ESPECIALLY AS IT RELATES TO THE UNIVERSITY (MEAN ± 1 STANDARD DEVIATION)



When compared against the 2013 study with 159 participants, higher means were found in the 2014 study for improves opportunities, administration values, and university understands my usage. Interestingly, the 2014 means were lower than the 2013 study in regard to university's technology compared to high schools and the university's currency with technology. In both years, the mean for preparing me for the workforce was 3.62.

T-Tests and Analysis of Variance

Mean responses were analyzed for difference among distinct groups of students. Independent samples t-tests and analysis of variance statistical procedures were carried out to determine if any statistically

significant differences exist. Statistically significant differences of means identified are summarized in Table 1 (Appendix).

Gender. Relating to the 11 analyzed questions on the survey, the researchers formulated hypotheses (H1-H11) about the differences in the mean of the dependent variables by **gender**. However, using independent samples t-test, none of the hypotheses were found to be statistically significant.

Type of high school attended. The researchers also formulated hypotheses, again tested using independent samples t-test, about the differences in the mean of the different dependent variables by **type of high school attended**. As presented in Table 1, two hypotheses in this grouping were found to be statistically significant. For the statement, "*Consider for a moment the classroom technology you used in high school (e.g., computers, interactive whiteboards, software, clickers, projectors, etc.). How does it compare to the classroom technology on your campus?*" persons attending a public high school had a mean of 4.04 while the persons attending a private high school had a mean of 3.68. The hypothesis of equal means was rejected (sig. = .039).

For the statement, "*When you were considering where to attend college, how important were an institution's technology offerings to you, including equipment and access to that equipment, in your selection process?*" persons attending a public high school had a mean of 2.42 while the persons attending a private high school had a mean of 2.05. The hypothesis of equal means was rejected (sig. = .040).

Classification at the university. The researchers also formulated hypotheses, again tested using independent samples t-test, about the differences in the mean of the different dependent variables by **classification**. As presented in Table 1, five hypotheses in this grouping were found to be statistically significant. For the statement "*Consider for a moment the classroom technology you used in high school (e.g., computers, interactive whiteboards, software, clickers, projectors, etc.). How does it compare to the classroom technology on your campus?*" students classified as freshmen had a mean of 3.78 while the students classified as seniors had a mean of 4.20. The hypothesis of equal means was rejected (sig. = .003).

The second hypothesis was do students classified as freshmen feel the same about the statement "*Technology has enabled me to achieve better grades.*" as students classified as seniors. Students classified as freshmen had a mean of 2.69 while the students classified as seniors had a mean of 2.89. Equal variances were not assumed (sig. = .000) and the hypothesis of equal means was rejected (sig. = .005).

For the statement "*Because of technology, I am more engaged in my classes,*" students classified as freshmen had a mean of 2.22 while the students classified as seniors had a mean of 2.65. Equal variances were not assumed (sig. = .003) and the hypothesis of equal means was rejected (sig. = .000).

For the statement "*Technology has not impacted my performance in the classroom," s*tudents classified as freshmen had a mean of 1.74 while the students classified as seniors had a mean of 1.41. Equal variances were not assumed (sig. = .020) and the hypothesis of equal means was rejected (sig. = .007).

For the statement "*Learning and mastering technology skills will improve my educational and career opportunities in the future.*" students classified as freshmen had a mean of 4.13 while the seniors had a mean of 4.39. Equal variances were assumed (sig. = .938) and the hypothesis of equal means was rejected (sig. = .036).

Age of respondents. The researchers established 12 ANOVA tests, where the Likert-type statements were the factors and **age** was the variable. As presented in Table 1, only four of the hypotheses related to **age** questions were found to be statistically significant. For the statement, "*Consider for a moment the classroom technology you used in high school (e.g., computers, interactive whiteboards, software, clickers, projectors, etc.). How does it compare to the classroom technology on your campus?*" there was a statistically significant difference between groups as determined by one-way ANOVA ($F(2,176) = 8.488$, $p = .000$). Because of unequal group sizes, Fisher's LSD post hoc test was used to determine the nature of the difference between the age of the students; this analysis revealed that there was a statistically significant difference between the mean of the students 18-20 years of age ($M = 3.73$, $SD = 1.004$) and the mean of the students 21-24 years of age ($M = 4.11$, $SD = .888$, $p = .017$). In addition, there was a

statistically significant difference between the mean of the students 18-20 years of age (M = 3.73, SD = 1.004) and the mean of the students 25 years of age of older (M = 4.57, SD = .728, p = .000). There were no other statistically significant differences between the other age groups' means.

