YOUTUBE, POWERPOINT, AND TUTORS: THE IMPACT OF OUT-OF-CLASS LEARNING OPTIONS ON STUDENT PERFORMANCE

A Thesis

by

SOMMER BUNCE HAMILTON

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

May 2009

Major Subject: Communication

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Approved by:

Chair of Committee,	Michael T. Stephenson
Committee Members,	Katherine I. Miller
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ABSTRACT

YouTube, Powerpoint, and Tutors: The Impact of Out-of-Class Learning Options on Student Performance. (May 2009)

Sommer Bunce Hamilton, B.S., Texas A&M University

Chair of Advisory Committee: Dr. Michael T. Stephenson

This research project sought to measure how students in large-classroom environments respond to supplemental, out-of-class learning options. Is their performance positively impacted by tutoring or by online, always-accessible lessons? Above and beyond demographics and skills, what motivates students to engage in use of supplemental learning options? Responding to theories of "just-in-time" learning and the learner-centered philosophy of distributed learning, this study put three out-of-class tools in place during the course of a fall semester to allow the learner to decide what form of out-of-class aid he or she would rely upon. Those three options included tutoring services, streaming voice-over-PowerPoint lessons, and short YouTube.com-hosted videos featuring the instructor. Over the course of the fall 2008 semester, students responded to two surveys intended to (1) capture their motivational approach and preferred study strategies and learning styles; and (2) capture measures of their usage of these tools and their reported perception of the tools.

In tests of data to determine what led to the most improvement in student scores and what led to students' highest reported levels of satisfaction and perceived value with

the course, the short, lab instructor-created videos hosted on YouTube.com were the only significant predictor among all three supplemental learning options. This finding provides broad-based support for "just-in-time" theories of learning, in which information and help are readily available just as students are seeking that information and extra guidance. Therefore, instructors seeking to improve student performance may serve their students well by preparing materials to facilitate any-time access to course content needed to complete major assignments or prepare for exams.

But there is a caveat to simply making any form of content available online or available any-time, any-place. This study advances the theory of always-available resources and learner-centered environments by further refining what type of media stimulates the most improvement in performance. The answer, in part, seems to hinge on what is most appealing to students (video plus audio, shorter material, content geared toward assignment specifics rather than broad-based lectures), and warrants future study.

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Thanks also go to my friends and colleagues, both in the Department of Communication and at Mays Business School as whole: Dr. Carol McBryde, Dr. Lesley Tomaszewski, Dr. Roemer Visser, Mr. Shontarius Aikens, Ms. Pam Wiley, Ms. Laurie Marshall, Ms. Chrystal Houston, Ms. Kris Morley, Ms. Katy Head and Ms. Kacy Gadberry. You have each served as sounding boards and advisers over the course of many conversations throughout the past year.

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CHAPTER I

INTRODUCTION

Technology-based communication practices have radically altered the educational landscape since the introduction of the desktop computer into the instructional mix. As simple computerized math games for elementary students in the 1980s evolved to online streaming video and interactive discussion boards in colleges in the late 2000s, an essential shift in communication channels has challenged the ways in which out-of-classroom education is designed and delivered (Molebash, 1999). Even the most traditional lecture halls in college campuses nationwide offer grades, a syllabus, and additional instructor contact points in readily available online course management systems that can be accessed anytime, anywhere by a student with a computer or mobile device connected to the Internet.

Face-to-face student support systems devised in institutions of higher learning in the 1970s and 1980s have been growing alongside technological advancements. Peer tutoring programs, group-led supplemental instruction and the simple availability of instructors for out-of-class communication have been heralded for their effectiveness in improving student learning and positive affect toward learning, particularly in at-risk courses defined by higher failure rates that fall early in a college curriculum (Congos & Schopes, 1993; Jones, 2008; Pascarella & Terenzini, 1991).

This thesis follows the style of *Communication Education*.

Instructional communication scholars have typically focused their research on the types of communication that occur within the classroom (Jones, 2008). But in the overflowing classrooms of the nation's higher education system in the past 20 years, out-of-classroom learning has taken on a larger role in the success and retention of students in college classrooms where resources such as faculty-to-student ratios are directly linked to student success (Hanushek 1997; Krueger, 2003). That model is particularly salient in publicly funded schools facing a deluge of undergraduates in introductory courses (Hanushek 1996). But as the character of that out-of-class learning increasingly focuses on solutions that tap different communication channels, the communication education literature has remained somewhat silent on the impact these channels have on learning. That leaves the impact of out-of-classroom learning options as a whole un-assessed at a time when more and more colleges and universities are attempting to tap into programs and resources that service students outside the traditional classroom environment (Jones, 2008).

Some communication education scholars have focused on the promise of distributed learning achievable through web-enhanced classroom support, though with mixed results reported on the impact on learning (Benoit, Benoit, Milyo & Hansen, 2006; Boster et al. 2007; Sanders & Morrison-Shetlar, 2001). And though education and psychology scholars have for decades documented the positive and significant impact of in-person communication channels (McGee, 2005), little of the literature has focused on understanding the impact of in-person educational support alongside other forms of out-

of-class support, specifically web channels. In an educational system facing increasing student-to-faculty ratios and turning to out-of-class support systems for help, a key question emerges of whether to focus resources on peer tutoring systems or web-enhanced systems, or both. No study has yet offered a comprehensive look at out-of-class learning options as whole. This study seeks to do so, offering a single set of students in one course both web-channel support and peer-tutoring options to determine what has the greatest impact on student learning and performance.

The overarching goal of this research document is to enlighten communication practices in education: To uncover which supplemental learning option — online streaming videos, streaming voice-over-Powerpoint lessons, or in-person tutoring — has the most significant impact on learning. Secondary research goals include (1) gaining a better understanding of what student behaviors within these out-of-class options, from students' motivation to their help-seeking behavior, might contribute most to engagement with those supplemental learning options; and (2) capturing students' perceptions of the value of those modes of supplemental classroom support.

CHAPTER II

BACKGROUND

Out-of-class Learning Options

The present research study serves both an academic and a practical pursuit side-by-side. In summer 2007, the author joined a new program for business students at Texas A&M, a large Southern public university. The task was to devise a supplemental instruction system for teaching business communication, outsourcing instruction and evaluation of business writing. In spring 2008, with a set of ambitious student writing assistants, the business communication lab was created to help evaluate and tutor 200 students through 1,100 business writing assignments. The lab would also handle questions from students in scheduled evening help sessions, a form of in-person tutoring. In fall 2008, the lab would expand its tutoring and evaluation services to more than 350 students in 9 sections of an introductory sophomore-level business course.

Students also had access to two forms of online "e-lessons," starting withvoice-over-PowerPoint streaming lessons that provide a narrated audio lecture atop a traditional Powerpoint slideshow. One 17-23 minute Powerpoint e-lesson was available for each of four assignments. Students could access these Powerpoint lessons at any time during the semester, but most frequently accessed them the week and days before an assignment draft was due. By fall 2008, another layer of e-lessons was added to the out-of-class options mix with shorter, 5- to 8-minute YouTube.com-hosted streaming videos featuring the lab instructor. These YouTube lessons targeted general mistakes observed

in evaluation of drafts. Links were made available within three days of the due dates of the final version of each business writing assignment. The Powerpoint lessons, YouTube.com-hosted lessons and in-person tutoring services offered through the lab formed the out-of-class supplemental learning options for the introductory business course. The online content and help lab tutors supplemented three in-class topical communication lectures designed and delivered by the lab instructor.

This section will turn first to a consideration of the environment in which these out-of-class support tools were launched. This on-the-ground setting is first a test of concepts key to the literature on business communication instruction, via a new communication lab aimed at infiltrating an established business curriculum with previously untaught content in an unexplored set of out-of-class support tools. This background section explores the genesis of the new Texas A&M lab as it was designed to create and support out-of-class learning options.

Survey of Relevant Business Communication Literature

The business communication course has been slowly taking hold in parts of the nation, but has not yet reached into every university curriculum (Northey, 1990). Typically an external force jolts a faculty into action, such as when curriculum committees start fielding complaints from industry partners or accreditation pressure precipitates a new focus on business education. This was the case for Texas A&M, which turned to the creation of a communication lab in its business school to begin to address the challenge of ensuring that students are adequately prepared to communicate

in the business world. The *CPA Journal* outlines the challenge in no uncertain terms for one set of business professionals. "Clearly, the role of accountants has gone far beyond number-crunching. Accountants must be effective writers and communicators to present their work to other professionals and authorities in the proper manner. They also must use precise, clear language to make documents easy to comprehend" (Chiurri & Varaksina, 2006, unpaginated).

This hints at a larger question for the field: What role does communication instruction fill in the mix of 21st century education? Morreale and Pearson (2008) revisited themes of communication education literature, finding evidence from more than 45 references to the discipline's chief intended roles of helping individuals with "succeeding in one's career and in the business enterprise" and "enhancing organizational processes and organizational life" (Morreale & Pearson, 2008, p. 228). Those topped a list of themes of emerging communication education outcomes that include "development of the whole person" and helping students to become a "responsible participant in the world" (Morreale & Pearson, 2008, p. 235). Their survey of 93 scholarly articles provides a rationale for focusing the research lens on innovative and specific communication instruction: Communication education must help meet the needs of industrial employers and societal concerns to remain relevant in the pathway to individual and societal progress. Thus, it becomes ever more imperative to examine and reflect upon the teaching strategies in place to "ensure that all…students graduate with the communication competencies necessary to succeed personally and professionally in their lives" (Morreale & Pearson, 2008, p. 236).

In a 1999 survey, Melinda Knight found that each of the top 52 business undergraduate programs in the country had writing requirements, in 25 of those schools requirements taught through the upperclassman business communication course itself (Knight, 1999). Business communication courses from as early as 70 years ago focused first on "teaching Americans how to exchange business messages within the context of an American communication environment" (Du-Babcock, 2006, p. 254). The evolution of the subject alongside its systems technological advances has enabled business communication instructors today to adopt teaching methods that "better suit the realities of an ever evolving and more complex, globalized, and multidisciplinary communication and teaching environment" (Du-Babcock, 2006, p. 255). But writing-intensive courses across the business curriculum, in Knight's 1990 research, only existed at seven of the top business schools (Knight, 1990). Integrated writing programs were formally part of only 50 schools at the freshman level nearly a decade later (Knight, 1999).

This more integrated approach displaces the impact of the business communication curriculum beyond a single course into a program-wide imperative, something that is welcomed by business communication scholars (Du-Babcock, 2006; Knight, 1990, 1999; Northey, 1990), but isn't well-documented in the literature. A strong argument exists for why an integrated approach may be beneficial on a program-wide and individual scale. As recently as 2008, an MBA business communication instructor reports having to work hard to sell the value of communication skills to an audience of skeptical MBAs. His program-long course integrates written work for classes in finance and accounting and adds a written curriculum to a course in operations

management. The message he includes in every syllabus for his course's expected improvement in communication skills? "Too often students tend to compartmentalize disciplines, seeing them as a series of disconnected boxes rather than parts of an integrated whole. This is the mind of the worker bee, not the mind of the manager or leader" (Krajicek, 2008).

The integrated model forms the basis of this research report, which tackles the subject of teaching business writing as part of a larger sophomore-level introductory business course at Texas A&M via the business communication lab. The course, which was reframed with new writing instruction and communication learning goals in spring 2008, is a starting point for keying in on which specific out-of-class learning options might best facilitate improved written skills in business education.

The lab thus becomes a natural setting for introducing new concepts in communication education in a model best suited to the Southern business school's resources and existing program of study. Essentially, the business communication lab is an amalgamation of previous educational concepts and programs of scholastic support for communication education, as defined earlier in this section. Instead of introducing a single business communication course into the curriculum, the author was tasked with uncovering methods of integrating writing support across the business curriculum, scouting out instructional aids that can be readily adopted into out-of-class settings. Those methods include a series of online, streaming e-lessons and in-person help sessions, piloted with groups of freshmen and sophomore students taking the required sophomore-level writing-intensive introductory business course. If proven as viable tools

for aiding improved student performance in business communication learning outcomes, e-lessons and lab tutoring services would form the basic support tools the lab offers to all Texas A&M business faculty members grappling with writing-intensive material in their business courses.

The next two sections examine the literature on web-enhanced streaming video and in-person tutoring settings to point to the pitfalls and opportunities for learning that such supplemental classroom tools may hold. The paper will then turn to the literature surrounding student motivation and help-seeking behaviors, which may provide important determinants of engagement with out-of-class learning tools. Next, this chapter will report results from a spring 2008 pilot study using both modes of out-of-class learning options. Finally, at the close of the chapter, hypotheses and research goals will be stated.

Web-enhanced Instruction

How does the integration of new communication technologies impact student learning? A large quest in the body of research embracing communication practices, education, and instructional technology has shown mixed results.

A 2006 monograph from the University of Missouri sets the stage for unpacking the effects of web-enhanced instruction on student learning. The monograph is a meta-analysis of 38 studies and an original research project examining the impact of web-assisted content in an introductory communication course. In all this data, the researchers find no basis to conclude that significantly greater learning occurs with web-

assisted instruction delivered outside the traditional classroom context (Benoit et al., 2006). But the study does locate an intriguing trend within the literature, finding more of an advantage for online learning modules in recent years (2004-2005) than in earlier years of their meta-analysis (1999-2003). Other studies bear the fruit of a societal optimism for the possibilities of enhancing learning with online content. In one 2007 study examining the impact of online video-streaming in a mathematics classroom, researchers found significantly more improvement in exam performance in the group of students granted access to supplemental online content than in those unexposed to such online material (Boster et al., 2007).

