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Welcome to this issue of the ***Business Education Innovation Journal***.

The purpose of this journal is to assemble researched and documented ideas that help drive successful learning and motivate business students to learn. The intention is to draw ideas from across both methods and disciplines and to create a refereed body of knowledge on innovation in business education. As a result, the primary audience includes business education faculty, curriculum directors, and practitioners who are dedicated to providing effective and exciting education.

We invite you to read about innovations published and apply in your classroom. We also encourage you to develop your original creative ideas, prepare an article, and submit for review.

This particular issue includes a number of interesting classroom innovations in diverse areas.

Peter J. Billington
Editor

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Examine the Impact of Lecture Video Policy to Study Indirect-Cost Variances in an Online Cost Accounting Course

Lei Wen, Emporia State University, Emporia, Kansas, USA

ABSTRACT

This paper makes a contribution to extend accounting education literature by examining the impact of lecture video policy to study indirect-cost variances in an online undergraduate-level cost accounting course. This study finds that the use of lecture video policy has a positive impact on students' participation in watching indirect-cost variance lecture videos. The research reports more students repeat watching indirect-cost variance lecture videos because indirect-cost variance analysis is the most challenging and difficult topic in this online cost accounting course. In general, the adoption of lecture video policy has a favorable impact on students' perceptions about their progress. The results clearly demonstrate that students favor lecture-video-watching policy in this online cost accounting course. The implication of this study is that instructors may consider adopting lecture video policy in online upper-level accounting classes, where students may feel more motivated to watch lecture videos to help their learning activities.

Keywords: Accounting Education, Online Course, Cost Accounting, Course Development.

INTRODUCTION

This paper makes a contribution to extend accounting education literature by examining the impact of lecture video policy to study indirect-cost variances in an online cost accounting course. It provides a new perspective to investigate students' perceptions with the adoption of lecture video policy within the online environment. How to enhance course experience and learning effectiveness at online accounting courses needs to be investigated more. This is why this paper investigates the students experiences related to lecture video policy in an online undergraduate-level cost accounting course.

APPLICATIONS OF LECTURE VIDEO POLICY

One main issue related to online accounting education is to assess the learning quality and outcome of the online education experience in an accounting course (Bryant et al., 2005). Chen et al. (2012) compares the learning effectiveness of online accounting education to traditional in-class face-to-face teaching delivery. Their results suggest that the traditional classroom environments could generate more favorable learning effectiveness and outcome in advanced accounting courses than online delivery mode. Uniform Certified Public Accountant (CPA) Examination Blueprints describe CPA exam contents and skill levels required for accounting professionals. The new CPA exam requirements are approved by the Board of Examiners at American Institute of CPAs on May 31, 2018 and the effective date is January 1, 2019 (AICPA, 2018). The old CPA exam emphasizes more in exam-takers' fundamental skills, such as remembering and understanding, application of knowledge or theories or techniques. The new CPA exam emphasize more in exam-takers' analysis skill, which means "a higher level of analysis and interpretation." (AICPA, 2018). How to help students learn higher level skills in online accounting courses is very important.

By surveying 288 college accounting students in China, Wen et al. (2015) examine the factors to influence the decisions of accounting students to pursue CPA. Based on the theory of planned behavior (Ajzen, 1991), Wen et al. (2015) find that genuine interest in accounting positively affects students' intentions to pursue the CPA credential. Wen et al. (2018) use the theory of planned behavior to investigate some factors to affect accounting students' intention to decide on career choices. By exploring the factors to influence accounting students' interests in pursuing public accounting instead of private accounting, accounting educators could revitalize accounting curriculum and class policies (Wen et al., 2018). Different class policies and practices could have different effect on student engagement, experience and satisfaction. Wen (2017) finds that the use of cooperative learning at face-to-face Intermediate Accounting II course does not have a favorable impact on students' satisfaction. The problem is how to transform cooperative learning method into a more active learning environment. How to improve student genuine interest in online accounting courses is the key to enhance students' engagement, experience and satisfaction. Zhong

(2017) finds that the use of instructor-made videos is an effective learning method for the online economics courses. There are strong correlations between online student satisfaction and their perceptions about instructor's teaching effectiveness (Zhong, 2017). Wen (2016) finds that students have a better perception about teacher's teaching effectiveness for the course after integrating lecture videos into the learning process in an online Intermediate Accounting II course.

