Student Use of Online Study Tools in Business Communication Courses

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Many textbooks have online study tools designed to help students succeed in classes. Teachers promote the tools as "free" add-ons that have the potential to increase students' comprehension of material, ultimately improving their final grades. Do students actually use these tools, however? If so, does their use impact the students' exam grades? A study was designed to track the use and effectiveness of the online tools in five sections of an undergraduate business communication course at Stephen F. Austin State University. This paper presents the results of this survey and suggestions for incorporating online study tools in the classroom.

INTRODUCTION

Current college students are predominantly those who are part of the Millenial generation, one of the most technologically savvy generations in history. Numerous studies show that members of this generation incorporate the use of technology into their lives on a daily basis. In order to make textbook content more accessible and appeal to the learning styles of this generation, publishers have developed online study tools that include PowerPoint slides, audio lectures, interactive quizzes, games, and video segments.

Teachers often promote the tools to students as "free" add-ons that have the potential to increase their comprehension of material, ultimately improving their final grades. Research studies have been previously conducted regarding the use of online study tools when they first became available. Since this initial research, however, some very important questions remain. Do current students actually use these tools? If so, what perceived and real impact does their use have on the students' exam grades? Also, does the teacher's promotion of the tools affect student use and, ultimately, student grades on exams and other assessment measures?

The research for this paper was done to determine whether or not students used online study tools that are provided by publishers to help learn textbook content. With the purchase of a print textbook or online e-book, the online tools are available for the duration of a course. This study was conducted to determine how students perceive the usefulness of these online tools in preparing for an exam on textbook content.

The study measured student use of online tools and the correlation, if any, between use of the tools and student grades on the exam. The students were surveyed after taking the first exam of the semester.

Literature Review

The literature shows a wide variety of response and acceptance among students regarding the use of e-books and online study tools. When e-books and their ancillaries first appeared in the 1990s, many technology experts predicted that print books and print resources would become obsolete. However, in the 21st century, many college students still prefer a traditional print textbook, despite the growth in the e-book market. A four-year study by Gregory (2008) investigated undergraduate usage and attitudes toward electronic books. The findings showed that the students who were surveyed had mixed feeling about using e-books, preferring traditional books over e-books. Other research related to e-books indicates low but increasing acceptance of e-books (DuFrene, Lehman, & Biss, 2008).

There has been extensive research on how students use e-books, but there has been no conclusive summary. This may be due to the wide variety of users and textbooks available and the fact that a print textbook is still being used by many instructors. In an article by Tenopir, the lack of data on the student use of e-books was attributed to the fact that textbooks can be sold directly to students or to libraries; therefore, it is not yet determined how e-books are being used by students and there is no single pattern of use that has evolved (Tenopir, 2008).

Until recently, students have shown a reluctance to read a textbook or access other ancillaries on an electronic device. However, e-books are increasing in popularity because the technology for viewing content continues to improve (Mullan, 2009). Technological improvements are likely to lead to increased interest in the use of e-books (McClure, 2009).

The potential of e-books in education may be forecast by the increasing popularity of e-books in general. Over the last five years, e-books are the only book publishing segment showing consistent double-digit sales increase. The Association of American Publishers' (AAP) 2007 "S1 Report" showed that the sales of e-books reflected an increase of 55.2 percent for that year (McKenzie, 2009). According to McKenzie, e-books "bring lessons to life, engage struggling readers, and connect technology and learning." Struggling students have more choices and can benefit from built-in e-book functions and tools. E-books and online tools help 21st-century learners engage with technology, relieving the boredom often associated with traditional classroom activities.

With new social networking features designed specifically for the classroom, companies are combining the interactivity of Web 2.0 with text, providing evidence that e-books are becoming increasingly important as the latest learning tool in academics. For example, VitalSource's Bookshelf e-textbook platform, driven by Ingram Digital, provides free software that allows users to download, store, and manage e-textbooks. Bookshelf 5.1 users have the ability to collaborate with each other; any Bookshelf user can, for example, subscribe to another person's notes. Instructors can use this function to make notes directly in the text, which students can then access to help learn the material more effectively. According to one professor, 75 percent of his class used the e-book more than the print book because they liked the fact that all the digital assets were easily accessible and that the instructor shared his notes (Mullan, 2009).

Such collaboration features as those offered by VitalSource have helped increase the number of e-textbook users, but is not the only reason for increasing popularity. Programs such as iTunes have increased the popularity of portable digital content. Students are more used to the idea of paying for a file, and digital content is now familiar to consumers. Students can have a more individualized learning experience, and the program uses terms and formats that students easily recognize (Mullan, 2009). As more students use the iPod, iPhone, and other handheld devices, they will become more accustomed to accessing textbook information via the web (McClure, 2009).