Such studies demonstrate the literature's failure to come to a consensus on the impact of web-enhanced content on learning, thus creating an ongoing dialog in research into the effects of communication channels at work in out-of-classroom instruction. This study sought to add to that dialog, as well as to advance theoretical underpinnings concerning communication practices in instruction. While the studies mentioned above isolate web-enhanced content and the traditional classroom environments, they stop short of examining and comparing gains across the out-of-class learning options prevalent in college teaching environments, namely excluding the impact of one-on-one tutoring. The present document aims to uncover more understanding of how two different modes of supplemental support options might vary in their impact on student learning. This section begins that journey by examining the theoretical basis and findings that emerge in the literature of online out-of-class support systems.

The optimism surrounding educational technology and multimedia tools as instructional enhancement at all levels, from elementary classrooms to doctoral distance programs, bridges the gap between traditional disciplinary divides in education, communication studies, computing technology, business communication and other scientific communities. From the authors of a 2008 study in the journal *Educational Philosophy and Theory* emerges the theme: "Through online collaboration or self-learning, it is possible to achieve higher order learning outcomes due to wide access to reusable and sharable resources" (Gunga & Ricketts, 2008, p. 295). Eveland and Bikson (1988) find that communication technologies like the web diminish physical and temporal restraints, creating an online learner who is better equipped to learn. This distributive learning model is among the most easily identifiable benefits of educational technology, putting learners in the Internet age within reach of information carefully crafted for them at any time and place of their choosing, given access to a computer and the Internet.

Traditional models of learning in higher education view the professor, library and information sources at the hub of a network of students, whose only interaction occurs within that hub. In theory, distributed learning reframes the educational exchange with the student at the center of overlapping pools of information from the professor, the classroom, the library, other students and the Internet and computers (Oblinger & Maruyama, 1996; Skillicorn 1996; Waldeck, Kearney & Plax, 2001). With more flexible access to information sources, the student who is motivated to learn is theoretically more enabled to seek information when he or she needs it in the course of completing an

assignment. That's what some in the education and organizational training literature have termed "just-in-time" learning, envisioning an active learner in possession of the resources needed at precisely the time he or she needs to apply that learning to a particular problem or assignment (Novak, Gavrin, & Wolfgang, 1999). Such information seeking in an applied setting activates networked memory centers in the brain, making the information more salient to the task at hand and thus more likely to be stored in short- and long-term memory (Novak, Gavrin, & Wolfgang, 1999; Skillicorn, 1996).

The concept of distributed learning has tantalizing promise for those who research its extension and application in education. "Business communication teachers… [must] focus on the critical use of technology in online formations that entail relatively new teaching media," writes one researcher in 2003 (Walker, 2003, p. 56). But, the researcher cautions, the tools used to mediate such distributed learning need to be consistently evaluated "both before the course is taught and during the teaching process" (Walker, 2003, p. 59). This study intends to answer that call as it seeks to examine the effectiveness of one high-tech educational technology tool, the online streaming video, in an out-of-class instruction environment.

E-lessons

In approaching the pilot semester of the Texas A&M business communication lab, this author sought to integrate both high-tech and low-tech solutions into the out-of-class instructional mix.

E-lessons were one such option, an educational technology tool already in practice in the classroom culture at Texas A&M. The first e-lessons were voice-over-PowerPoint streaming videos that averaged between 17 and 23 minutes in length and were available all semester via the course Blackboard Vista webpage. E-lessons on specific business communication topics, such as business letters, writing an executive summary, and e-mail etiquette, were designed and posted online before the semester began. This method of content delivered online outside the class was already part of the process in the introductory business skills course in which the lab was to serve as out-of-classroom support for. So, the target population of students would already be accustomed to the use of PowerPoint e-lessons, a key point in introducing such a service into the classroom environment.

This study offered PowerPoint e-lessons as streaming video as one out-of-class learning option for a semester-long study. Such lessons were accessible straight from the Blackboard Vista course management website. But the semester-long study also relied on shorter, more dynamic instructor-created videos that were hosted on YouTube.com and linked to from the course management website.

Like most forms of education, business communication instruction focuses on improving individual retention and skills. The author's intent in launching the communication lab and out-of-class learning options was to define tools that enhance individual student learning, whether the lab services 50 or 500 students a semester. Conceptual and data-driven studies have found important links between "visual educational stimuli" such as streaming video e-lessons and student attention,

engagement and performance (Boster et al., 2007, p. 135). Thus, a distributed technology tool such as the PowerPoint e-lesson or a YouTube.com-hosted instructional aide video fulfills an important need for out-of-class learning options. From the basic tenets of distributed learning, online tools available as students demand them key in to specific tasks and increased retention of information by the motivated student. "[W]idespread availability of video streaming is fast approaching. With sufficient access and support, teachers using this technology will be better able to help their students comprehend difficult-to-understand concepts and engage in learning, provide their students with access to information and resources, and better meet their students' individual needs" (Reed, 2001, p. 1).

Video streaming has several known advantages. First, because video is streamed online and not downloaded to a student's computer, it requires little computer memory space (Weiser, 2002). Also important in most publicly funded educational institutions, such technology is fairly cost effective, especially when videos can be produced by faculty and instructors with relatively inexpensive and readily available tools such as a microphone and Microsoft PowerPoint. A 2006 cost-comparison study of traditional versus web-assisted instruction pointed to a savings of 34 percent per section of a basic communication course, a factor of both less teaching time and less in-class time (Beniot et al., 2006). But central to the concept of distributed learning, such educational technology responds to an on-demand lifestyle, such that an experience or lesson materials once confined to the classroom can be accessed and viewed at the individual learner's preferred time and speed (Weiser, 2002).

From the literature, researchers can surmise that technology overall boosts student performance: Students' scores tend to be higher from use of computers and the Internet in one study of technology in education in Illinois (Branigan, 2000). But, longer-term studies must be conducted to comprehend how the use of such out-of-class support tools— including video streaming— fits into each discipline and how such web-enhanced content impacts student learning as measured in scores on assignments (Boster, Meyer, Roberto, Inge & Strom, 2006; Boster et al., 2007; Glaser, Rieth & Kinzer, 1999; Reed, 2001; Walker, 2001).

Multimedia tools are considered in some contemporary literature to help improve scores and lead to overall higher scores in educational settings. In Missouri, a late-90s large-scale teaching initiative involving communication technology showed "statistically significant and substantial mean improvement in test scores" in public school classrooms with enhanced multimedia usage, including online video content (Giddings, 2000). In one of the most impactful studies to date in communication education, Boster and colleagues documented higher average exam scores in science and social studies courses among third- and eighth-graders, finding significant and positive differences between the groups exposed to online streaming video and the groups not exposed to the streaming video (Boster et al., 2006). Students exposed to streaming video outperformed the non-exposure group by nearly 13 percent between pre- and post-test, providing evidence that "video streaming may contribute on average to increased student learning" (Boster et al., 2006, p. 57). Boster and colleagues replicated the experiment with a group of junior high math students a year later, concluding that much like in the previous study of online

streaming video with social sciences content, video streaming in the math classroom "had an important impact," as well as a statistically significant one, on improvement in math scores (Boster et al., 2007, p. 141). These authors find one potential hindrance to both studies, cautioning that a "novelty effect" associated with the introduction of new visual materials may sharpen the focus of student attention on the streaming videos, thereby increasing their absorption of the subject matter within the video more than during the normal course of a semester (Boster et al., 2007).

Though these studies tend to establish a significant relationship between the introduction of online tools such as video streaming and improved scores in elementary and secondary education, the literature remains relatively unclear about the impact of such multimedia tools in higher education, especially in regards to business communication initiatives. A 2006 study from the University of Missouri followed undergraduate introductory communication courses for three years and found no difference in performance between students enrolled in traditional classrooms and those enrolled in web-assisted classrooms (Benoit et al., 2006). Both modes of instruction proved effective, the study concludes, though the authors find that student satisfaction was slightly lower in the web-assisted course, and that teacher evaluations completed by students yielded higher ratings in the traditional course.

This study considered the impact of student satisfaction and their self-reported perception of the value of out-of-class supplemental learning options as part of a general survey for students enrolled in the course. For the moment, the neutral impact of enhancing a college course with out-of-class web content poses a larger question for

instructional communication scholars: What is the impact of e-learning on college courses? Though the university monograph presents a sound empirical case (Benoit et al., 2006), there is enough evidence about other settings to warrant a similar investigation of the theory of the web's role as out-of-classroom support in higher education. Instructional communication scholars must be certain if they are to conclude that the early literature's promise of outreach capable with the web channel amounts to "no difference" in the way humans learn and what they are capable of learning.

Fortunately, communication theory does provide a guide to the intangible aspects of streaming video that may affect learners, attract their trust and attention, and perhaps impact their learning. Streaming video might fulfill students' needs of immediacy, as considered from an instructional communication perspective. Online content that stimulates an effective and motivating instructor (Waldeck et al., 2001) can inspire a learner with a sense of immediacy vital to establishing trust in the message. Though Waldeck et al. (2001) examine the creation of immediacy in the context of student-instructor e-mail patterns, they find that students' number-one usage of e-mail was to clarify course material and procedures. Teachers must "become proficient in the design of mediated messages which increase students' willingness to engage in [extra-class communication]," the researchers conclude, whatever those mediated messages may be in the classrooms beyond the 2001 landscape in which Waldeck et al. were writing (2001, p. 57). Thus, their thesis can arguably be adapted to account for an expected increase in learner perception of immediacy in any online message platform that provides student access to the instructor's clarifying materials, including streaming

videos that outline expectations for assignments or provide additional course lecture material.

Another relevant application of communication theory to the use of streaming videos in the college classroom is a consideration of what helps influence learner perceptions of credibility (Metzger, Flanagin, Eyal, Lemus & McCann, 2003). Media reliance, topic relevance and user involvement are key determinants of website credibility, Metzger and colleagues maintain (2003). Linking credibility to its cousin concept of trust, the potential impact of building believable, trustworthy material in an e-learning environment becomes apparent. Metzger et al. (2003) outline a way to achieving that credibility online, indicating that usage of online materials in a format that a population of students are familiar with and can become involved with, as well as orienting the material to topics key and relevant to those students, are the antecedents of building a repertoire of credible online learning material that learners will trust and perhaps buy-in to.

This paper seeks, in part, to uncover the relationship between out-of-classroom e-lessons delivered as streaming video and improvement in performance, measured through scores in communication assignments in the college classroom.

One-on-one Tutoring

The literature on tutoring environments wields some time-tested advantages to learning and student performance over traditional lecture-style classrooms alone. One meta-analysis of 52 tutoring studies showed significant student performance

improvement for those exposed to tutoring sessions over those taught only in a conventional classroom setting (Cohen et al., 1982). Tutoring sessions inevitably are tailored to the needs and deficits of the individual students, providing more room for exchange in the learning process and upholding a model of open communication. Some of the "social barriers to asking questions" are removed in a one-on-one tutoring session, Graesser and Person explain (1994, p. 108), precisely because of the communicative mode of instruction: "there is a dialog between only two individuals." Students who ask richer questions in tutoring sessions, as Graesser and Person uncover, also see greater achievement in the learning outcomes in their classes (1994).

The student-centered exchange seems to benefit improvement in learning no matter who the tutor is: Untrained adults in elementary schools, peer tutors in college programs, or the instructors themselves who open their office doors to questioning undergraduates (Cohen et al., 1982; Grasser & Person, 1994; Jones 2008; Rogoff, 1990). It comes as no surprise, then, that colleges and universities facing rising enrollment, larger class sizes and shrinking budgets (Krueger, 2003) turn to tutoring environments as a viable supplemental learning option to help ensure students receive the individual attention that has been tied to improved learning outcomes.

Lower-technology interactions outside the traditional classroom environment are one way to enhance engagement with educational objectives and ensure the attainment of learning outcomes. Engaging learners one-on-one or in small groups outside the classroom has long been a prescription for enhancing chances of success among first-year students in the college setting (Erickson, Peters & Strommer, 2006), for example.

As a tool for stronger grades and enhanced retention at Texas A&M, small group interaction external to the classroom setting— in both peer-lead groups and one-on-one faculty mentorship— has proven invaluable. More than 96 percent of first-generation business students involved in those programs were retained from fall 2005 to fall 2006 (Hamilton, 2006). Information and communication technology tools in education, in some respects, can be seen as an attempt to recreate that one-on-one tutorial experience in increasingly larger classrooms with shrinking resources.

This study is concerned with the traditional classroom enhancement strategy of one-on-one, face-to-face help sessions and tutorials. Peer-assisted writing instruction is a major facet of the literature on tutoring, becoming one of the predominant models for constructive feedback and peer interaction in Topping's mid-90s review and typology of tutoring (Topping, 1996). Peer tutors in writing help in "promoting confidence and encouraging new students to view writing more as a process and less as a product" (Topping, 1996, p. 336). In a community college study of peer writing tutoring from the early 90s, Holladay (1999) reports that 76 percent of students labeled their tutors helpful or very helpful. More to the point, the faculty within Holladay's (1990) study perceived that the quality of written work improved in classes with supplemental tutoring versus classes that were not enhanced with tutoring. Though much of the literature on help sessions of an interactive nature focuses on peer-to-peer interaction, this study aims to replicate similar results whether the students, as in this study, interact with the lab instructor or with the lab writing assistants who are their peers. In either setting, the face-to-face interaction is characterized by questioning around students' particular knowledge

deficits. Several studies have shown it makes little to no difference if the tutors are trained experts, peers, or untrained adult volunteers (Graesser & Person, 1994).