For the statement, "*Because of technology, I am more engaged in my classes.*" there was a statistically significant difference between groups as determined by one-way ANOVA (F(2,176) = 3.363, p = .003). Fisher's LSD post hoc test was again used because of unequal group sizes to determine the nature of the difference between the age of the students; this analysis revealed that there was a statistically significant difference between the mean of the students 18-20 years of age (M = 2.23, SD = .802) and the mean of the students 21-24 years of age (M = 2.63, SD = .702, p = .002). In addition, there was a statistically significant difference between the mean of the students 18-20 years of age (M = 2.23, SD = .802) and the mean of the students 25 years of age of older (M = 2.61, SD = .656, p = .031). There were no other statistically significant differences between the other age groups' means.

For the statement, "*Technology is a distraction in classes, and has negatively impacted my performance.*" there was a statistically significant difference between groups as determined by one-way ANOVA (F(2,175) = 1.742, p = .043). Fisher's LSD post hoc test was used because of unequal group sizes to determine the nature of the difference between the age of the students; this analysis revealed that there was a statistically significant difference between the mean of the students 18-20 years of age (M = 1.56, SD = .770) and the mean of the students 25 years of age of older (M = 1.13, SD = .458, p = .013). In addition, there was a statistically significant difference between the mean of the students 21-24 years of age (M = 1.51, SD = .767) and the mean of the students 25 years of age of older (M = 1.13, SD = .458, p = .040). There were no other statistically significant differences between the other age groups' means.

For the statement, "*Technology has not impacted my performance in the classroom.*" there was a statistically significant difference between groups as determined by one-way ANOVA (F(2,176) = 2.168, p = .038). Because of unequal group sizes, Fisher's LSD post hoc test was used to determine the nature of the difference between the age of the students; this analysis revealed that there was a statistically significant difference between the mean of the students 18-20 years of age (M = 1.72, SD = .830) and the mean of the students 21-24 years of age (M = 1.38, SD = .702, p = .011). There were no other statistically significant differences between the other age groups' means.

Student Uses of Technology

Four questions were asked related to specific technologies students use or perceived useful for differing purposes. Each question allowed multiple answers to be selected, and respondents were enabled to select as many answers as they perceived applied. Table 2 (Appendix) reflects the choices available and the percentage of times each of the choices were chosen (out of a total of 179 responses received). The questions asked include the following:

- *Thinking about how to leverage technology to increase your interest and performance in classes, which of the following technologies do you believe are essential to a 21st-century classroom?*
- *Today, which of the following technologies does your institution offer/support?*
- *Which of the following technologies/Internet tools do you currently use in conjunction with your education (e.g., to study, while in class, to work on projects)?*
- *Which of the following technologies do you currently use outside of your education (e.g., to communicate with friends and family, to relax, to have fun)?*

The overall top pick for all four questions was the choice of wireless network/Internet. Students overwhelmingly perceived that wireless networks and the Internet were essential for today's classroom. They also felt that this need is being met by the university as they utilize it for classroom and non-classroom use. While students believe that laptops/netbook computers are essential and useful (both inside and outside of the classroom), they perceive that what the university offers is lacking in this area. They recognize that the university offers desktop computers, instead. However, they do not perceive that this technology is as essential in the classroom as for overall use for education or outside the classroom.

While 50% perceive recorded class lectures as important for the classroom, only 15% reported using them for their education. Students also report more smartphone use than what they perceive the university supports from an educational perspective.

It is rather surprising that students do not perceive multimedia streaming as useful or essential. The authors believe that this is due to students' failure to make the connection between this term and the largest multimedia content provider on the web, YouTube. Certainly, if this connection were made, response rates for this item would have been higher. "If a picture is worth a thousand words, then a video is worth a million," claims Barry Levinson of the Huffington Post (http://www.huffingtonpost.com/barry-levinson/media-coverage-of-war_b_5674555.html). Certainly, students recognize the value of online multimedia as it relates to educational and personal use. However, in this study, they did not seem to recognize the jargon IT professionals use to describe it.

When compared against the findings of the previous year's study, the 2013 students did not place a course management system in the top four technologies essential for the classroom, although the 2014 study revealed it in that top classification. The top four technologies the university offers were consistently identified in both studies: wireless network/internet, desktop computers, course management system, and digital content. Both studies also revealed the top four technologies used by students for education as wireless network/internet, laptop/netbook computers, smartphones, and course management systems. In 2014, social networking sites rose to 72%, whereas this was reported as 47% by the 2013 group.

In both 2013 and 2014, students reported limited value/use of technologies such as multimedia content streaming, video and/or web conferencing, and recorded class lectures. Apparently neither year's survey respondents recognized YouTube as multimedia content streaming.

CONCLUSIONS AND RECOMMENDATIONS

Based on 179 students surveyed from either university prep courses or senior capstone courses, students at the authors' university agree that technology helps them to collaborate effectively, achieve better grades, helps them feel more engaged in classes, improves their performance and is mostly not a distraction in class. They perceive that technology improves their educational and career opportunities and is preparing them for the workforce; they agree the university provides better technology than high school, values technology, and understands their technology usage.