According to William Chesser, general manager and vice president of Ingram Digital Education Solutions, e-books will continue to impact higher education if professors are willing to take a chance and utilize new technology. Chesser says that the "professor is absolutely the key" to bringing new ways of

teaching and consuming information to the classroom. This technology can totally change the way education is approached (Mullan, 2009).

The literature shows that e-books are changing the nature of education. Yet, given this method of delivering information, the question is whether or not students use all of the resources available to them electronically. Tenopir (2008) reported that there is no pattern of usage for e-books because of the wide variety of users and subjects. Depending on the subject, some students may find online tools very useful. For example, Internet-based learning tools are found to be valuable for teaching foreign language. Podcasts, mobile-based flashcard programs, and writing corrections services are some tools that are beneficial when teaching language (Niemuth, 2010).

In a research study done at the University of Ottawa, students used interactive online learning tools for the study of anatomy, a core component of health science programs. Given high enrollment and content-packed curricula, it was difficult for students to have regular access to laboratories. Interactive anatomy images were made available to students. The survey results showed that the learning and self-testing tools were widely used by students who found them relevant and supportive of their self-learning. However, it is interesting to note that student examination outcomes did not differ between students who had access to online tools and a student group from the previous year who did not (O'Byrne, Patry, & Carnegie, 2008).

In the studies on the use of online study tools for teaching foreign language education and for teaching anatomy, both researchers reported a positive experience for students who perceived these tools as highly valuable. Perhaps the use of online study tools depends on the student, the subject, and the perceived value by the student. In a study on the response of students to an electronic textbook in business communication, only 15 percent indicated that they used the online study tools (DuFrene, Lehman, & Biss, 2008). Although professors may require e-books and incorporate use of technology in the classroom, they cannot make a student use the study tools that are available. If there is no perceived value, the student will not likely use the tools. It is also interesting to note there is minimal research that shows significant correlation between student use of online study tools and grades on exams.

Methodology

To address the question of the current use by students of available online study tools, a study was designed to objectively track the use and perceived effectiveness of the online tools in five sections of an undergraduate-level business communication course (BMC 247) at Stephen F. Austin State University. The textbook for these courses—*BCOM* by Lehman/DuFrene—has an online study component that consists of chapter quizzes, class PowerPoints, interactive games, audio lectures, model documents, grammar reviews, style guides and more, as seen below in the screen shot of the student portal to the online tools:

An anonymous survey was administered via WebCT/Blackboard to approximately 200 students (both business majors and non-majors) in February 2010. Students took the survey immediately after completion of the first computer-based exam covering chapter content from the textbook. The survey solicited information in three areas: tools the students used, if any; level of perceived "usefulness " of the tools for increasing the exam score; and if no tools were used, the reasons why. A list of the questions appears in Table 1:

FIGURE 1
ONLINE TOOLS AVAILABLE IN *BCOM* BY LEHMAN/DUFRENE

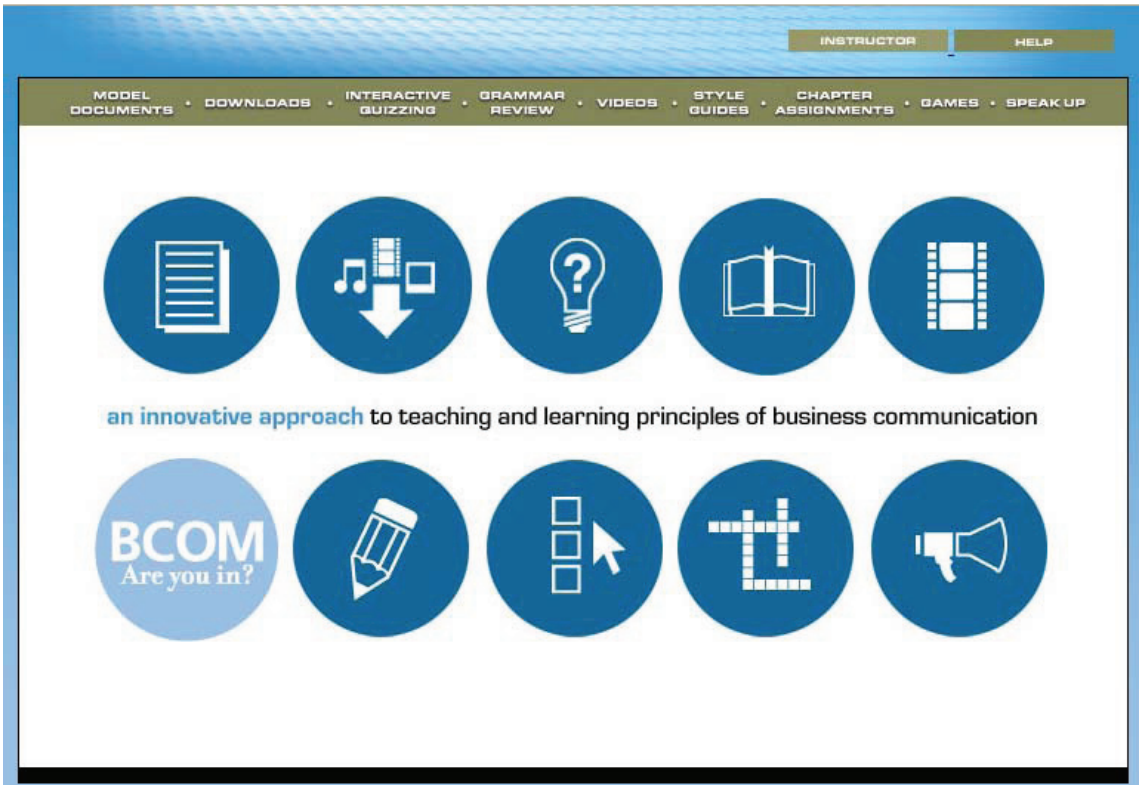

TABLE 1
QUESTIONS FROM STUDENT SURVEY

Question	Answer Options
Did you use the online study tools available from the textbook publisher (access code required)	a. Yes b. No
If you did NOT use the study tools, why not?	a. Did not have an access code because I purchased a used book. b. Did not feel they would be useful. c. Did not know how to access. d. Did not have enough time. e. I DID access them. f. Other
If you used the online study tools, which applications did you use?	a. PowerPoint slides b. Interactive quizzes c. Quizbowl game d. Crossword Puzzle game e. Vocabulary flashcards f. Audio chapter summaries g. Did not use online study tools
If you used the online study tools, how helpful do you think they were?	a. Very helpful b. Somewhat helpful c. Not very helpful d. No help at all

If you used the online study tools, do you think they better prepared you for the test?	a. Yes b. No c. Unsure d. Did not use
Based on the grade you earned for the first test, which of the following statements BEST describes your opinion of the publisher's online study tools?	a. They're great. I'll use them again. b. I'll use them again, but not as much. c. I'll use them again, but I'll concentrate on different online tools. d. I didn't use them, but I will next time. e. I won't use them again, because I didn't think they helped me. f. I won't use them because I don't have an access code.
Please feel free to further explain any of your answers to this survey. You may also add any comments about the ONLINE STUDY TOOLS.	Open-ended question

To assess the impact of the use of these online tools on students' test grades, a common set of questions was used on exams administered by the three different instructors in seven separate sections of BCM 247. Two questions from each of the three chapters on the online interactive quizzes were placed on the exam, and the student responses were compared. The authors looked for any significant differences between scores in classes in which the tools were actively promoted by the instructor (four sections) and classes in which they were not promoted (three sections). Due to technological issues during the exam, results of the test questions were not usable from one of the sections in which the tools were promoted. (NB: Because the usage surveys were anonymous, the authors were not able to directly tie a student's exam grade to their individual exam score or the results of the sample questions.)

Results and Discussion

The results of the survey responses will be presented below.

Extent of Use and Perceived Helpfulness

Questions regarding the use of the tools and their perceived positive impact on students' exam grades generated the following responses:

TABLE 2
RESULTS OF STUDENT SURVEY

Questions and Response Options		Course Sections						
		A1	A2	B1	B2	C1	C2	C3
1)	**Did you use the online study tools?**							
	Yes	37.00%	43.30%	40.90%	46.70%	33.30%	17.90%	6.90%
	No	63.00%	60.00%	59.10%	53.30%	70.00%	82.10%	93.10%
2)	**If you did NOT use the online study tools, why not?**							
	Did not have an access code because I purchased a used book	3.80%	13.30%	0.00%	13.80%	6.70%	17.90%	25.00%