Zhong (2018) discusses online course design and course communication, two key elements, in teaching large online classes. The adoption of student-centered learning approach to deliver the course contents and materials is very effective for a successful online course (Zhong, 2018). Online lecture videos could fill the bill by increasing the flexibility for students to have a better time management. Students can decide when and which part of lecture videos they want to watch more or less. The implementation of active learning tool in online courses, such as lecture videos, increases student engagement and then student satisfaction. Irving (2011) integrates active learning research into an undergraduate accounting course. Accounting students can substantially improve their level of knowledge, skills, and abilities to finish a research study by learning from accounting journal articles related to class topics (Irving, 2011). An integrated approach proposed by Dzuranin et al. (2018) could be applied in cost accounting courses to maximize undergraduate students' genuine interest and engagement in experiential learning (Zhan et al., 2018). Zhan et al., (2018) find that this data-driven approach, the incorporation of Big Data and analytic contents in their teaching practice, help undergraduate students better understand complicated topics in cost accounting courses. To integrate lecture videos into online advanced accounting course definitely helps students feel more confident about the challenging class materials because students can repeat watching instructor's lecture videos as many times as possible in online Intermediate Accounting II course (Wen, 2016).

The integration of lecture videos in online accounting courses could also enhance undergraduate students' genuine interest and engagement. Therefore, this practice could help undergraduate students better understand complicated topics in online accounting courses. Sargent et al. (2013) find that the use of ultra-short 3-minute online videos, a learning innovation, could help students with poor academic performances in principles of accounting courses. These students are reported to have a better class grades and become more confident in passing the class (Sargent et al., 2013). Porter and Tiahrt (2016) report that there are four methods to create lecture videos for a course. Method one is "using videos from another source", such as YouTube™ and videos provided by the publishers. Method two is "recording your classes". Method three is "recording studio-style lectures". Method four is "recording lecture segments". All four methods have their own pros and cons (Porter and Tiahrt, 2016). By surveying 29 students in an online Intermediate Accounting II course, Wen (2016) finds that 46% of respondents prefer to have 50-minute lecture videos. 21% of students prefer to have 40-minute lecture videos. 29% of students prefer to have 30-minute lecture videos. Only 1 student prefers to have 20-minute lecture videos. Wen (2016) also finds that students have a positive view about this online course and the instructor because method two (recording your classes) is used in this online Intermediate Accounting II course.

RESEARCH METHOD

Cost accounting course is an important accounting course. It covers a variety of very comprehensive and advanced managerial accounting topics, such as cost accumulation systems, cost allocation, budgeting, cost-volume-profit analysis, process costing and direct-cost variances. (Datar and Rajan, 2017; Garrison et al., 2017; Lanen et al., 2016; Zimmerman, 2016). These important topics are also included into the Business Environment and Concepts (BEC) section, one of four sections of CPA examination (AICPA, 2018; Whittington, 2015). The book of Datar and Rajan (2017) is used as a required textbook for this online undergraduate-level cost accounting course. Chapter 8 in the textbook is titled as "Flexible Budgets, Overhead Cost Variances, and Management Control". This chapter is related to indirect-cost variances, which is the most challenging and difficult topic in this class. Canvas, an online learning course management system, is used at the author's university. In this study, course learning objectives, content and designing structures are similar at both classes in different two semesters, including the course syllabus, end-of-chapter homework exercise assignments, and quiz. Canvas also provides data of how each student watches all lecture videos. The author chooses the method two, described in the study of Porter and Tiahrt (2016), to record the whole class period because the author teaches a face-to-face classroom-based cost accounting class at the same public university. For this study, both classes are offered via online teaching delivery method. Most of students are non-traditional students. The author's institution is an AACSB-accredited business school at a public university. At the end of semester, the IDEA Survey, an institution-level course evaluation tool, is conducted for this online cost

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accounting course. The assessment of course objectives, student learning outcomes and student satisfaction are based on the IDEA Survey, which is used to measure the course learning effectiveness at the author's university.