Based on the traditional tutor-student model, the Texas A&M communication lab hosted help sessions during its pilot semester in conjunction with each major writing assignment. Since tutorial sessions in general tend to lead to more interactive question-asking and promote a deeper-level processing of content covered in the sessions, the addition of tutoring-style sessions to the out-of-classroom support system is fairly intuitive.

Tutoring sessions become a ground for self-regulation of learning, with a focus more naturally falling on each students' identification of knowledge deficits. One study found 240 times more student questions asked in tutoring sessions versus classroom settings, leading the study authors to comfortably conclude that "learning is better in tutoring environments than in classrooms" (Graesser & Person, 1994, p. 120-121). Seen through this lens, help sessions and tutoring in effect aid in the construction of a more transferable skills set by helping students process assignments more individually and by asking students to begin the inquiry process (Congos & Schoeps, 1993; McGee, 2005). This takes on a theoretically similar cognitive mapping and networked memory model as distributed learning theory's application and extension in online settings, allowing students who are motivated to learn to seek information "just-in-time" to apply it to an assignment and thus creating stronger, more activated connections to that information in the students' minds (McGee 2005, Congos & Schoeps 1993). The benefit to in-person tutoring is an obvious communication channel advantage: Students can interact more

freely in a one-on-one setting and guide the tutoring session with their questions. There are, however, disadvantages to the application of "just in time" learning in this out-of-class option: Personality conflicts or the effect of which type of tutor may impact the interaction. But more importantly to the "just in time" construct, tutors are only available at certain hours during the week in a certain location, while online extensions of this construct make out-of-classroom support align more precisely with student schedules.

The next section of this chapter fleshes out the educational and psychological factors of help-seeking behavior, which may have an impact on learning and engagement with available supplemental learning options. The chapter will then examine the results of a spring 2008 pilot study and will close after a look at the background and setting of the larger-scale fall 2008 study.

Student Behavioral & Motivational Factors

A students' help-seeking behavior and level of engagement with content can conceivably moderate the relationship between use of out-of-class resources and improvement in achieving learning outcomes. Help-seeking is seen in the academic context as a proactive step toward achievement, rather than a state of dependency. Such behavior consists of motivational orientations and general self-concept alongside the use of relevant learning strategies (Karabenick & Knapp, 1991; McGee, 2005; Robbins, Le, Davis, Lauver & Langley, 2004)

Students' intrinsic motivation stems from interest in a topic, which generates focused attention and feeds into the learning and enjoyment of a task (Bye, Pushkar, &

Conway, 2007). In a competitive academic environment that asks students to be self-regulated learners, intrinsic motivation is naturally rewarding. The intrinsically motivated student is attuned to the process of learning simply for the pleasure of discovery and exploration. Students who are intrinsically motivated typically seek no external or immediate rewards, though studies do show a demographic overlap between students with higher grade point averages and those with higher intrinsic motivation (Robbins et al., 2004). Extrinsic motivation is also a factor in help-seeking and other student behaviors. It compels attention to course material, but with less inwardly produced interest and more external impetus such as earning a good grade, the learning typically occurs on a less active level of cognitive processing (Bye, Pushkar & Conway, 207). In essence, externally motivated students can be expected to typically retain less and recall less later on than their internally motivated counterparts (Bye, Pushkar & Conway 2007; Robbins et al., 2004). Motivation is an essential force in generating receptivity to learning and positive behaviors in the self-regulated learner (McGee, 2005). But it is not the only piece of the puzzle of what drives student success.

Students who employ multiple learning strategies for encountering new material and assignments— in the case of business communication, for example, how to write an executive summary— turn out to also be more likely to seek help (Karabenick & Knapp, 1991). In a series of studies relating achievement behavior, help-seeking and other study strategy factors, the Eastern Michigan education psychologists determined that students who use cognitive learning skills such as elaboration, organization and monitoring of information, as well as resource management strategies, are more likely to seek help

when needed as a basic learning strategy (1991). But that relationship had an extreme drop-off: The more students employed these strategies effectively, the lower their need for help and the less likely they were to actually seek help. Likewise, the more a student reported need, the more likely he or she was to seek help from either formal or informal sources at the college (Karabenick & Knapp, 1991). The use of learning strategies is also directly correlated with academic self-efficacy and a positive general self-concept (McGee, 2005).

Motivational inputs and study strategy behavior become an important clue in assessing how engaged students are with materials, and emerge as an even stronger determinant of success in out-of-class settings in which students self-select to attend tutoring sessions or to integrate online materials into their program of study. Modern college environments that offer out-of-class support for larger classrooms are aimed at self-regulated learners, those students whom, as educational theorist Carol Dweck envisions it, believe in their own ability to change or improve (1999). This self-efficacy and view of a more flexible rather than fixed identity enables a self-regulated learner to see himself or herself as capable of learning, freeing this kind of student to integrate improvement strategies into his or her approach toward education (McGee, 2005). Help-seeking behavior and motivation thus can become an important predictor of a student's willingness to engage in out-of-class support, and may have an impact on a student's learning outcomes given out-of-class options.

Spring 2008 Pilot Study

With the overarching goal of improving individual business students' writing performance, the Texas A&M business communication lab instituted standard grading rubrics with adequate formative feedback to evaluate students' business writing. Each student in a pilot study in spring 2008 responded with different forms of business writing (i.e., a business letter or an executive summary) to prompts in an assignment packet that placed them in a mock job mimicking real-world communications and expectations. The assignment packet, known as an "in-basket case," ensured that students applied knowledge and skills to assess the form of writing they were to respond to the prompt with, as well as what to include within that written communication. Such tailored technical matter has been shown to increase relevance, and thereby carry-over of skills beyond the classroom, when such subject matter targets the development of professional judgment and professional comprehension (Mahin & Kruggel, 2006; West, 2005).

The standardized rubric used to provide feedback to students during this pilot semester lays out scoring areas that break a holistic score into its component pieces with ratings for each category, allotted by percentage of importance for the document type being assessed. At issue is consistent treatment of student assignments (Kryder, 2003). The rubric in use at the business communication lab is based on a survey of criterion for effective business writing, but most closely models work from Rogers and Rymer (2001). The four-item rubric they devised is a guideline for working with business texts and the kind of reports and analyses generated in a business school: (1) task, related directly to completion of the piece of writing's intended goals; (2) coherence, or logical

development of the piece and flow of transitions; (3) reasoning units, involving the presentation of claims and supportive evidence; and (4) error interference, which assesses how much errors disrupt reader comprehension, if at all, or affect a writer's credibility and thus the trust one places in the message (Rogers & Rymer, 2001, pp. 125, 127, 129-130). See Appendix A for the rubric in use with these students at the Texas A&M business communication lab.

A pilot study from spring 2008 lays the groundwork for the larger research study in fall 2008. In spring 2008, 56 students in four smaller class sections of an integrated business and communication class were exposed to the standardized rubric as part of their feedback process. Individual students could choose if, and how long to, view each online Powerpoint e-lesson (posted on the course Blackboard Vista homepage and available all semester long), as well as whether or not to attend tutoring sessions.

In total, 56 freshmen and sophomore business students (31 females, 25 males) enrolled in the sophomore-level introductory business course formed the pilot study and were the population used to test the instructional tools of the business communication lab. This group had access to three individual, 17-23 minute streaming videos created by the lab instructor with voice-over PowerPoint technology. Students were also invited to three weeknight one-on-one help sessions hosted by the lab and staffed by an instructor and two to three peer writing assistants. The 56 undergrads completed three business writing assignments, each supplemented by one e-lesson and one help session. Though both out-of-class learning options were recommended to the students, neither were required.

Students completed three written assignments based on the "in-basket" case, which placed them in a hypothetical role as personnel officer at a nonprofit service organization. The case consisted of a series of letters, memos, e-mails and transcripts of voice mails. Students, acting in their mock role within the organization, then chose to respond to requests within their "in-basket" with either a business letter, a memo, or an executive summary. Work was then submitted in two stages, a draft and revised version, on a pre-arranged schedule to the communication lab for evaluation via the standardized rubric. The lab instructor, in conjunction with lab assistants, graded the work in both draft and final form. Students received digital feedback in the form of a standardized rubric score via their course Blackboard Vista web page, in addition to hard-copy markups of their written documents handed back in class.

Each student could then use information included in the feedback and rubric to generate a revised version of their work. On the whole, most students chose to resubmit a revised version of each assignment for a chance at an improved grade.

The author gathered the following data points for each of the 56 students: gender, overall score for the three assignments, total change in score (between draft score and revised score) as a measure of improvement, number of e-lessons viewed, amount of time each e-lesson was viewed, and number of help sessions attended.

The author posed a series of research questions to determine which of those inputs was the most effective in either (a) improving scores on writing assignments or (b) resulting in higher success rates as demonstrated through overall scores. Only face-to-face interaction in help sessions emerged, via regression, as a significant contributor

to improving scores. The correlation between help session attendance and improvement in scores was .62, with 37 percent of the variance in score improvement due to help session attendance. In tests to understand if either out-of-class learning option contributed to overall score, no significant results were found.

The pilot study raised several limitations and areas of concern to address in the larger study's methodology. First and foremost, PowerPoint e-lessons were only measured in the pilot for the amount of time students logged with the lessons open on their screen. Results ranged from 0-168 minutes per student, per 17-23 minute PowerPoint e-lesson, which raised a flag that the time spent with e-lesson failed to answer an important question: What students were actually doing during that time. Were they watching intently and pausing to take notes? Were they flipping to a new browser window and checking e-mail or social sites? The full study will seek to capture students' self-reported behavior while accessing an e-lesson, via an end of semester engagement and perception survey.

The pilot study also failed to capture important demographic data that may impact students' need to seek help outside the classroom, including a student's grade point average and basic level of proficiency in writing and grammar. Such constructs would impact how much room for improvement existed for students who might already be more proficient in the topic of business writing. Understanding students' learning strategies and motivation for the topic may also prove an important predictor in just how much students might want or need to seek help with out-of-class learning options, as well.

Setting of Fall 2008 Study

The fall 2008 study addressed the following hypotheses:

Hypothesis 1: Motivational factors will positively impact student engagement with out-of-class supplemental learning options.

Hypothesis 2: Study strategy factors will impact student engagement with out-of-class supplemental learning options.

Hypothesis 3: Engagement with out-of-class supplemental learning options will positively impact improvement in performance above and beyond motivational and study strategy factors.

Hypothesis 4: Engagement with out-of-class supplemental learning options will impact perceived value of supplemental options.

Hypothesis 5: Motivation factors and study strategy factors will impact perceived value of supplemental options.

The business communication lab at Texas A&M served 356 students in nine sections of a sophomore-level introductory business course during the fall 2008 semester. Of those 356 total students, a subset of 74 students (21% response rate) responded to two surveys during the semester. These data are analyzed for this study.

Students were assigned a mock "in-basket" case analysis, much like during the pilot study, in which they were asked to assume the role of a mock business professional and filter through a set of e-mails, memos, letters and typed out voicemails. From this in-basket case, they were asked to produce four assignments: a business memo, a business letter, an e-mail, and an executive summary. Each assignment was broken into a graded

draft and revision; for example, students would turn in a draft memo, receive graded feedback on a detailed standardized rubric, and had one week to turn in a revised version of the memo. The overall change score between graded drafts and graded revisions was calculated as a key dependent variable indicating improvement in performance.

The business communication lab used trained peer evaluators and an instructor to complete grading and evaluation each week. The lab also had an open-door, drop-in policy for set times encompassing 20 hours a week for the 356 students enrolled in the course. The course outsourced writing grading, instruction and support to the lab and instructor. Initial business writing instruction occurred in the classroom in the form of an introductory lecture during the first week of class and follow-up visits to hand back assignments and highlight issues and concerns from the work. Detailed instruction on format, purpose and audience was delivered via the streaming Powerpoint lessons (approximately 17 to 23 minutes in length) for each of the four assignments posted to the Blackboard Vista course management web site. Ideally, students accessed these Powerpoint e-lessons to help prepare for each assignment.

Students received graded feedback on drafts in their inbox via the course Blackboard Vista web site, then had a week to turn in revised versions. During that week, they had the option to find help to master the writing format and style issues in two places outside class: (1) Via 5- to 7-minute streaming videos, featuring the lab instructor discussing common mistakes in the drafts, hosted on YouTube.com and linked to from the course web site, or (2) through a peer writing tutor available for questions during the week. This model ensures the “just-in-time” (Novak, Gavrin, & Wolfgang,

1999) nature of the learning, increasing retention among students by allowing information to be activated on a need-to-know basis as students were redrafting assignments. The lab, though open every day of the week during classes, was still only open for appointments and drop-ins for 20 hours a week. The availability of help online in short e-lessons posted on YouTube.com made room in the research design to meet more students' "just-in-time" needs as they processed and completed revised versions of their assignments according to their own schedules.

CHAPTER III

METHODS

Study Participants

Participants were 74 students from an introductory business course in fall 2008. Fifty-two respondents were female (70%) and 22 were male (30%), which is consistent with the makeup of the business school at Texas A&M, where 52% of students are female (TAMU, 2008). Slightly more than 89% of participants were sophomores at the time of the study; the rest were junior-level underclassmen. White/non-Hispanics composed 73% of participants, while Hispanics made up 23% and African-American and Asian-American populations were less than 3% each, which also mirrors the business school's population of 80% white/non-Hispanic students (TAMU, 2008).