	Did not feel they would be useful.	7.70%	3.30%	9.10%	3.40%	16.70%	10.70%	25.00%
	Did not know how to access.	11.50%	10.00%	0.00%	6.90%	3.30%	3.60%	10.70%
	Did not have enough time.	30.80%	20.00%	31.80%	20.70%	16.70%	25.00%	25.00%
	I DID access them.	34.60%	40.00%	31.80%	41.40%	23.30%	17.90%	3.60%
	Other	11.50%	20.00%	31.80%	20.70%	40.00%	28.60%	17.90%
3)	**If you used the online study tools, which applications did you use?**							
	PowerPoint slides	20.00%	23.30%	4.50%	14.30%	23.30%	14.80%	10.70%
	Interactive quizzes	32.00%	36.70%	22.70%	50.00%	10.00%	14.80%	3.60%
	Quizbowl game	24.00%	16.70%	22.70%	17.90%	6.70%	3.70%	3.60%
	Crossword puzzle game	16.00%	13.30%	4.50%	7.10%	0.00%	7.40%	3.60%
	Vocabulary flashcards	12.00%	0.00%	9.10%	7.10%	6.70%	3.70%	0.00%
	Audio chapter summaries	0.00%	0.00%	0.00%	0.00%	0.00%	3.70%	0.00%
	Did not use the online study tools	60.00%	53.30%	59.10%	50.00%	66.70%	81.50%	85.70%
4)	**If you used the online study tools, how helpful do you think they were?**							
	Very helpful	28.00%	26.70%	18.20%	21.40%	10.00%	0.00%	0.00%
	Somewhat helpful	12.00%	26.70%	22.70%	25.00%	26.70%	17.90%	10.30%
	Not very helpful	0.00%	0.00%	0.00%	7.10%	0.00%	0.00%	3.40%
	No help at all	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Did not use them	56.00%	53.30%	59.10%	50.00%	66.70%	82.10%	86.20%
5)	**If you used the online study tools, do you think they better prepared you for the test?**							
	Yes	40.00%	40.00%	36.40%	37.90%	26.70%	10.70%	13.80%
	No	4.00%	0.00%	0.00%	10.30%	0.00%	0.00%	0.00%
	Unsure	4.00%	6.70%	9.10%	3.40%	6.70%	10.70%	3.40%
	Did not use	52.00%	53.30%	54.50%	48.30%	66.70%	78.60%	82.80%

6)	**Based on the grade you earned for the first test, which of the following statements BEST describes your opinion of the online study tools?**							
	They're great. I'll use them again.	29.60%	20.00%	22.70%	27.60%	13.30%	3.60%	10.70%
	I'll use them again, but not as much.	0.00%	3.30%	4.50%	10.30%	6.70%	3.60%	7.10%
	I'll use them again, but I'll concentrate on different online tools.	7.40%	23.30%	13.60%	13.80%	16.70%	10.70%	0.00%
	I didn't use them, but I will next time.	44.60%	40.00%	54.50%	44.80%	53.30%	67.90%	57.10%
	I won't use them again, because I don't think they helped me.	7.40%	6.70%	4.50%	3.40%	6.70%	3.60%	3.60%
	I won't use them because I don't have an access code.	0.00%	13.30%	0.00%	3.40%	6.70%	10.70%	25.00%
***Some students had two responses when there should have been only one response allowed.**								

Although all classes were told about the online study tools available, actual usage of the tools was low. The highest percentage was reported at only 46.7 percent of the class accessing the tools. In the classes where the tools were promoted, usage rates ranged from 37 to 46.7 percent. The most common excuse for not using the tools was that students did not feel they had enough time to use them.

In classes promoting the online tools, the interactive quizzes were the most commonly used resource. The next most frequently used resources were PowerPoint slides and the Quizbowl game. In the remaining classes that did not promote the use of the study tools, student reported using the PowerPoint slides the most. However, the instructor posted slides on the course's homepage, so the students probably did not access the publisher's slides. The actual usage of the online slides is hard to determine because it is unclear which slides the students accessed. The least commonly used resource is the Audio Chapter Summaries, with only one student all sections reporting use of these.

Overall, students felt the online study tools were "somewhat helpful." The percentage of students choosing this answer to question 4 of the survey ranged from 10.3 in one section to 26.7 in another. One student commented, "The online tools were somewhat helpful but nothing beats reading the book." There is a wider range among the percentages of students who felt the tools were "very helpful"; while 28 percent of students in one class chose this answer, two sections had no students at all who chose this option. Interestingly, only one student in all sections thought the online tools were "no help at all."

In all classes, student felt the online study tools better prepared them for the test. In classes in which online tools were promoted, 36.4 to 40 percent of student believed they prepared them well. One student

commented, “I thought the online study tools were actually a lot harder than the actual exam was. I think this ended up being a good thing, though, because I had to dig for more answers when preparing for the test. When the test came around I felt like I was very prepared!” In the other classes, the percentages were lower, but this is likely due to the low usage rate.