The instructor records around fifty-minute lecture videos and post them on Canvas. The total class participation points related to lecture videos are 30 points, which is about 5% of total grade. One lecture video in each chapter will be randomly selected to grade 3 class participation points. To earn class participation points in each chapter, students must watch all lecture videos in that chapter. Students must watch at least 80% of one lecture video. For example, if a video is 50 minutes, students must watch at least 40 minutes. If data show a student only watches 39 minutes, she/he would still not earn 3 points. The above criteria of earning class participation points for watching lecture videos in also provided in class syllabus. In order to discourage a student to get around the lecture video policy by simply just turning on a lecture video but not watching it, instructor points out the benefits of watching lecture videos in class syllabus. Fall 2017 class is used as a control group (without lecture video policy). Fall 2018 class is designed as a special treatment group with the adoption of lecture video policy. All following data and results are from the IDEA Survey.

RESULTS

In Fall 2017, 15 out of 18 students respond to all questions on the IDEA Survey. The response rate is 83%. In Fall 2018, 11 out of 18 students respond to all questions on the IDEA Survey. The response rate is 61%. The use of lecture video policy to increase student engagement was well-received. Some evidence of learning effectiveness can be noticed through the descriptive statistics report of some selected data from IDEA survey in table one.

Table 1: Descriptive Statistics of Some Selected Data Related to Lecture Video Policy

	# of Student who watched	# of Student	Participation Rate	Total Minutes Watched	Average Minutes Watched per Student
Fall 2017 (Without Lecture Video Policy)					
Ch. 8 Video 1	9	18	50%	367	41
Ch. 8 Video 2	9	18	50%	333	37
Ch. 8 Video 3	9	18	50%	280	31
Ch. 8 Video 4	8	18	44%	380	48
Mean	9	18	49%	340	39
Standard Deviation			2%	39	6
Fall 2018 ((With Lecture Video Policy)					
Ch. 8 Video 1	16	18	89%	915	57
Ch. 8 Video 2	16	18	89%	901	56
Ch. 8 Video 3	15	18	83%	978	65
Ch. 8 Video 4	15	18	83%	1117	74
Mean	16	18	86%	978	63
Standard Deviation			3%	85	7

Table one shows that the mean value of students' participation rate to watch indirect-cost variance lecture videos is 49% in Fall 2017, only half of student body. Table one shows that the mean value of students' participation rate to watch indirect-cost variance lecture videos is 86% in Fall 2018. The students' participation rate improves a lot after the adoption of watching lecture videos to earn class participation points. The student responses are consistent with the research designing because Fall 2017 class is used as a control group (without lecture video policy). Fall 2018 class is designed as a special treatment group with the use of lecture video policy.

On average, each lecture video is about fifty minutes, similar to a typical face-to-face on campus class time. The mean value of average minutes watched per video by each student is 39 minutes in Fall 2017. The mean value of average minutes watched per video by each student is 63 minutes in Fall 2018. It demonstrates more students repeat watching indirect-cost variance lecture videos for several times because indirect-cost variance analysis is the most challenging and difficult topic in this online class.

Table 2: Descriptive Statistics of Some Selected Data Related to Student Performance in Chapter Eight Quiz

	Topic	# of Student with right answer	# of Student who take quiz	Correct Rate
Fall 2017 (Without Lecture Video Policy)				
Ch. 8 Quiz prob 1	Variable overhead spending variance	15	15	100%
Ch. 8 Quiz prob 2	Variable manufacturing overhead efficiency variance	15	15	100%
Ch. 8 Quiz prob 3	Fixed manufacturing overhead spending variance	15	15	100%
Ch. 8 Quiz prob 4	Fixed overhead production-volume variance	15	15	100%
Ch. 8 Quiz prob 5	Flexible-budget variance	9	15	60%
Mean		14	15	92%
Standard Deviation				16%
Fall 2018 ((With Lecture Video Policy)				
Ch. 8 Quiz prob 1	Variable overhead spending variance	15	16	94%
Ch. 8 Quiz prob 2	Variable manufacturing overhead efficiency variance	16	16	100%
Ch. 8 Quiz prob 3	Fixed manufacturing overhead spending variance	16	16	100%
Ch. 8 Quiz prob 4	Fixed overhead production-volume variance	16	16	100%
Ch. 8 Quiz prob 5	Flexible-budget variance	12	16	75%
Mean		15	16	94%
Standard Deviation				10%

Table two shows that the mean value of students' performances in chapter eight quiz is 92% in Fall 2017. The mean value of students' performances in chapter eight quiz is 94% in Fall 2018 after most students watch indirect-cost variance lecture videos in Fall 2018. The students' performances in chapter eight quiz improves a little bit after the adoption of lecture video policy to earn class participation points.