Students' SAT verbal score was used as a control for proven written communication ability. The mean SAT verbal score was 564 out of a possible 800 (n = 65, SD = 87.34, with 9 missing SAT scores), with a range from 390 to 780. Cumulative grade-point average before the fall 2008 semester was also used as a control variable. The mean GPA in the respondent group was 3.34 (n = 72, 2 missing, SD = .508), with a range from 2.18 to 4.00.

Furthermore, the mean overall writing grade in the business course from for the study group was a 2,753 out of 3,000 points, or a 91% (SD = 132.7), with a range from 77% to 100%. A key dependent variable was the overall change in score between draft

and revised assignments, indicating how much improvement in performance the students experienced.

Procedures

Participants completed two surveys during the fall 2008 semester. In the first survey taken in September 2008, participants completed the motivation and study strategy survey (see Appendix C), based on the Motivated Strategies for Learning Questionnaire or MSLQ (Pintrich, Smith, Garcia & McKeachie 1991). They had 10 days to respond to the survey. Then, in the last week of class in November 2008, students completed an engagement and perception survey which asked students to self-report their usage of support tools and their perception of the value they gained from those tools (see Appendix D). For this survey, students were also given 10 days to respond.

Both surveys were administered via the Blackboard Vista course web site and a subscription survey gathering tool, Qualtrics. In the second week of class in September 2008, faculty in each of nine sections of the business basics course announced the purpose of this study. Faculty members read from a script prepared by the lab instructor (see Appendix B) that informed students they would receive a link to two surveys during the semester, with the first survey notice arriving via their course web site inboxes that week. Students were informed that their participation was voluntary and that no grades would be attached to their responses to the survey. The lab instructor then logged into each section of the course and sent a link to the first survey to all enrolled students. Students had 10 days to respond, and the lab instructor posted reminders to the course

web page at two intervals during the 10-day period. In 10 days, 157 of the 356 students in the course responded to the survey.

The process was repeated in November 2008, when the lab instructor logged into all class sections and sent out new instructions and a link to the second survey. Students were again granted 10 days to respond, and informed that participation was voluntary and that no grades would be based on their responses. In this survey, 105 valid responses were gathered from the possible pool of 356 students.

A total of 74 students (21% of the total population) responded to both surveys, and their responses comprise the data for this study.

Measures

The motivation survey (Appendix C), administered in September 2008 at the beginning of the semester, served a major purpose of this study: Capturing a measure of students' motivation and orientation toward learning strategies, in addition to gauging student self-reported interest in the course content.

The engagement and perception survey (Appendix D), administered later in the semester, asked students to report on their use of lab tutors, Powerpoint lessons and streaming YouTube.com-hosted videos. This second survey aimed to also understand what activities students engaged in while viewing online e-lessons, and the perceived benefit of the supplemental learning options.

In addition to the surveys, key demographics were gathered from student records and self-reported information, including grade classification (sophomore, junior), grade

point average, SAT verbal scores, gender category and ethnicity. Grades were gathered from both the draft and the revised versions of four assignments during the course of the fall semester.

The following set of variables emerged from a modified version of the Motivated Strategies for Learning Questionnaire, or MSLQ (Pintrich et al., 1991). These five variables measure students' reported motivational levels for engaging with course content.

Motivational Factor: Intrinsic Goal Orientation. Each student respondent's perceptions of why he or she is engaged in a learning task was measured using a seven-point, Likert-type scale where 1= strongly disagree and 7=strongly agree. The items include: (1) In a class like this, I prefer course material that really challenges me so I can learn new things; (2) In a class like this, I prefer course material that arouses my curiosity, even if it is difficult to learn; (3) The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible; and (4) When I have the opportunity in this class, I chose course assignments that I can learn from even if they don't guarantee a good grade. Exploratory factor analysis (principal axis, promax rotation) revealed a unidimensional solution that was reliable (α = .637). Scores were summed and averaged (M = 4.91, *SD* = .824), with a higher score indicating that respondents perceive themselves to be taking on an assignment or class-related task for reasons such as challenge and curiosity. Statistics for this scale, in use for the two deacades in the higher education literature, are comparable. Pintrich et al. (1991) report an alpha of .74 (M = 5.03 and *SD* = 1.09). This item is labeled intrinsic orientation.

Motivational Factor: Extrinsic Goal Orientation. Each respondent's perception of the external rewards of participating in class assignments was assessed with a seven-point, Likert-type scale, with 1= strongly disagree, and 7= strongly disagree. The items include: (1) Getting a good grade in this class is the most satisfying thing for me right now; (2) The most important thing for me right now is improving my overall grade point average, so my main concern in the class is getting a good grade; (3) If I can, I want to get better grades in this class than most of the other students; and (4) I want to do well in this class because it is important to show my ability to my family, friends, employer, or others. Exploratory factor analysis (principal axis, promax rotation) revealed a unidimensional solution that was borderline reliable for the first three items (α = .615). Scores were summed and averaged (M = 5.87, *SD* = .856), with a higher score showing that students were motivated to engage in class assignments because of external rewards. Pintrich et al. (1991) reported an alpha of .62 (M = 5.03, *SD* = 1.23) for this scale. This item is labeled extrinsic orientation.

Motivational Factor: Self-Efficacy for Learning and Performance. Students' belief in their ability to perform well in challenging tasks was assessed with a seven-point, Likert-type scale, where 1=strongly disagree and 7=strongly agree. The items include: (1) I believe I will receive an excellent grade in this class; (2) I'm certain I can understand the most difficult material presented in readings, online and in discussions in this course; (3) I'm confident I can understand the most basic concepts taught in this course; (4) I'm confident I can understand the most complex material presented by the instructor in this course; (5) I'm confident I can do an excellent job on the assignments

and presentations in this course; (6) I expect to do well in this class; (7) I'm certain I can master the skills being taught in this class; and (8) Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class. Exploratory factor analysis (principal axis, promax rotation) revealed a multidimensional solution, with loadings on a four-item scale consisting of questions 1, 5, 6 and 8, and a two-item scale consisting of questions 2 and 4.

The first factor is a four-item scale (questions 1, 5, 6 and 8) that indicates a student's perception of his or her overall ability to achieve positive results in this course and within course assignments. This measure was reliable (α = .772). Scores were summed and averaged (M = 5.21, *SD* = .713), with a higher score showing that students believed in their own ability to succeed overall in the course. This item is labeled self-efficacy for course material.

The second factor, a two-item scale, taps a measure of belief in ability to tackle complex or difficult course material. It was reliable (α = .757), and scores were summed and averaged (M = 5.39, *SD* = .900), with a higher score indicating more belief in a student's own ability to comprehend complex information in the course. This item is labeled self-efficacy for complex material.

Pintrich et al. (1991) found a single factor in early work with this self-efficacy scale, with an alpha of .93 (M = 5.47, *SD* = 1.14).

Motivational Factor: Task Value. Students' perceptions that they like what they learn in this business course and that it will be useful for other courses was evaluated with a seven-point, Likert-type scale, where 1=strongly disagree and 7=strongly agree.

Items include: (1) I think I will be able to use what I learn in this course in other courses; (2) It is important for me to learn the course material in this class; (3) I am very interested in the content area of this course; (4) I think the course material in this class is useful for me to learn; (5) I like the subject matter of this course; and (6) Understanding the subject matter of this course is very important to me. Exploratory factor analysis (principal axis, promax rotation) showed a unidimensional solution that was reliable (α = .888). Scores were summed and averaged (M = 5.42; *SD* = .939). A high score reveals that students perceive value in the tasks they encounter in this class. Pintrich et al. (1991) reported robust reliability for this scale (α = .90, M = 5.54, *SD* = 1.25). This item is labeled task value.

The following set of four variables also emerged from a modified version of the Motivated Strategies for Learning Questionnaire, or MSLQ (Pintrich et al. 1991), which was administered to students in the course via the course management web site in September 2008 (see Appendix C). These variables measure students' use of varied study strategies.

Study Strategy Factor: Organization. Student use of organization was measured with a seven-point, Likert-type scale, in which 1=strongly disagree and 7=strongly agree. The items include: (1) When I study the notes and materials from this course, I outline the material to help me organize my thoughts; (2) When I study or prepare assignments for this course, I go through class notes and try to find the most important ideas; (3) I make simple charts, diagrams, or tables to help me organize the course material; and (4) When I prepare an assignment for this course, I go over my class notes

and make an outline of important concepts first. Exploratory factor analysis (principal axis, promax rotation) revealed a unidimensional solution that was reliable (α = .752). Scores were summed and averaged (M = 4.73, *SD* = 1.09), with a higher score indicating a respondent used more organization strategies in preparing for assignments and discussions in the course. In their seminal work, Pintrich et al. (1991) reported a lower reliability (α = .64), with comparable descriptive statistics (M = 4.14, *SD* = 1.33). This item is labeled organization strategy.

Study Strategy Factor: Critical Thinking. Respondents' critical analysis of the materials they encounter in the course was measured with a seven-item, Likert-type scale, in which 1=strongly disagree and 7=strongly agree. The items include: (1) I often find myself questioning things I hear or read in this course to decide if I find them convincing; (2) When a theory, interpretation, or conclusion is presented in class or on Blackboard Vista, I try to decide if there is good supporting evidence; (3) I treat the course materials as a starting point and try to develop my own ideas about it; (4) I try to play around with ideas of my own related to what I am learning in this course; and (5) Whenever I read or hear an assertion or conclusion in the class, I think about possible alternatives. Exploratory factor analysis (principal axis, promax rotation) revealed a unidimensional solution that was reliable (α = .737). Scores were summed and averaged (M = 4.76, *SD* = .723), with a higher score indicating more use of critical thinking activities and practices as a study strategy. Pintrich et al. (1991) reported good reliability for this scale (α = .80, M = 4.16, *SD* = 1.28). This item is labeled critical thinking strategy.

Study Strategy Factor: Help-seeking Behavior. Student respondents' strategic help-seeking behavior was assessed with a seven-item, Likert-type scale, in which 1=strongly disagree and 7=strongly agree. The items include: (1) Even if I have trouble learning the material in this class, I try to do the work on my own, without help from anyone (recoded to reverse the scores); (2) I ask the instructor or help lab tutors to clarify concepts I don't understand well; (3) When I can't understand the material in this course, I ask another student in the class for help; (4) I try to identify students in this class whom I can ask for help if necessary. Exploratory factor analysis (principal axis, promax rotation) revealed a unidimensional solution for only items 2, 3 and 4 that was borderline reliable (α = .60). Scores were summed and averaged (M = 5.27, *SD* = .970), with a higher score indicating more use of lab tutors or other students in class when in need of help. Pintrich et al. (1991) reported comparable reliability for this scale (α = .52, M = 3.84, *SD* = 1.23). This item is labeled help-seeking strategy.

Study Strategy Factor: Elaboration. Student strategies to build elaboration when they study was measured with a seven-item, Likert-type scale, in which 1=strongly disagree and 7=strongly agree. The items include: (1) When I prepare assignments for this class, I pull together information from different sources, such as lectures, discussions, and Blackboard Vista; (2) I try to relate ideas in this subject to those in other courses whenever possible; (3) When reading or preparing for this class, I try to relate the material to what I already know; (4) I try to understand the material in this class by making connections between the readings and the concepts from the lectures; and (5) I try to apply ideas from course readings and Blackboard Vista to other class activities,

such as lecture, writing assignments and discussion. Exploratory factor analysis (principal axis, promax rotation) show a unidimensional solution that was reliable (α = .720). Scores were summed and averaged (M = 5.52, *SD* = .797), with a higher score indicating a respondent was more likely to use strategies that help build course information into a larger picture through activities such as summarizing and paraphrasing from multiple resources. Pintrich et al. (1991) reported comparable reliability for this scale (α = .76, M = 4.91, *SD* = 1.08). This item is labeled elaboration strategy.

The next set of measures emerges from the engagement and perception survey (Appendix D) designed for this study. These items were administered in the second survey in November 2008.

Engagement with Lab. A student's reported usage of the communication lab and its tutorial services was measured on a four-point scale where 1=never, 2=for some assignments, 3=for most assignment, and 4=for each assignment. The items include: (1) For the four individual writing assignments in this course, I talked with someone from the communication lab to develop ideas before I wrote my first draft; (2) For the four individual writing assignments in this course, I took an early draft to the communication lab before the first draft was due; (3) For the four individual writing assignments, I received in-person feedback from the instructor or someone at the communication lab on a draft. Exploratory factor analysis (principal axis, promax rotation) revealed a unidimensional solution that was reliable (α=.683). Scores were summed and averaged (M=1.75, SD=.747), with a higher score indicating a higher level of usage, or

engagement, with resources offered at the communication lab. This item is labeled engagement with lab.

Engagement with PowerPoint E-lessons. A student's level of reliance on PowerPoint lessons as a source of information was measured in three questions with two different scales. The first item— "For the four individual writing assignments, I viewed the voice-over-PowerPoint e-lessons posted on Blackboard Vista"— was measured on a four-point scale where 1= never, 2= for some assignments, 3= for most assignment, and 4= for each assignment. The other two items were assessed on a three-point scale, where 1= no, 2= sometimes, 3= yes. The items that tap into this level of usage or engagement are: (1) I generally watched an entire voice-over-PowerPoint e-lesson on writing; and (2) While viewing the voice-over-PowerPoint e-lessons on writing, I would take notes. The three items were combined to form a simple arithmetic additive scale (minimum = 3, maximum = 10, range = 7, M = 7.31, *SD* = 1.99). The creation of an additive scale allows for usage levels to accumulate, such that a higher additive score indicates higher reported engagement with PowerPoint e-lessons. This item is labeled engagement with PowerPoint lessons.