When responses of freshmen were compared to those of seniors, statistically significant differences were found regarding opinions of the university's technology compared to high school technology, with freshmen scoring the university lower than seniors. Statistically significant differences were also found for technology helping them achieve better grades, engaging them more in classes, and improving their opportunities (in each instance, seniors scored those questions higher than freshmen).

The top technology reported by students as essential for the classroom, provided by the institution, used in and out of class for their education, and used outside of education was wireless network/Internet. The top four technologies students used for their education inside and outside of class included wireless network/Internet, laptop/netbook computers, smartphones, and course management systems.

Very few differences in student responses were identified between the 2013 study and the 2014 study.

Based on the initial findings of some significant differences between freshmen responses and senior responses, it is important for a university to constantly monitor emerging technologies and usage trends among teens and the general public as replacement and upgrade decisions are made concerning educational technology at the institution. Because of the significant monetary investment of any technology upgrades, smart choices are essential. Providing technology that students perceive enhances their education and technology that they like to use can contribute to attracting students, retaining students, and graduating students.

The students surveyed in the current study were not enrolled in fully online course sections. Thus it may be of value to survey those students in 100% online courses to determine if responses would be similar to this study's findings. Another interesting aspect of a future study could be to more fully

investigate those events that students may label as distracting, annoying, or frustrating regarding technology used in their online courses.

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APPENDIX

TABLE 1
STATISTICALLY SIGNIFICANT DIFFERENCES IN MEAN RESPONSES

Survey Item	Test & Sig. Level	Findings
Differences in Mean Responses by: **Gender**		
None	t-Test	No statistically significant findings
Differences in Mean Responses by: **High School Type**		
Univ Better than High School	t-Test 0.039	Public high school students mean = 4.04 Private high school students mean = 3.68
Tech Affected College Selection	t-Test 0.040	Public high school students mean = 2.42 Private high school students mean = 2.05
Differences in Mean Responses by: **Classification**		
Univ Better than High School	t-Test 0.003	Freshmen mean = 3.78 Senior mean = 4.20
Achieve Better Grades	t-Test 0.005	Freshmen mean = 2.22 Senior mean = 2.65
More Engaged in Classes	t-Test 0.000	Freshmen mean = 2.22 Senior mean = 2.65
Performance NOT Impacted	t-Test 0.007	Freshmen mean = 1.74 Senior mean = 1.41
Improves my Opportunities	t-Test 0.036	Freshmen mean = 4.13 Senior mean = 4.39

TABLE 1 (CONTINUED)
STATISTICALLY SIGNIFICANT DIFFERENCES IN MEAN RESPONSES

Differences in Mean Responses by: **Age**		
Univ Better than High School	ANOVA-0.000 Fisher's LSD-0.017	18-20 year old mean = 3.73 21-24 year old mean = 4.11
Univ Better than High School	ANOVA-0.000 Fisher's LSD-0.000	18-20 year old mean = 3.73 25+ year old mean = 4.57
More Engaged in Classes	ANOVA-0.003 Fisher's LSD-0.002	18-20 year old mean = 2.23 21-24 year old mean = 2.63
More Engaged in Classes	ANOVA-0.003 Fisher's LSD-0.031	18-20 year old mean = 2.23 25+ year old mean = 2.61
Distracted in Classes	ANOVA-0.043 Fisher's LSD-0.013	18-20 year old mean = 1.56 25+ year old mean = 1.13
Distracted in Classes	ANOVA-0.043 Fisher's LSD-0.040	21-24 year old mean = 1.51, sd=0.767 25+ year old mean = 1.13, sd=0.458
Performance NOT Impacted	ANOVA-0.038 Fisher's LSD-0.011	18-20 year old mean = 1.72, sd=0.830 21-24 year old mean = 1.38, sd=0.702

TABLE 2
PERCENTAGE OF STUDENT RESPONSES RELATED TO SPECIFIC TECHNOLOGIES

Technology	Essential for Classroom	Institution Offers	Used for Education	Used Outside of Education
Wireless network/ Internet	99%	98%	96%	94%
Laptop/ netbook computer	77%	45%	86%	83%
Course Mngt system	64%	73%	67%	20%
Off-campus network access	61%	37%	31%	18%
Digital content	60%	60%	49%	28%
Smartphone	53%	31%	77%	82%
Open source applications	50%	34%	44%	32%
Recorded class lectures	50%	22%	15%	4%
Virtual learning	48%	30%	11%	4%
Interactive whiteboards	42%	30%	13%	4%
Desktop computer	41%	87%	44%	37%
Media tablet	39%	26%	32%	36%
Video/Web conferencing	35%	17%	8%	18%
Social networking sites	34%	40%	34%	72%
Instant message/video chat	30%	12%	12%	41%
Multimedia streaming	23%	9%	6%	12%
E-reader device	21%	20%	11%	18%
Blogs/wikis	15%	14%	12%	17%
Podcasts/ vodcasts	12%	9%	5%	7%
iPod/ MP3 player	11%	8%	13%	35%