Table 3: Descriptive Statistics of Some Selected Data Related to Students' Description of Their Progress

	Mean	Standard Deviation	Total Responses
Fall 2017 (Without Lecture Video Policy)			
Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)	4.27	0.68	15
Learning to apply course material (to improve thinking, problem solving, and decisions)	4	0.97	
Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course	4.07	1.06	
Learning appropriate methods for collecting, analyzing, and interpreting numerical information	4.33	0.94	
Average	4.17	0.91	
Fall 2018 ((With Lecture Video Policy)			
Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)	4.55	0.5	11
Learning to apply course material (to improve thinking, problem solving, and decisions)	4.45	0.66	
Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course	4.45	0.66	
Learning appropriate methods for collecting, analyzing, and interpreting numerical information	4.18	1.11	
Average	4.41	0.73	

In general, table three demonstrates that students in Fall 2018 have a very positive description about their progress at this online cost accounting course. In Fall 2017, the average value of student response to "gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)" is 4.27, and the standard deviation is 0.67. In Fall 2018, the average value of the same question is 4.55, and the standard deviation is 0.5. In Fall 2017, the average value of student response to "learning to apply course material (to improve thinking, problem solving, and decisions)" is 4, and the standard deviation is 0.97. In Fall 2018, the average value of the same question is 4.45, and the standard deviation is 0.66. In Fall 2017, the average value of the four mean values related to these four course objectives is 4.17. In Fall 2018, the average value of the four mean values

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related to these four course objectives is 4.41. In a conclusion, students have a more positive perceptions about their progress, which is aligned with four course objectives.

Table 4: Descriptive Statistics of Some Selected Data Related to Students' Perception of the Course

	Mean	Standard Deviation	Total Responses
Fall 2017 (Without Lecture Video Policy)			
Difficulty of subject matter	3.47	0.72	15
When this course began I believed I could master its content.	4.13	0.81	
Overall, I rate this instructor an excellent teacher.	4.2	0.75	
Overall, I rate this course as excellent.	4.07	0.77	
Fall 2018 ((With Lecture Video Policy)			
Difficulty of subject matter	4.18	0.72	11
When this course began I believed I could master its content.	4.18	0.83	
Overall, I rate this instructor an excellent teacher.	4.91	0.29	
Overall, I rate this course as excellent.	4.82	0.39	

Table four indicates that most students feel very confident about this very difficult upper-level accounting course at the beginning of the class period. The mean score for the statement that "when this course began, I believed I could master its content" is 4.13 in Fall 2017 and 4.18 in Fall 2018. It is measured on a 5-point Likert scale with a score of 5 indicating strong agreement with the statement. In Fall 2017, the average value of student response to "overall, I rate this instructor an excellent teacher" is 4.2, and the standard deviation is 0.75. In Fall 2018, the average value of the same question is 4.91, and the standard deviation is 0.29. In Fall 2017, the average value of student response to "overall, I rate this course as excellent" is 4.07, and the standard deviation is 0.77. In Fall 2018, the average value of the same question is 4.82, and the standard deviation is 0.39. This study makes a comparison between a control group (without lecture video policy) and a special treatment group (with lecture video policy) in an online undergraduate-level cost accounting course. Students with lecture video policy outperform their peers in control group on a quiz for indirect-cost variance a little bit. Students with lecture video policy also have a better perceptions about teacher's teaching effectiveness for the course. One of possible attributes about significant improvement in students' perceptions toward the instructor and course could be that students enjoy using lecture-video approach at this upper-level accounting course. Since cost accounting course is very challenging and difficult, students could repeat watching lecture videos to have a better understanding of class materials in a more active learning environment.