Engagement with YouTube E-lessons. A student's level of reliance on YouTube video e-lessons as a source of information was measured in three questions with two different scales. The first item— "For the four individual writing assignments, I viewed YouTube streaming video lessons on tips for revised assignments" — was measured on a four-point scale where 1=n ever, 2= for some assignments, 3= for most assignments, and 4= for each assignment. The other two items were assessed on a three-point

incremental scale, where 1= no, 2= sometimes, 3= yes. The items that tap into this level of usage or engagement are: (1) I generally watched the entire YouTube streaming videos; and (2) While viewing the YouTube streaming videos, I would take notes. The three items were combined to form an additive scale (minimum = 3, maximum = 10, range = 7, M = 6.20, *SD* = 2.32). The creation of a simple arithmetic additive scale allows for usage levels to accumulate, such that a higher additive score indicates higher reported engagement with YouTube video e-lessons. This item is labeled engagement with YouTube lessons.

Perceived Value and Satisfaction. Each respondent's perception of the value of the out-of-class instruction offerings as they contributed to comprehension and preparation was measured on a seven-point, Likert-type scale, where 1=strongly disagree and 7=strongly agree. The items are: (1) In general, I feel that the voice-over PowerPoint lessons on writing topics contributed to my understanding of the assignment; (2) The YouTube streaming videos contributed to my understanding of the assignment; (3) The assistants in the Mays Communication Lab were helpful for my writing assignments; (4) In general, I feel more prepared to take on writing in the workplace since I've been through this course; and (5) This course enhanced my understanding of business writing. Exploratory factor analysis (principal axis, promax rotation) revealed a unidimensional solution that was reliable (α = .745). Scores were summed and averaged (M = 4.63, *SD* = 1.13), with a higher score indicating more perceived value of the out-of-class options in aiding with comprehension. This item is labeled perceived value of out-of-class learning options.

Change Score. The major dependent variable in this study is overall change in score. This is measured as the change in score between draft and revised assignments, which shows the overall amount of improvement in students' performance. Each assignment was measured on a 0- to 750-point scale, for a total of 3,000 possible points in four assignments.

Students completed an "in-basket" case, in which they assumed the role of a business professional in a mock business scenario and were asked to filter through a set of e-mails, memos, letters and typed out voicemails. From this "in-basket," they were asked to produce four assignments: a business memo, a business letter, an e-mail, and an executive summary. For each of four writing assignments in the introductory business course, students responded with a draft, which was graded with extensive feedback and recorded in the course grade book. Students then used that feedback (perhaps in combination with out-of-class supplemental learning tools) to produce a revised assignment, which was again graded and recorded. The points students gained between each round of draft and revision formed each students' overall change score. Those scores were calculated at the end of the semester for each of the 74 participants.

Three students in the study had a change score of 0, meaning they chose not to turn in revised papers and saw no improvement in performance. Those were coded as missing data so the study would focus on those who attempted to improve on their assignment. For this group then (n = 71), the average raw score improvement was 345 points across four assignments worth 3,000 points total (SD = 185.6), with a range from 30 points gained to 884 points gained per student during the study semester.

CHAPTER IV

RESULTS

Hypotheses 1 through 5 were tested with hierarchical multiple regression. For these analyses, it was important to control for potential confounding variables. Therefore, the following covariates were entered into block 1 for all regression analyses: respondent gender, respondent reported ethnicity, grade point average before the fall 2008 semester, and verbal SAT score. Then, the independent variables relevant to each of the hypotheses were entered in block 2 and, in some cases, block 3. Dependent variables are specified for each analysis.

Hypothesis 1

Hypothesis 1 predicted that motivational factors would positively impact student engagement with out-of-class supplemental learning options. Because there are three dependent variables that define supplemental learning options (engagement with the lab, engagement with the PowerPoint lessons, and engagement with the YouTube.com-hosted lessons), three separate regression analyses were run. For each, the independent variables, which were entered in block 2, were the five motivational factors: intrinsic orientation, extrinsic orientation, self efficacy for course, self efficacy for difficult material, and task value.

The first regression analysis examined the impact of the five student motivational factors on the level of engagement with lab tutoring services. The first block, containing

the covariates, was not significant, F (4, 59) = 1.649, $p > .05$, $R^2 = .101$. The second block, containing the five motivational inputs, was also not statistically significant, F (9, 54) = .1.103, $p > .05$. Finally, the increase in R^2 from block 1 to block 2 was not statistically significant, $\Delta R^2 = .055$, p > .05.

The second regression analysis examined the impact of the five student motivational factors on engagement with the Powerpoint e-lessons. The first block, containing the covariates, was not statistically significant, F (4, 59) = 1.410, R^2 =.087, p > .05. Additionally, the second block, containing the five student motivational factors, was not statistically significant, F (9, 54) = 1.531, $p > .05$. Finally, the increase in R^2 from block 1 to block 2 was not statistically significant, $\Delta R^2 = .116$, $p > .05$.

The third regression analysis examined the impact of the five student motivational factors on engagement with YouTube.com-hosted video lessons. The first block, containing the covariates, was statistically significant, F (4, 59) = 3.473, p=.013, R^2=.191. Higher cumulative GPAs were positive predictors of engagement with YouTube.com-hosted videos ($\beta = .287$, $p < .05$) as was ethnicity ($\beta = .349$, $p < .05$). However, the second block, containing the five motivational inputs, was not statistically significant, F (9, 54) = 1.891, $p > .05$. There was no significant increase in R^2 from block 1 to block 2, $\Delta R^2 = .049$, p > .05.

In summary, none of the five motivational inputs were significant predictors of engagement of any type. Therefore, Hypothesis 1 was not supported.

Hypothesis 2

Hypothesis 2 predicted that study strategy factors would impact student engagement with the out-of-class supplemental learning options. Because there are three dependent variables that define supplemental learning options (engagement with the lab, engagement with the PowerPoint lessons, and engagement with the YouTube.com-hosted lessons), three separate regression analyses were run. For each, the independent variables, which were entered in block 2, were the four study strategy factors: organization, critical thinking, help-seeking, and elaboration.

The first regression analysis examined the impact of the four study strategies on engagement with the lab tutoring services. The first block, containing the covariates, was not statistically significant, F (4, 59) = 1.649, $p > .05$, $R^2 = .101$. However, the second block, containing the four study strategy factors, was statistically significant, F (8, 55)=2.922, $p < .01$, with a significant change detected from block 1 to block 2, $\Delta R^2 = .198$. Specifically, organization strategy negatively predicted use of lab tutoring services ($\beta = -.423$, $p < .01$), whereas help seeking positively predicted the use of lab tutoring, ($\beta = .253$, $p < .05$).

The second regression analysis examined the impact of the four study strategies on engagement with the Powerpoint lessons. The first block, containing the covariates, was not statistically significant, F (4, 59) = 1.410, $R^2 = .087$, $p > .05$. Additionally, the second block, containing the study strategies, was not statistically significant, F (8, 55) = 1.416, $p > .05$. The increase in R^2 from block 1 to block 2 was also not statistically significant, $\Delta R^2 = .084$, $p > .05$.

The third regression analysis examined the impact of study strategies employed by students on their level of engagement with the streaming YouTube e-lessons. The first block, containing the covariates, was not statistically significant, F (4, 59) = 3.473, $p > .05$, $R^2 = .191$. Additionally, the second block, containing the four study strategies, was not statistically significant, F (8, 55) = 2.514, $p > .05$. The increase in R^2 from block 1 to block 2 was also not statistically significant, $\Delta R^2 = .077$, $p > .05$.

In summary, organization was a negative predictor and help seeking was a positive predictor of engagement with the lab tutoring services. However, none of the study strategies were significant predictors of engagement with the Powerpoint lessons or with the YouTube lessons. Therefore, Hypothesis 2 received only partial support.

Hypothesis 3

Hypothesis 3 predicted that engagement with out-of-class supplemental learning options would positively impact improvement in performance above and beyond motivational and study strategy factors.

A hierarchical regression analysis was performed to test Hypothesis 3. The dependent variable for the analysis was change in score between draft and revised assignments, which shows the overall amount of improvement in students' performance. Covariates were entered in the first block. The second block consisted of the five motivational factors (intrinsic orientation, extrinsic orientation, efficacy for course material, efficacy for difficult material, and task value) and the four study strategy factors (organization strategy, critical thinking strategy, help-seeking strategy, and

elaboration strategy). In the third block, the three engagement measures were entered—engagement with the lab, engagement with the PowerPoint e-lessons, and engagement with the YouTube.com streaming videos.

The first block, containing the covariates, was not statistically significant, F (4, 56) = 1.510, $p > .05$, $R^2 = .097$. The second block, containing the five motivational inputs and the four study strategy factors, was also not statistically significant, F (13, 47) = 1.727, $p > .05$, $\Delta R^2 = .226$. However, the third block, involving the three engagement options, was signficant, F (16, 44) = 2.082, $p = .05$. The increase in R^2 from block 2 to block 3 was statistically significant, $\Delta R^2 = .108$, $p = .05$. Specifically, engagement with the YouTube lessons was a significant positive predictor of improved performance ($\beta = .384$, $p < .05$).

In this analysis, engagement with the YouTube lessons was a positive predictor, above and beyond motivational inputs and study strategies, of improvement in performance. However, neither engagement with the lab tutoring services nor engagement with the PowerPoint lessons were significant predictors, above and beyond motivational inputs and study strategies, of improved performance. Therefore, Hypothesis 3 received only partial support.

Hypothesis 4

Hypothesis 4 predicted that engagement with out-of-class supplemental learning options would impact students' perceived value of those supplemental learning options.

A regression analysis was used to test Hypothesis 4. The dependent variable for the analysis was the five-item perceived value of supplemental learning options scale. Block 1 contained the covariates. The three measures of engagement, engagement with the lab, engagement with the PowerPoint e-lessons, and engagement with the YouTube.com-hosted streaming videos, were entered in the second block.

This regression examines which engagement measures became significant predictors of satisfaction with out-of-class tools and increased comprehension as a result of using those tools. The first block, containing the covariates, was not statistically significant, F (4, 59) = 1.603, $p > .05$, $R^2 = .098$. However, the second block, containing the engagement measures, was statistically significant, F (7, 56) = 2.510, $p < .05$. The increase in R^2 from block 1 to block 2 was statistically significant, $\Delta R^2 = .141$, $p < .05$. Specifically, engagement with the YouTube streaming videos ($\beta = .304$, $p < .05$) was a positive and significant predictor of perceived value of supplemental options.

In summary, while engagement with the YouTube.com-hosted videos was a positive predictor, engagement with the lab and engagement with the PowerPoint lessons were not significant predictors. Therefore, Hypothesis 4 was only partially supported.

Hypothesis 5

Hypothesis 5 predicted that motivation factors and study strategy factors would impact perceived value of supplemental options. Because this hypothesis dealt with two sets of dependent variables, two regression analyses were performed to test Hypothesis

5. For each, the dependent variable was the five-item perceived value of supplemental learning options scale. Block 1 in each regression contained the covariates.

In the first regression, the five motivational factors— intrinsic orientation, extrinsic orientation, self efficacy for course, self efficacy for difficult material, and task value— were entered in the second block. The first block, containing the covariates, was not statistically significant, F (4, 59) = 1.603, $p > .05$, $R^2 = .098$. However, the second block, containing the five motivational inputs, was statistically significant, F (9, 54) = 2.461, $p < .05$. The increase in R^2 from block 1 to block 2 was statistically significant, $\Delta R^2 = .209$, $p < .05$. Specifically, task value was a significant predictor ($\beta = .429$, $p < .05$) of level of value perception.

In the second regression, the four study strategy factors— organization strategy, critical thinking strategy, help-seeking strategy, and elaboration strategy— were entered in the second block. The first block, containing the covariates, was not statistically significant, F (4, 59) = 1.603, $p > .05$, R^2=.098. However, the second block, containing the study strategy factors, was statistically significant— F (8, 55) = 2.443, $p < .05$. The increase in R^2 from block 1 to block 2 was statistically significant, $\Delta R^2 = .164$, $p < .05$. Specifically, elaboration strategy was a positive significant predictor ($\beta = .407$, $p < .05$) of level of value perception.

In summary, task value and elaboration were positive predictors. However, none of the other motivational inputs or study strategies were significant predictors. Therefore, Hypothesis 5 was partially supported.

CHAPTER V

CONCLUSIONS

This research project sought to measure how students in large-classroom environments respond to supplemental, out-of-class learning options. Is their performance positively impacted by tutoring or by online, always-accessible lessons? Above and beyond demographics and skills, what motivates students to engage in use of supplemental learning options? Responding to theories of "just-in-time" learning and the learner-centered philosophy of distributed learning (Novak, Gavrin, & Wolfgang, 1999; Skillicorn, 1996), this study put tools in place during the course of a fall semester to allow the learner to decide what form of out-of-class aid he or she would rely upon. An examination of participants' motivational inputs and use of study strategies provided some additional insight into what type of students were predisposed to engage with what type of supplemental learning option (the tutoring services of a help lab, the voice-over-PowerPoint e-lessons posted to course home pages, or the streaming YouTube.com-hosted videos).