Overwhelmingly, students who did not use the tools felt that they should have, and they stated that they will use them next time. As one student wrote, “I just didn't think of using them but now I know to.” Another wrote: “I planned on using the study tools to prepare for the exam but never got around to it . . . [N]ext time I will use the study aids in hopes of receiving a higher grade.”

Impact on Exam Grades

Across all classes, the percentage of questions answered correctly is comparable whether online tools were promoted or not. If a question had a low percentage of correct responses, it was low across all sections. As illustrated in Table 3, question 1 had between 36.67 and 66.67 percent students responding correctly. Similarly, question 4 showed higher percentages correct at 50 to 93 percent correct.

TABLE 3
CORRECT RESPONSES TO COMMON SET OF QUESTIONS

	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6
“Promoting” Classes						
Class A1	50.00%	53.33%	40.00%	76.67%	56.67%	26.67%
Class A2	66.67%	30.00%	60.00%	73.33%	63.33%	40.00%
Class B1	36.67%	20.00%	36.67%	50.00%	56.67%	63.33%
“Non-promoting” Classes						
Class C1	63.33%	30.00%	46.67%	90.00%	83.33%	50.00%
Class C2	50.00%	36.67%	46.67%	93.33%	70.00%	43.33%
Class C3	50.00%	20.00%	56.67%	80.00%	46.67%	60.00%

It is interesting to see that the scores were similar even though some sections admitted to using the online study tools more. Some students noticed similarities in the quizzes and test, noting “The online study tools were very helpful in that some of the same questions that were on the test were in some of the [quizzes].”

CONCLUSION

The results of the student survey indicate that students view online study tools as helpful for preparing for the course exam—whether or not they actually used them. Of those who did not use the tools, many seem to wish they had: students choosing the option “I didn't use them, but I will next time” on question 6 of the survey ranged from a substantial minority (40 percent) in one section to a majority of students (67.9 percent) in another. This would, in itself, provide incentive for instructors to promote the use of online tools in classes, if the chosen textbooks for those courses come with similar tools.

An increased sense of preparedness, however, did not seem to have a measurable impact on the students’ exam grades. No clear correlation emerged between the promotion of the online tools in classes and the percentage of correct responses on the sample test questions. Although many factors impact student exam grades, some increase in correct responses would have been expected in the “promoting” classes had the online tools had an *actual* (rather than a perceived) impact on student preparedness for tests.

The authors plan further research to follow up on issues raised from this study. An additional survey will be conducted after the second exam to see if use of the online study tools increases. Since such a high number of students said they would use the tools in the future (especially those who did *not* use them before the first exam), it will be valuable to discover whether the students follow through. The authors will also continue to track how students view the usefulness of online tools. As the survey shows, many

of those who felt tools were useful did not actually use the tools. It will be interesting to see if students still view the tools in such a positive light after they have actually used them.

Online study tools are truly here to stay; more and more textbooks are being produced with online components aimed at helping students succeed in courses. If instructors are to effectively incorporate these tools into their classes, it is imperative that they gain an accurate view of how students use the tools, how helpful students think they are, and what actual impact the tools have on student exam scores and other assessment tools. Understanding these factors will not only help instructors guide students in the use of online study tools but may also help textbook publishers develop tools that have a real and measurable effect on student success.

REFERENCES

DuFrene, D. D., Lehman, C. M., & Biss, J. L. (2008). Receptivity and response of students to an electronic textbook. 2008 Conference of the Southwestern Region, Association for Business Communication, Houston, TX.

Gregory, C. L. (2008). "But I Want a Real Book": An investigation of undergraduates' usage and attitudes toward electronic books. *Reference & User Services Quarterly,* 47, (3), 266-73.

McClure, M. (2009). Turning a new page in e-books. *Information Today,* 26, (4), 1-19.

McKenzie, D. (2009). E-books and 21st-century learning. *MultiMedia & Internet@Schools,* 16, (1), 27-28.

Mullan, E. (2009). E-books rewrite the rules of education. *EContent,* 32, (4), 12-13.

Niemuth, T. (2010). New tools for student engagement. *Leadership,* 39, (3), 24.

O'Byrne, P. J., Patry, A., & Carnegie, J. A. (2008). The development of interactive online learning tools for the study of anatomy. *Medical Teacher,* 30, (8), 260-271.

Tenopir, C. (2008). E-books arrive. *Library Journal,* 133, (2), 25.