Table 5: Descriptive Statistics of Some Selected Data Related to Students' Perception of Lecture-Video-Watching Policy

	Mean	Total Responses
Fall 2017 (Without Lecture Video Policy)		
If this class has a mandatory class policy to review lecture videos and earn class participation credits, it will improve my learning effectiveness.	3.27	15
Fall 2018 ((With Lecture Video Policy)		
The lecture-video-watching policy improves my engagement.	4	11
The lecture-video-watching policy has a positive impact on my academic performance.	4.55	
The lecture-video-watching policy increases my class satisfaction.	4	
Average	4.18	

Table five shows the one surprising finding in this paper that most of students have a very positive perception about lecture video policy in Fall 2018. Among 11 respondents, 64% of student respond to "The lecture-video-watching policy has a positive impact on my academic performance" as "Strongly Agree", the highest rank in 5-level scales. 27% of students describe it as "Agree", the second-highest rank in 5-level scales. Only 9% of students is neutral about this survey question. Overall, the average value is 4.55. The results clearly demonstrate that students favor lecture-video-watching policy in this online accounting class.

CONCLUSION

One major problem for this research is that IDEA survey is a university-controlled assessment tool. As an instructor, the author only gets a summary report instead of a more detailed dataset, which really restricts the author from doing further basic and comprehensive statistical analysis. Another major problem for this research is sample size. Due to the class size, the author cannot increase sample size for this research. Using a larger sample from more than one institution would give the study results much stronger support. The study finds that the use of lecture-video-watching policy in an online upper-level cost accounting course could be one of factors attributing a favorable impact on students' overall rating of an instructor and a course evaluation. One possible explanation is that students enjoy using lecture videos to repeat watching some challenging and difficult part in this online accounting class. For example, most of students repeat watching indirect-cost variance lecture videos for several times because indirect-cost variance analysis is the most challenging and difficult topic in this class. It is helpful for students to use lecture videos to review the class material, such as homework and quiz problems, with detailed step-by-step instructions. The class content is taught and delivered through the reviewing of lecture videos, rather than making students figure it out on their own in an online class setting. Students could benefit from a great use of lecture videos to understand class content. Coupled with the textbook and homework problems, the lecture videos help students learn actively. Future research might be done in other advanced accounting courses within the online environment to examine the impact related to the use of lecture video policy.

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. Factors Leading to Online Learner Satisfaction

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ABSTRACT

This paper explores little-examined factors that potentially affect student perceptions of online learning satisfaction by focusing on (1) the use of concrete methods such as online submissions and videoconferencing, (2) student perceptions of educational integrity, and (3) student perceptions of instructor training. Drawing from 21 other empirical studies, an exploratory factor analysis identified five factors related to student impressions of satisfaction of online learning focusing on these less explored aspects using a survey of 397 business students. The regression analysis indicates that basic online functionality, experience with online classes, technology reliability, and students' communication preferences are significant predictors of student satisfaction. Interactive methods, student perceptions of instructor training, and control of cheating were not significant predictors.

INTRODUCTION

The study of student perspectives with traditional teaching has tended to focus primarily on satisfaction with instructional factors (organization, teaching methods, instructor enthusiasm, etc.), and curricular factors (texts, transferability, readability, etc.) (e.g., Green, Hood, & Neumann, 2015). However, student perspectives on their satisfaction with their own perceived learning achievement can constitute a second element or a different approach (e.g., Palmer and Holt, 2009; Paechter, Maier, and Macher, 2010). A third type of student satisfaction about their education—one generally more peripheral in many studies focusing on the instructional elements—takes account of student perspectives about institutional or non-teaching factors (e.g., quality of class space, price, class size, etc.). Issues related to technology were generally considered negligible. This is not the case today with the study of students' perceptions of online course satisfaction in terms of teaching quality, learning achievement, and institutional support. Technology mediates the entire academic endeavor in online education, making the interplay of factors dramatically different from traditional education (Song et al., 2004; Young & Duncan, 2014). Students' perceptions are affected by various types of online rather than face-to-face lectures, technology-mediated rather than intimate group discussions, electronic rather than physical interactions with instructors, etc. Indirectly but as importantly, online teaching also introduces substantial challenges to instructors because of the new techniques and strategies they must master to maintain educational integrity and provide quality in an online mode (Sun et al., 2008; Asoodor, Vaezi, & Izanloo, 2014). This increases the importance of instructor training, self-study, and trial-and-error experience, as well as institutional support (Brinkely-Etzkorn, 2018).