Above and beyond building an understanding of what learning options different types of students might chose to engage with, this study examined what impact those out-of-class learning options had on improvement in performance as measured through class scores. Moreover, the study also sought to determine what supplemental learning options students reported as adding the most value to their understanding of assignments and their appreciation of business communication as a whole.

Hypothesis 1 predicted that motivational inputs (intrinsic orientation, extrinsic orientation, self efficacy for course, self efficacy for difficult material, and task value) would influence student engagement with the three types of supplemental learning options (the tutoring services of the lab, the PowerPoint lessons, and the streaming YouTube.com-hosted videos). This hypothesis was not supported. The only significant findings from these analyses revealed that students with higher GPAs and those who reported ethnicity as being non-white were more likely to use the YouTube.com videos. This is in part not unexpected, given that students with higher GPAs are naturally more involved students who might be more willing to engage with new classroom additions (McGee, 2005). It is, however, interesting to note that the 27% of respondents who reported they were non-white (including 23% Hispanic) were significantly more likely to incorporate the YouTube.com videos into their supplemental learning. Why would culture or ethnicity have a bearing on willingness to seek outside-of-class help?

The behavioral psychology literature outlines several key findings in which Hispanic and Latino culture emerges as the American culture whose members are most comfortable and most likely to seek emotional, informational and tangible support from friends, family and outsiders, whether in times of crisis or during day-to-day life (Kaniasty & Norris, 2000; Kaskutas, Weisner & Caetano, 1997). Whites, as Kaniasty and Norris (2000) find, are the least likely culture to embrace help-seeking behaviors and report the least comfort with requesting assistance, even in times of crises. The collectivist culture among Hispanics often stresses familial relationships and community support, which seems to differentiate the culture's approach to help (as a view of

independence and interdependence) from that of, for example, the white culture that in general views help-seeking along more the dichotomous and negative terrain of dependence versus independence (Kaniasty & Norris, 2000).

Other than demographic considerations, however, no clear motivational factor, from how much value students place on a task to whether they are more readily motivated by grades or an internal drive to learn, significantly predicted engagement with any of the learning options. This may be a function of the lack of statistical power with a lower number of participants in the study, rather than a rejection of the theory and past 15 years of empirics that support the idea that students' motivational and study strategy inputs are determinants of their involvement both in class (i.e., participation) and out of class, specifically in attending tutor-led supplemental instruction sessions for difficult introductory college courses (McGee, 2005; Pintrich et al., 1991; Pintrich, Smith, Garcia & McKeachie, 1993). Participant size and statistical power will be discussed later in limitations.

Hypothesis 2 received partial support. It examined the impact of study strategies typically used by students (organization, critical thinking, help-seeking, and elaboration) on their level of engagement with any of the three supplemental learning options (engagement with the lab, engagement with the PowerPoint e-lessons, and engagement with the YouTube.com-hosted streaming videos). Significant findings only emerged on the use of lab tutoring services. Students who exhibited help-seeking tendencies and who were likely to spot classmates and other human resources to turn to for help when they needed it, were, as predicted, significantly more likely to come to the lab over the course

of the semester for help with their assignments. Additionally, students who employed organization as a study strategy (who tend to outline their notes, and create diagrams and charts as study aids) were significantly less likely to use the lab during the semester. This was not as predicted, but in retrospect examining the spectrum of study strategies, this makes sense given the data. The literature shows that students who use their preferred study strategies effectively may not need to employ other strategies (Karabenick & Knapp, 1991). Thus, a student who is proficient at outlining and organizing his or her notes may be less likely to rely on another strategy (such as help-seeking) if the preferred strategy is already helping him or her achieve results in the course.

No study strategies emerged as significant predictors of involvement with the other two types of out-of-class learning, PowerPoint lessons and YouTube.com-hosted lessons. From the literature, participants who rely on organization (outlining and diagramming) or elaboration (summarizing and pooling information from the spectrum of class resources) as strategies to aid studying might be expected to engage with the online lessons. But this relationship did not emerge from the data. That could be a function of the lower number of participants (n=74) in the study (discussed in limitations section), or a particular characteristic of how students are learning to integrate online content into their schoolwork and class preparation activities. This seems ripe for further exploration of the antecedents of student usage of online materials.

Hypothesis 3 analyzed how usage of out-of-class learning options affected student performance, controlling for demographics and proven ability in achieving

performance standards, and considering the impact of a student's reported motivational inputs and employment of study strategies. This hypothesis was partially supported. The findings point to a single out-of-class option as a significant predictor of improved scores: the YouTube streaming videos. Above and beyond demographics, prior ability, motivation and study strategy factors, students who reported watching more of the four YouTube videos, watching more minutes of those videos, and taking notes doing those videos improved their performance.

Hypothesis 4 resulted in a similar finding as Hypothesis 3, and likewise, was partially supported. Hypothesis 4 examined if engagement with an out-of-class learning option would predict more perceived satisfaction for those options and more perceived comprehension for the assignments. As in Hypothesis 3, the only significant predictor that emerged was engagement with YouTube.com-hosted lessons. It will be useful to consider reasons for the findings from both these hypotheses at once.

From communication theory, the impact of YouTube.com-hosted videos on performance and perceived value can be understood by viewing YouTube videos as a message format that builds trust and gains attention, thereby opening the first door to absorption of material that will help students improve their scores (Metzger et al., 2003; Waldeck et al., 2001). Trust is a slippery concept, but from the classic view in psychology it is "a generalized expectancy held by an individual that the word of another… can be relied on" (Rotter 1967, p. 651). Thus, reliability and confidence in the source of communication are desirable antecedents to building trust and rapport with an audience, in this case an audience of students. Researchers exploring trust among

consumers and users of web channels specifically point to brevity, relevance, and a sense of connection and responsiveness as the main factors that help build trust and immediacy, and result in repeat visits to sites and heightened involvement with a site and its content (Bart, Shakar, Sultan & Urban, 2005; Wang & Emurian, 2005). Online content that stimulates an effective and motivating instructor by clarifying course material and procedures, likewise, creates higher relevancy that can lead to the creation of trust and increase the learners' perception of immediacy, as Waldeck et al. (2001) find.

Figure 1: Screenshot of the YouTube.com-hosted e-lesson on writing executive summaries.

The YouTube videos under consideration in this study were brief, featured the lab instructor in a "talking head" newscast style (see Figure 1), and included tips for completing each assignment, making the video potentially highly relevant and appealing to students. This format also satisfied the "just-in-time" philosophy, in which material is readily available to students to access at any time, just as they most need it, to complete an assignment or task (Novak, Gavrin, & Wolfgang, 1999).

So if one form of online video message is a predictor of improvement and perceived value, why isn't engagement with another online streaming video—PowerPoint lessons—also a predictor of improved score in the course or of perception of value? The answer could be tied to the content and format itself. Voice-over-Powerpoint lessons are lecture-style, with only a disembodied voice to provide a connection to the material presented on the slideshow. The lessons were also longer (at 17-23 minutes each, compared to the shorter 5-7 minute YouTube-hosted videos), and required a longer attention span to filter through copious material that is presented in more of a numbered-list style via the YouTube videos. Powerpoint lessons were also hosted in Blackboard Vista itself, a clunky technology with an older interface that made it difficult to fast-forward through material and slides.

The most surprising finding that arises from these data is that engagement with lab tutoring services was not a significant predictor of performance or of perceived value. Time and again in the literature, one-on-one tutoring and supplemental instruction (SI) session tutoring have been found to significantly positively impact learning

outcomes and performance (Cohenet al., 1982; Graesser & Person, 1994; Holladay, 1990, 1999; McGee, 2005). However for those studies, in-person tutoring was examined in isolation, and not considered with other forms of out-of-class help. For this document's data set, tutoring does not emerge as a predictor variable for success or satisfaction. One answer may lie in the lack of any-time availability: Tutors were only available at the lab for 20 hours a week during regular business hours in fall 2008. Compared to the successful predictor variable, YouTube.com-hosted videos, the lab's tutoring services were not as temporally comprehensive. Tutors were simply unavailable if students were completing their assignments after 5 p.m. on weekdays.

Hypothesis 5 examined the impact of student motivational factors and study strategy factors on the level of perceived value of out-of-class supplemental learning options. This hypothesis was partially supported. One of the five motivational factors, task value, emerged as a positive predictor of value perception and satisfaction. So, as respondents exhibit motivating perceptions of their interest in class material and usage of material in other classes, they also report seeing value in the out-of-class learning options and perceiving transferability of skills from the course to other settings. This is an intuitive connection reaffirmed in the data.

One of the four study strategies, elaboration, also emerged as a positive predictor of value perception and satisfaction. This finding shows that, controlling for demographic factors and prior evidence of high performance, students who engage in elaboration study tactics such as paraphrasing and summarizing information from multiple sources also reported seeing value in the out-of-class options and seeing

themselves using skills gained in the course in other settings. This is likewise an expected result, since students who rely on this strategy tend to seek more resources to refine and shape their view of course material (Pintrich et al., 1993).

In summary, engagement with YouTube.com-hosted videos emerged as the best and only predictor, among the three out-of-class learning options, of both improved performance and perceived value and satisfaction. The motivational input task value and the study strategy of elaboration were also positive predictors of a student's perception of the value of out-of-class learning options. Help-seeking behavior positively predicted and organization study strategy negatively predicted engagement with lab tutoring services. However, no motivational inputs or study strategies were predictors for engagement with YouTube lessons or engagement with PowerPoint lessons.

Implications for Theory and Practice

In tests of data to determine both what led to the most improvement in student scores and what led to students' highest reported levels of satisfaction and perceived value with the course, the short, lab instructor-created videos hosted on YouTube.com were the only significant predictor among all three supplemental learning options (lab services, Powerpoint lessons, and YouTube lessons). This finding provides broad-based support for "just-in-time" theories of learning (Novak, Gavrin, & Wolfgang, 1999; Skillicorn, 1996), in which information and help are readily available just as students are seeking that information and extra guidance. Therefore, instructors seeking to improve student performance may serve their students well by preparing materials to facilitate

any-time access to course content needed to complete major assignments or prepare for exams.

But there is a caveat to simply making any form of content available online or available any-time, any-place. This study advances the theory of always-available resources and learner-centered environments by further refining what type of media stimulates the most improvement in performance. The answer, in part, seems to hinge on what is most appealing to students and warrants future study. Though still relatively new to the business faculty at Texas A&M, the 20-minute lecture-style streaming voice-over-PowerPoint lessons that had been in use since 2005 were nonetheless nonsignificant in affecting student performance in 2008, despite the "always-on" notion of streaming such lessons from the course web page. Instead, it was the shorter, more condensed YouTube.com-hosted videos that predicted positive improvement in student learning.

The implications for use of such videos as supplemental classroom tools merit a detailed discussion of what features may contribute to student learning. In each of the YouTube.com-hosted videos, the lab instructor stares directly into the camera in a newscaster style approach (see Figure 2). The lab instructor lists four or five common issues to be aware of with each writing assignment, and examples of grammar, format and reasoning issues appear on screen next to the instructor or fill the screen temporarily while the instructor discusses details. Each video is less than 8 minutes and 9 seconds in length.

Characteristics of media and content, for example that the media are stored on a

Figure 2: Screenshot of the YouTube.com-hosted e-lesson on writing effective memos.

familiar website and their audiovisual content is geared toward relevant material, have been shown in the literature to build trust among users (Waldeck et al., 2001). Such characteristics thereby become the potential key to unlocking the positive relationship between use of YouTube.com-hosted videos for extracurricular learning and improvement in student performance. The same characteristics that aid with improvement in performance would also tend to build a greater sense of satisfaction with the material, which could allow students to better comprehend assignments. As such, an

examination of the theory of what characteristics were at play in the YouTube.com-hosted videos is warranted, as they may serve to enhance practice, though future studies may better mete out a comparison of the most effective media traits for improving student learning.

Metzger et al. (2003) examine what establishes credibility with a message source, pointing to three items in particular that could be central to unpacking the relational inputs between YouTube.com and the fall 2008 undergraduate student population: (1) media reliance, (2) user involvement, and (3) topic relevance.

Media Reliance. YouTube.com is a video-sharing website first established in February 2005 by three 20s-something web entrepreneurs as a place to upload content and share video-on-demand with their friends (Heldeman, 2007). By 2006, more than 20 million people accessed the site monthly, with more than 100 million videos viewed on a daily basis and 65,000 new videos uploaded by users everyday (Gill, Arlitt, Zongpeng & Mahanti, 2007; Heldeman, 2007; Nack, 2007; Skiba, 2007). Among those users in 2006, half were teenagers under 20, and the vast majority of the rest of users are those under the age of 35 (Gill et al., 2007; Heldeman, 2007; Skiba, 2007). Pure observational data from the classroom at Texas A&M shows the pervasive nature and sheer popularity of YouTube in use on campus. In the first 24 hours after a new YouTube.com video was posted on January 28, 2009, for example, a 5-minute video lesson on writing a professional e-mail got 441 views in a course with 514 students. From this analysis, it is apparent that YouTube is a site familiar to students if not outright popularly used and relied upon for entertainment and information by many traditional college-aged students.

Feeding a short, curriculum-enhancing video through YouTube.com, therefore, may help engender familiarity and build attention for and credibility for the video an instructor creates.