However, while there has been a significant amount of research about the factors leading to student perceptions of satisfaction with online courses in online, higher education environments, it still has numerous gaps (Bates, 2017). Such studies have tended to use items and concepts based on traditional student evaluations, and have often overlooked the actual practices and specific concerns that are involved in contemporary online education. Three examples are highlighted here.

First, previous empirical studies of student satisfaction have not looked at the effects of specific instructional methods, such as online lectures, online grading, online submissions, and videoconferencing. That is, do specific methods, such as the competent use of gradebook, make a significant difference in the determination of satisfaction? Neither has there been an examination of the importance of educational integrity (aka cheating) from students' perspective (Wilkinson, 2009). This is a major concern for faculty, institutions, and accrediting bodies, but is it a factor of significance for students as well? Finally, there has been little examination of the effects of students' perceptions of instructor training on satisfaction (Young & Duncan, 2014; Brinkely-Etzkorn, 2018). That is, do students perceive the training of an instructor as significant, apart from the quality of teaching provided by the instructor, and is it a significant factor in their overall satisfaction? These are significant gaps in our understanding of student satisfaction.

The overall purpose of this article is to study unexamined factors that may or may not affect student perceptions of online learning quality, and integrate it with the literature where appropriate. Specifically, we want to find out:

1. What do students say is important or concerning to them related to teaching methods, educational integrity, and instructor training?
2. Do logical constructs emerge when specific items regarding online teaching methods, educational integrity, and perceptions about instructor training are incorporated in an exploratory factor analysis?
3. Which identified factors and control variables are found to be significant in regression analysis with regard to student satisfaction in online classes?

The article first reviews the literature on student satisfaction factors via a taxonomic survey of pertinent literature. This is followed by the methods, results, and discussion sections which provide the basis for the descriptive, factor, and regression analyses.

LITERATURE REVIEW

There are hundreds, if not thousands, of studies that discuss student satisfaction with online education, or reference it tangentially. However, there are relatively few studies that focus on specific student satisfaction factors using an empirical protocol. The review began with a standard Google Scholar search using over a dozen terms such as student perceptions of online learning, student satisfaction, student evaluations, online teaching quality, online learning achievement, etc. with numerous cognates and other aspects of particular interest to our study having to do with student cheating, the impact of student opinions of various methods, etc. This review of 500+ titles and abstracts yielded approximately 100 articles to review in depth. After reviewing approximately 100 articles that mention student satisfaction, 60 were eliminated as being insufficiently empirical (qualitative only). As a cross-check, in this phase we also reviewed the literature citing these articles, initially by abstracts, and where appropriate, reviewing the articles in depth for inclusion in our taxonomy. Forty empirical studies were fully reviewed, but only 21 were considered sufficiently focused on student satisfaction and perceptions of quality (as opposed to other constructs) and methodologically robust for inclusion in a comparative analysis. The types of study varied greatly from those with eclectic factors related to student satisfaction (instructional, technology, support, student characteristics, etc.) constituting the majority, some using the Community of Inquiry rubric of three types of instructor-facilitated presence related to teaching, cognitive, and social aspects (Arbaugh et al., 2008), and some using or including the Technology Acceptance Model elements with factors related to ease of use, utility, others' perceptions, facilitating conditions, and experience (Venkatesh et al., 2003). There is also one study included here that uses a communication framework (specifically focusing on media richness and channel expansion theories), and one that uses a cultural comparison approach.

Not surprisingly given the variety of approaches, there is a large overlap in the factor constructs, and a large heterogeneity in the findings of the various studies. Through a qualitative analysis, nine commonly-used, but overlapping, fundamental constructs are identified. These constructs are: teaching presence, cognitive presence, social presence, experience online and/or sense of efficacy, ease of use and/or comfort with technology, instructional quality, instructor training, student characteristics, and technology reliability. They are briefly defined below.

Teaching presence includes the overall design of classes, the organization of material, facilitation of the class and related rehearsal activities, and "direct instruction" which includes feedback (Arbaugh et al., 2008; Bray, Aoki, & Dlugosh, 2008).

Cognitive presence refers to those aspects of a class or teaching that facilitate deep learning by piquing curiosity, providing a variety of perspectives, integrating different types of materials and activities that spur reflection, debate, and insight, and encouraging immediate transference of learning to work or applications pertinent to students' future plans. For the purpose of this taxonomy, we include course usefulness in this construct (Arbaugh et al., 2008). The utility of learning for students refers to immediate transfer of knowledge and skills to life situations or work settings, or acquisition of knowledge, skills, and abilities for future professional needs; it is enhanced by demonstrations, simulations, exercises and practice, and feedback for improvement (Van Wart, 2004).

Social presence refers to those elements of a class that encourage students to interact with others, encourage a learning-community approach, and foster open discussions that are more student-to-student based than instructor led (Arbaugh, et al., 2008; Bray, Aoki, & Dlugosh, 2008).

Experience with online courses and sense of efficacy are related constructs that emerge from the technology acceptance literature. As users of technology become more familiar with a technology, they become more adept at using it (increasing their sense of efficacy), more accepting of its weaknesses as well as its strengths, and less likely

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reject a technology or technological approach because of their increased confidence (Artino, 2010; Al-Gahtani, 2016).

Ease-of-use and/or comfort-with-technology are related constructs that are also derived from the technology acceptance literature (Song et al., 2004; Al-Gahtani, 2016). Ease-of-use simply implies that as the technology is more intuitive and has fewer challenges, complexities, glitches, weaknesses, etc., the more likely people will want to use it (Bray, Aoki, and Dlugosh, 2008). The comfort-with-technology construct is the psychological side of ease-of-use; as users experience greater ease-of-use, they feel greater comfort and less anxiety about technology (Sun et al., 2008).

Instructional quality is a very broad, but rather vague, construct that is sometimes used in student satisfaction research. It generally refers to all types of teaching functions, such teaching presence, cognitive presence, and social presence, and therefore overlaps with them (Sun et al., 2008; Jung, 2011; Asoodor, Vaezi, & Izanloo, 2014).

Instructor training distinguishes courses based on the assumption that instructor training affects and improves instructional quality which in turn affects student satisfaction (e.g., Paechter, Maier, & Macher, 2010). While finding an effect of instructor training on instructional quality is relatively direct, finding significance of instructor training on student satisfaction is more challenging (and one we want to investigate).

Student characteristics refer to those personality features that may affect satisfaction such as learning style, maturity, achievement orientation, etc. (e.g., Hong, 2002; Bolliger & Martindale, 2004; Eom, Wen, & Ashill, 2006).

Technology reliability refers to confidence in the learning management system, internet service delivery, a variety support services such as hotlines, self-help videos, as well as the instructor's ability to avoid technology issues such as improper date settings and data loss accidents (Sun et al., 2008; Asoodor, Vaezi, & Izanloo, 2014; Bolliger & Martindale, 2004).

In sum, the taxonomy identifies nine constructs in all. Seven of those constructs are relatively distinct, but one (instructional quality) overlaps extensively with at least three others, and another can be considered either an antecedent factor or a factor that is mediated by instructional quality. Table 1 provides the taxonomy which identifies these factor constructs.

Table 1: Empirical Studies Examining Student Satisfaction Factors in Higher Education Settings*

Study Authors	Teaching presence:	Cognitive presence:	Social presence:	Experience, Self-efficacy	Ease of use, comfort with technology	Other factors**
Asoodar, Vaezi, and Izanloo, 2016	Instructor presence, University support and services	Diversity in assessment, Perceived usefulness	Interaction with others	*Not self-efficacy*	*Not ease of use, not anxiety,*	*Not instructional quality,* Instructor ability, *Not attitude toward e-learning (learning style),* Technology quality
Al-Gahtani, 2016		Usefulness		Self-efficacy experience	Anxiety	Enjoyment (Instructional quality)
Artino, 2010		Task value		Self-efficacy		Instructional quality
Bray, Aoki, and Dlugosh, 2008	Found it easy to interact with instructors			Could persevere in the face of challenges	Found computers easy to use,	Did not prefer social interaction with others when learning (student learning style)
Bolliger and Martindale, 2004	Instructor		Interactivity			Technology *Not student characteristics*
Clayton, Blumberg, and Anthony, 2018		Interactive	Engaging			Online perceived as lower instructional quality
Cole, 2016	Instructor communication, satisfaction	Interaction as most important				*F2F interaction preference does NOT predict online learning satisfaction (student characteristics)*
Eom, Wen, and Ashill, 2006	Course structure, Instructor feedback	Instructor facilitation	Interaction			Student learning style
Hong, 2002			*Not interactivity*	Experience		