User Involvement. The YouTube site itself was founded on the general Web 2.0, user-generated philosophy that digital natives forming much of the undergraduate population in 2008 have come of age in: Content on the web is built for, added by, and maintained by the users in the network (Gill et al., 2007; Skiba, 2007; Zink, Suh, Gu & Kurose, in press). Involvement is an inherent aspect of social media such as YouTube, in which users can "share a movie through e-mail, add it to a list of favorites, post a text-based or video comment about it, and read (or watch) the comments others have posted" (EduCause, 2006, un-paginated). Educators embrace the format for the involvement opportunities it creates, the new media it exposes classrooms to, and the opportunities for engagement with students (EduCause, 2006; Skiba, 2007).

Topic Relevance. The videos in question also centered on topics vital to any student concerned about earning a higher score: Assignment details and tips. The relevance of the videos could be expected to contribute to the significance of the YouTube.com learning option. The videos were also brief, unlike their out-of-class learning counterpart, the PowerPoint streaming lesson (in this study, at 17-23 minutes in length). YouTube videos are known for their brevity: YouTube places a cap of 10 minutes on videos uploaded by the vast majority of users. Users with director accounts can and do exceed that maximum, but the basic expectation of any online user is of brief videos (Gill et al., 2007).

This study also advances the debate around the merits of web-enhanced instruction, adding more data to the view that making additional course content available online improves student performance. The instructional communication and education literature had returned a question mark on whether or not web-enhanced content would improve learning. By 2008, no consensus had emerged among scholars about whether web-added streaming videos and interactive course management sites had a positive (Boster et al., 2006, 2007), negative, or null (Benoit, et al., 2006) impact on performance, with the keynote study on the topic also finding a negative effect on student satisfaction for web-enhanced courses (Benoit et al., 2006). These studies all compared web-enhanced courses to control courses without web-enhancement.

This study did not set aside a control group without access to the web resources to monitor the impact on student learning, but instead advanced a model of out-of-class learning options (both web-enhanced and non-web) in an attempt to pinpoint which option might emerge as the most significant positive predictor of learning. Given three valid options (lab tutoring services, voice-over-PowerPoint streaming lessons and YouTube.com-hosted video lessons) all containing the same support for course objectives and the same material and content delivered in different formats, it was a web-enhanced support system that emerged as the best predictor of learning with these data. And that same web-added learning option (the YouTube.com-hosted video) also fed into students' reported perceptions of satisfaction and value both with the course and with the learning options available.

For colleges and universities facing the overflowing classrooms of the first decade of the 2000s (Krueger, 2003), out-of-class communication forms another important avenue for helping students feel welcome and supported and for helping students connect with another touch point for the course and course content outside the confines of the traditional 50-minute lecture in a cramped lecture hall. This study advances the stream of literature that finds that web-enhanced content has a positive impact on learning and should be embraced by educators.

Implications for Future Research

The out-of-class learning options examined in this study represent differing communication practices, augmenting the guiding research question of potential performance affect to an area ripe for future consideration of the communication channels in play. Are students of 2008 and beyond likely to see improvement in their performance if they rely on one-on-one tutoring or web-enhanced supplemental instruction? In this semester-long study, the larger answer was an endorsement of at least one form of online, always-accessible material: The "talking head" streaming videos hosted on YouTube.com, a site noted in the literature for its viral popularity among the under-35 crowd (Gill et al., 2007; Zink et al., in press).

The most obvious next step for research along this vein is to uncover precisely what media traits create a positive impact on learning in instructional communication tools. In general, how much does style and format of web-enhanced supplemental learning options inform improvement in performance? Is it how the content is delivered;

does it matter how relevant students judge the content; or does it matter if the speaker's face is visible or not, or if so is perceived as attractive and engaging or not? Does the level of interactivity have a stake in student performance with the tool? How might each of these manipulations impact student satisfaction with the course or with the options?

This study finds a stronger link between a particular type of hosted video solution and learning. Yet a future study that manipulates such factors as interactivity, in addition to a simple comparison of the communication channel inputs outlined by such scholars as Bart, et al. (2005) and Metzger et al. (2003) such as media reliance, topic relevance and community features, may provide deeper understanding of what about online content is most effective for young-adult, adult and struggling learners alike. For instance, this study did not explore an option that included more interactive web-enhanced content. Perhaps learning is positively impacted by tutoring labs that offer "always-on" or late-hour services online via interactive chat features. Such an online lab service may fulfill the early education literature's conclusions that tutoring improves learning, while at the same time meeting the "just-in-time" demands of the 21st century learner by being available remotely and at later hours. Interactive chat may also emerge as a better use of resources as well in colleges facing resource challenges such as high faculty-to-student ratios and limited classroom space (Hanushek, 1996, 1997), since online labs can place both tutors and learners at their home or at library computers to interact in the new public sphere of the web.

More importantly, as the nature of the networked society online evolves, educators and instructional communication scholars must be prepared to pace alongside

such an evolution. Future studies will necessarily advance the underpinning theories and the concept of learner-centered distributed learning environments, but by enlisting technologies that don't yet exist or seem viable in 2009.

Limitations

One limitation potentially narrowed the impact of the study's main findings: a low number of respondents. Of the total 356 students enrolled in the course, 79% opted not to respond to both surveys during the fall 2008 semester. One cause of this low response rate was that the surveys were not required for course credit, nor were they offered with incentives for students such as extra credit points. But the author, who served as lab instructor for the 9 sections of the introductory business course during fall 2008, was painstakingly conservative in her approach to recruiting, and worked with her institutional IRB to minimize as much as possible the risk of coercion associated with the researcher holding sway over the grades of the study participants. The result was a voluntary survey that did not generate as much statistical power due to lower response rate.

But to explore this limitation a bit further, the study also gathered some demographic data on the nonresponding students. What might have caused these students in particular to not respond to curriculum evaluation survey requests? For one, nonrespondents for whom data was available (n = 267) showed a similar level of evidence of prior written communication ability as demonstrated through verbal SAT score, with a mean score of 574 out of a possible 800 (n = 248, SD= 78.37) that is

comparable and only slightly higher than the participant group (n = 65, M = 564, SD = 87.34). Cumulative grade point average for nonrespondents (n = 264, M = 3.08, SD = .580) differed more noticeably from the participant group (n = 72, M = 3.34, SD =.508), though both groups' GPAs are above 3.0 and point to students who perform above average in the college classroom. Other differences are also observed, but do not emerge as overwhelming explanatory variables: Overall business writing scores for the nonrespondent group were lower: a mean of 2,667 points out of 3,000, or 88.9 percent (n=267, SD = 182.04), compared to a 91.7 percent, or 2,753 points of 3,000 overall for the participant group (n= 74, SD = 132.76). Likewise, overall gains (change score) calculated as the difference between draft scores and revised scores showed more spread and were larger for the nonrespondent group. Nonrespondents, on average, earned 395.4 points as they improved their scores from draft assignments to revisions (n= 261, SD = 255.29). Participants, on average, earned 345.2 points as they improved their scores from draft assignments to revisions (n= 71, SD = 185.6). This difference may be attributed to the sheer size of the nonrespondent group, as well.

One area that wasn't explored in the demographics was nonrespondents' race or ethnic category. Since the research relied on self-reported data in the surveys, information from student records wasn't comparable. Thus, one possible explanatory variable for why so many students did not respond may be linked to ethnicity, but remains an unknown for the purposes of this study. So from the data the study does rely upon, does anything remarkably set this larger group of nonrespondents apart? The answer is a bit inconclusive, as GPA and SAT verbal score comparisons indicate both

sets of students demonstrated positive predictors of success coming into the class, and both sets of students on average scored above an 88 percent or higher on their writing assignments in the introductory business course. This speaks positively about the results of the study, since the difference between respondent and nonrespondent groups does not seem to indicate that results would be skewed had more students responded to the surveys. However, lack of major disparity in key data points between participant group and nonrespondents also leaves little to suggest why 79% of students may have opted not to respond.

A further limitation is found in most social science studies that rely on surveys as the basis of their data: students were asked to self-report usage and perceptions, and the risk with any self-reported data is that it may be intentionally or unintentionally misrepresentative. Students were also asked to respond to these surveys via the Internet, meaning the responses were recorded in potentially very divergent spaces from home computers to lab computers or laptops in a crowded coffee shop or student hangout. As such, the researcher had no control over the environment and that environment may have affected the careful consideration of responses selected. This, also, could have affected the quality of the data gathered.

Digging into the study itself, a conceptual limitation emerges in the variable named value perception. The scale combines questions on satisfaction with the course with questions about the usefulnesss of each out-of-class learning option as part of the learner's path to comprehension, effectively blurring conceptions of satisfaction and learning to tap a larger measure of student perception of the value and usefulness of

supplemental options. This blending was created as the author discovered that the satisfaction and usefulness variables trended the same and tapped similar concepts, prompting a decision to fold the variables into a larger scale with 5 questions that at first glance may not appear conceptually related. Such a limitation may be avoided in the future with more precise language and wording in the survey itself. But for the purposes of this study, the value perception measure taps into a larger concept of overall assessment of how supplemental learning options were perceived, received and used as part of a students' course of study, and how much that perception contributed to an appreciation of the course value overall.

One last potential limitation from the study's findings emerges on the basis of the newness of the technology in question. The positive predictive value of viewing YouTube lessons may be complicated by another factor — it's a new addition to the sophomore introductory business course, and therefore may have received undue attention from students. Boster et al. (2007) note the presence of a "novelty effect" associated with the introduction of new visual materials that can sharpen the focus of student attention, increase their absorption of the subject matter and contribute in this way to improvement in student performance. Thus, it is conceivable that, given the rapid growth of technology available and the rise of the user-generated content era, even this study's findings that instructor-created YouTube.com-hosted videos positively predicted student learning in 2008 be expected soon to be outpaced by a newer, better file-sharing service or by Web 2.0 collaboration that advances more important characteristics of learning and engagement.

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APPENDIX A

Rubric for business writing
Based on Rogers & Rymer, 2001

	Advanced *(88-100% of points)*	Proficient *(70-87% of points)*	Needs improvement *(34-69% of points)*	Does not meet expectations *(0-33% of points)*
Context: *audience, tone* **90 pts (12%)**	Writer deftly interprets goal of writing and writes appropriately for audience, tone and situation **Score 79-90**	Writer captures goal of writing or mode of address with audience, but fails to adequately address both **Score 63-78**	Writer captures some understanding of situation or audience, but fails to adequately address either **Score 31-62**	Writer fails to interpret the task and audience **Score 0-30**
Coherence: *Organization, sentence structure* **90 pts (12%)**	Coherent writing, built around a controlling idea with logical development and clear transitions from one passage to the next **Score 79-90**	Hindered transitions, development or organization. Addresses some but not all aspects of central idea, transitions, development around idea **Score 63-78**	Hard-to-follow transitions, lack of central idea or unclear central idea, hindered development around that idea **Score 31-62**	Fails to evolve around a central idea with developed branches; meanders; no attempt at transitioning reader to next passage **Score 0-30**
Reasoning Units: *Position statement, supporting info, evidence & examples* **90 pts (12%)**	Presenting claims and problems in context, and showcasing support for desired solution as an analysis with clear explanation and examples **Score 79-90**	Lack of clear supportive examples or explanation for solution with well-developed claims and problem; or well-developed supportive examples with lacking claims and lacking problem definition **Score 63-78**	Attempts at examples and evidence, but fails to connect problem with position statement and fails to fully evidence for each example **Score 31-62**	No clear claim and evidence-in-support link established **Score 0-30**
Error interference: *Grammar, spelling, punctuation, style, mechanics* **105 pts (14%)**	No errors interfere with communication or damage credibility **Score 92-105**	Errors do not seriously interfere with or damage communication, but some errors are present (typos, grammar, spelling) **Score 74-91**	Five or more typos and usage errors that hinder readers' ability to comprehend the material **Score 36-73**	Severe and frequent errors in grammar, spelling, and language convention that disrupt understanding **Score 0-35**
Task: *Content, purpose, knowledge of content demonstrated* **375 pts (50%)**	Demonstrates knowledge above and beyond what is required for purpose of writing **Score 176-200**	Demonstrates knowledge needed to proceed with task, clearly identifies the purpose **Score 140-175**	Failure to clearly communicate knowledge, purpose and assignment goals. Implied but not clearly stated **Score 68-139**	Incorrect information and lack of understanding of assignment purpose and goals **Score 0-67**

APPENDIX B

Recruitment materials

Script for first week of classes

Hello students. Sommer Hamilton is conducting a curriculum evaluation study this semester in an effort to understand and improve the ways we deliver business writing instruction. This won't require much involvement on your part, though we will ask for your voluntary participation in a survey this month and again in November. We will use materials from your writing assignments and student data as part of this curriculum evaluation. But don't worry; nothing from this evaluation will affect your grades in this course. We'll alert you later this semester when the second survey is ready for you to take, if you so choose.

Script for in-class recruitment

Hello students. Sommer Hamilton is conducting research this semester in an effort to understand and improve the ways we deliver business writing instruction. Ms. Hamilton is asking for your participation in a general survey of BUSN 289 students this month. She is asking you because, as students in this course, you might use the peer writing assistants in the communication lab in 102 Wehner and you might also view the writing e-lessons and YouTube lessons posted on Blackboard Vista. The purpose of this study is to understand how in-person peer tutoring and online streaming e-lessons might help students better achieve learning outcomes related to business writing.

Ms. Hamilton will send out an e-mail to your Blackboard Vista inboxes next week with details on how to access the survey. You may take the survey online, and it should take no more than 15 minutes to complete. Your participation in this survey is requested, but certainly not required. Let me stress: Participation is voluntary, and is not related in any way to your grade in this class. If you have any questions, please contact Ms. Hamilton in 242H Wehner or at 845-1022.

Text of follow-up e-mail to students

Dear BUSN 289 students,

Last week in class, we told you about a survey Sommer Hamilton is conducting in an effort to understand and improve the ways we deliver business writing instruction here at Mays Business School.

We are asking for your participation because, as a student in this course, you might have used the peer writing assistants in the communication lab in 102 Wehner and you might also have viewed the writing e-lessons posted on Blackboard Vista. The purpose of this study is to understand how in-person peer tutoring and online streaming e-lessons might help students better achieve learning outcomes related to business writing.

Your participation in this survey is requested, but certainly not required. Participation is voluntary, and is not related in any way to your grade in this class. If you have any questions, please call Sommer Hamilton at 845-1022.

You may access the survey at http:// urltocome.edu. The survey should take no more than 15 minutes to complete. Please read the instruction page carefully before proceeding with the survey.

APPENDIX C

Motivation Survey
September 2008

Dear BUSN 289 student,

You have been asked to participate in a curriculum evaluation study at Mays Business School, in particular assessing the impact of out-of-class instructional tools on learning. The purpose of this study is to understand how in-person peer tutoring and online streaming e-lessons might help students better achieve learning outcomes related to business writing.

What will I be asked to do?
If you agree to participate in this study, you will be asked to take a 50 question survey on your approach to studying and your use of peer tutors and writing e-lessons in BUSN 289. This survey should take no more than 30 minutes and will be completed online once you click "I agree" below. You may halt completion of the survey or exit this survey tool at any time. This survey will be used in conjunction with other class activities as part of a curriculum evaluation study.

What are the risks involved in this study?
The risks associated with this study are minimal, and are not greater than risks ordinarily encountered in daily life.

Do I have to participate?
No. Your participation is voluntary, and not related in any way to your grade in BUSN 289. You may decide not to participate or to withdraw without your current or future relations with Texas A&M University and Mays Business School being affected.

Who will know about my participation in this research study?
This study is confidential. The records of this study will be kept private. No identifiers linking you to this study will be included in any sort of report that might be published. Research records will be stored securely and only Sommer Hamilton will have access to the records.

Whom do I contact with questions about the research?
If you have questions regarding this study, you may contact Sommer Hamilton at 979-845-1022 or sommer@tamu.edu, or Mike Stephenson at 979-845-6594 or mstephenson@tamu.edu.

Whom do I contact about my rights as a research participant?
This research study has been reviewed by the Human Subjects' Protection Program and/or the Institutional Review Board at Texas A&M University. For research-related problems or questions regarding your rights as a research participant, you can contact these offices at 979)458-4067 or irb@tamu.edu.

Participation
Please be sure you have read the above information, asked questions and received answers to your satisfaction. If you would like to be in the study, please click "I agree" below and proceed to the survey.

○ Yes, I agree to be part of this survey.

○ No thanks, I'd like to exit from this survey.

This survey asks about you, your study habits, your learning skills, and your motivation for work in the BUSN 289 course. There are no right or wrong answers to this survey; this is not a test. Please respond to this survey as accurately as possible, **reflecting your own attitudes and behaviors** in this course.

Please enter your first name:

Please enter your last name:

What class level best describes you?

- Freshman
- Sophomore
- Junior
- Senior

What best describes your ethnic background?

- African-American
- American Indian
- Asian-American
- Hispanic/Spanish-speaking
- White/Caucasian
- Other

>>

The following questions ask about your motivation for and attitudes about this writing-intensive course. Remember there are **no right or wrong answers**, just answer as accurately as possible.

Use the scale below to answer the questions. If you think the statement is very true of you, check "strongly agree"; if a statement is not at all true of, check "strongly disagree." If the statement is more or less true of you, **find the statement that best describes you**.

In a class like this, I prefer course material that really challenges me so I can learn new things.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I think I will be able to use what I learn in this course in other courses.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I believe I will receive an excellent grade in this class.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I'm certain I can understand the most difficult material presented in readings, online and in discussions in this course.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

Getting a good grade in this class is the most satisfying thing for me right now.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

It is important for me to learn the course material in this class

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

The most important thing for me right now is improving my overall grade point average, so my main concern in the class is getting a good grade.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I'm confident I can understand the basic concepts taught in this course.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

If I can, I want to get better grades in this class than most of the other students.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I'm confident I can understand the most complex material presented by the instructor in this course.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

In a class like this, I prefer course material that arouses my curiosity, even if it is difficult to learn.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I am very interested in the content area of this course.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I'm confident I can do an excellent job on the assignments and presentations in this course.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I expect to do well in this class.

Definitely will not	Probably will not	Don't know	Probably will	Definitely will
○	○	○	○	○

The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I think the course material in this class is useful for me to learn.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

When I have the opportunity in this class, I chose course assignments that I can learn from even if they don't guarantee a good grade.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I like the subject matter of this course.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

Understanding the subject matter of this course is very important to me.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I'm certain I can master the skills being taught in this class.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

>>

The following questions ask about your study strategies for this course. Remember there are **no right or wrong answers**, just answer as accurately as possible.

Use the scale below to answer the questions. If you think the statement is very true of you, check "strongly agree"; if a statement is not at all true of, check "strongly disagree." If the statement is more or less true of you, **find the statement that best describes you**.

When I study or use the notes and materials from this course, I outline the material to help me organize my thoughts.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I often find myself questioning things I hear or read in this course to decide if I find them convincing.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

Even if I have trouble learning the material in this class, I try to do the individual work (such as individual writing assignments) on my own, without help from anyone.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

When I prepare assignments for this course, I go through class notes and Blackboard Vista notes and try to find the most important ideas.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

When a theory, interpretation, or conclusion is presented in class or on Blackboard Vista, I try to decide if there is good supporting evidence.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I make simple charts, diagrams, or tables to help me organize course material.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I treat the course materials as a starting point and try to develop my own ideas about it.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

When I prepare assignments for this class, I pull together information from different sources, such as lectures, discussions, and Blackboard Vista.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I ask the instructor or communication lab tutors to clarify concepts I don't understand well.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I try to relate ideas in this subject to those in other courses whenever possible.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

When I prepare an assignment for this course, I go over my class notes or Blackboard Vista notes and make an outline of important concepts first.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

When reading or preparing for this class, I try to relate the material to what I already know.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I try to play around with ideas of my own related to what I am learning in this course.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I try to understand the material in this class by making connections between Blackboard Vista lessons and the concepts from the lectures.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

When I can't understand the material in this course, I ask another student in the class for help.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

Whenever I read or hear an assertion or conclusion in the class, I think about possible alternatives.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

Whenever I read or hear an assertion or conclusion in the class, I think about possible alternatives.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I try to identify students in this class whom I can ask for help if necessary.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

I try to apply ideas from course lectures and Blackboard Vista to other class activities, such as lecture, writing assignments and discussion.

Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
○	○	○	○	○	○	○

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APPENDIX D

Engagement & Perception Survey
November 2008

Dear BUSN 289 student,

You have been asked to participate in a curriculum evaluation study at Mays Business School, in particular assessing the impact of out-of-class instructional tools on learning. The purpose of this study is to understand how in-person peer tutoring and online streaming e-lessons might help students better achieve learning outcomes related to business writing.

What will I be asked to do?
If you agree to participate in this study, you will be asked to take a 50 question survey on your approach to studying and your use of peer tutors and writing e-lessons in BUSN 289. This survey should take no more than 30 minutes and will be completed online once you click "I agree" below. You may halt completion of the survey or exit this survey tool at any time. This survey will be used in conjunction with other class activities as part of a curriculum evaluation study.

What are the risks involved in this study?
The risks associated with this study are minimal, and are not greater than risks ordinarily encountered in daily life.

Do I have to participate?
No. Your participation is voluntary, and not related in any way to your grade in BUSN 289. You may decide not to participate or to withdraw without your current or future relations with Texas A&M University and Mays Business School being affected.

Who will know about my participation in this research study?
This study is confidential. The records of this study will be kept private. No identifiers linking you to this study will be included in any sort of report that might be published. Research records will be stored securely and only Sommer Hamilton will have access to the records.

Whom do I contact with questions about the research?
If you have questions regarding this study, you may contact Sommer Hamilton at 979-845-1022 or sommer@tamu.edu, or Mike Stephenson at 979-845-6594 or mstephenson@tamu.edu.

Whom do I contact about my rights as a research participant?
This research study has been reviewed by the Human Subjects' Protection Program and/or the Institutional Review Board at Texas A&M University. For research-related problems or questions regarding your rights as a research participant, you can contact these offices at 979)458-4067 or irb@tamu.edu.

Participation
Please be sure you have read the above information, asked questions and received answers to your satisfaction. If you would like to be in the study, please click "I agree" below and proceed to the survey.

○ Yes, I agree to be part of this survey.

○ No thanks, I'd like to exit from this survey.

This survey asks about you, your study habits, your learning skills, and your motivation for work in the BUSN 289 course. There are no right or wrong answers to this survey; this is not a test. Please respond to this survey as accurately as possible, **reflecting your own attitudes and behaviors** in this course.

Please enter your first name:

Please enter your last name:

What class level best describes you?

- Freshman
- Sophomore
- Junior
- Senior

What best describes your ethnic background?

- African-American
- American Indian
- Asian-American
- Hispanic/Spanish-speaking
- White/Caucasian
- Other

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The following questions ask about your engagement with and satisfaction with this writing-intensive course. Remember there are **no right or wrong answers,** just answer as accurately as possible.

Use the scale below to answer the questions. Please **respond with the statement that best describes you**.

For the four individual writing assignments in this course, I talked with someone from the communication lab to develop ideas BEFORE I wrote my first draft.

- ○ Never
- ○ For some assignments
- ○ For most assignments
- ○ For each assignment

For the four individual writing assignments in this course, I talked with someone from my class or with a friend to develop ideas BEFORE I wrote my first draft.

- ○ Never
- ○ For some assignments
- ○ For most assignments
- ○ For each assignment

For the four individual writing assignments in this course, I took an early draft to the communication lab before the first draft was due.

- ○ Never
- ○ For some assignments
- ○ For most assignments
- ○ For each assignment

For the four individual writing assignments, I viewed the voice-over-PowerPoint e-lessons posted on Blackboard Vista.

- ○ Never
- ○ For some assignments
- ○ For most assignments
- ○ For each assignment

In general, I feel that the voice-over PowerPoint lessons on writing topics contributed to my understanding of the assignment.

- ○ Strongly Disagree
- ○ Disagree
- ○ Somewhat Disagree
- ○ Neither Agree nor Disagree
- ○ Somewhat Agree
- ○ Agree
- ○ Strongly Agree

For the four individual writing assignments, I received in-person feedback from the instructor or someone at the communication lab on a draft.

- ○ Never
- ○ For some assignments
- ○ For most assignments
- ○ For each assignment

For the four individual writing assignments, I received feedback from a classmate, friend or family member about a draft.

- Never
- For some assignments
- For most assignments
- For each assignment

For the four individual writing assignments, I viewed youtube streaming video lessons on tips for revised assign**ments.**

- Never
- For some assignments
- For most assignments
- For each assignment

The youtube streaming videos contributed to my understanding of the assignment.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree

The assistants in the Mays Communication Lab were helpful for my writing assignments.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Agree
- Strongly Agree

>>

I generally watched an entire voice-over-PowerPoint e-lesson.

- Yes
- No
- Sometimes

I generally watched only a few minutes of the voice-over-PowerPoint e-lessons.

- Yes
- No
- Sometimes

While viewing the voice-over-PowerPoint e-lessons on writing, I would browse other unrelated Web sites or used unrelated programs on the computer.

- Yes
- No
- Sometimes

While viewing the voice-over-PowerPoint e-lessons on writing, I would take notes.

- Yes
- No
- Sometimes

I generally watched the entire youtube streaming videos.

- Yes
- No
- Sometimes

I generally watched the entire youtube streaming videos.

- Yes
- No
- Sometimes

I generally watched only a few minutes of the youtube streaming videos.

- Yes
- No
- Sometimes

While viewing the youtube streaming videos, I frequently browsed other unrelated Web sites or used unrelated programs on the computer.

- Yes
- No
- Sometimes

While viewing the youtube streaming videos, I would take notes.

- Yes
- No
- Sometimes

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In general, I feel more prepared to take on writing in the workplace since I've been through this course.

- ○ Strongly Disagree
- ○ Disagree
- ○ Somewhat Disagree
- ○ Neither Agree nor Disagree
- ○ Somewhat Agree
- ○ Agree
- ○ Strongly Agree

This course enhanced my understanding of business writing.

- ○ Strongly Disagree
- ○ Disagree
- ○ Somewhat Disagree
- ○ Neither Agree nor Disagree
- ○ Somewhat Agree
- ○ Agree
- ○ Strongly Agree

VITA

Sommer Bunce Hamilton received her Bachelor of Science degree in journalism (with English and history minors) from Texas A&M University in 2004. She entered the Communication program as a part-time student at Texas A&M University in September 2006 and received her Master of Arts degree in May 2009. Her research interests include motivation and behavior in users/consumers, online communication channels, and ethics in marketing. She plans to pursue a doctoral degree in marketing from the University of Texas at San Antonio in the near future.

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