Study Authors	Teaching presence:	Cognitive presence:	Social presence:	Experience, Self-efficacy	Ease of use, comfort with technology	Other factors**
Joo, Lim, and Kim, 2011	Teaching presence	Cognitive presence, Perceived usefulness	*Not interactivity*		Ease of use	
Kuo, Walker, Belland, and Schroder, 2009	Learner-instructor interaction	Learner-content interaction (1st)	*Not interaction among students*	Self-efficacy *But not self-regulated learning*		
Lee and Rha, 2009	Structure		Personal interaction			Satisfaction was dependent (between these two factors) on what was emphasized
Liaw and Huang 2013		Interactive learning environments		Self-efficacy	anxiety	
Mohammadi, 2015	System quality Service quality				*Not perceived ease of use*	Education (instructional) quality
Otter, et al. 2013	Students do more than instructors		Feel more disconnected than professors perceive			Quality comparisons
Paechter, Maier, and Macher, 2010	Instructor counseling and support					Instructor's expertise in e-teaching Student's achievement goals (student learning style)
Palmer and Holt, 2009	Understanding of what was expected			Confidence		How well they thought that they were performing (student learning style)
Richardson, Maeda, Lv, and Caskurlu, 2017			Social presence			
So and Brush, 2008	Couse structure, Emotional support		*Not social presence*			
Sun, Tsai, Finger, Chen, and Yeh, 2008	Course quality Instructor attitude toward e-learning *Not timeliness*	diversity in assessments perceived usefulness	*Not social presence*	*Not attitude toward computers*	Computer anxiety ease of use	*Not technology*
Zhu, 2012			Collaborative in both US and Chinese context			Student (culture) learning styles: Chinese want more instructor-led, low ambiguity teaching

*Factor, in *Italic*, indicates that it was "Not" found were actively measured and did not find significance in the study. Studies in which a factor was not examined are blank or eliminated in a factor analysis are left blank.
**Other factors include instructional quality, instructor training, student learning style, and technology reliability

Teaching presence is by far the most identified and supported element affecting student satisfaction. Twelve of the studies identify it, and all that do find it significant. Cognitive presence is identified by nine studies and found significant in all of them. It should be noted, however, that some of the studies were focused on cognitive and social presence, so their findings may be somewhat exaggerated. Twelve studies identified social presence. However, five of those studies did not find social presence a predictor of student satisfaction. Of the nine studies that identified experience and self-efficacy as a construct, six found the construct significant, two did not, and one had mixed findings. Ease-of-use and comfort-with-technology were supported in five studies and not supported in two. Instructional quality was identified in three studies and found significant in two. Instructor training was identified in two studies, and found significant in both. Various aspects of student learning styles and characteristics predicting student satisfaction were identified in six cases, but only found significant in three studies. For the purpose of this taxonomy, cultural characteristics were classified with student learning styles. Technology reliability was identified in two studies, but only found to be significant in one.

With this examination of the types of constructs that have been identified and sometimes found significant, we have a basis on which to compare online teaching methods, educational integrity, and perceptions about instructor

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training relative to contemporary student perceptions which likely shift over time as students experiences expand, technologies improve, and expectations rise. This is further illuminated by a factor and regression analysis related to student satisfaction.

RESEARCH METHODS

An instrument was created to measure both students' sense of "good learning experience" as well as their "satisfaction of online classes." To measure the relative importance of student preferences for online or face-to-face classes in comparison to logistical factors, two questions compared factors allowing for an all-that-apply response. A third item asked about the types of classes most appropriate for an online modality (e.g., introductory versus technical classes). To measure students' perception of quality online classes related to specific techniques, survey items were devised to include seven specific teaching methods and three items related to instructor training and skill. Other items included technology reliability, instructional integrity, and student satisfaction. Demographic information was gathered to determine their effects on students' levels of acceptance of online classes based on age, year in program, major, distance from university, number of online classes taken, high school experience with online classes, and communication preferences.

This paper draws evidence from a convenience sample of students enrolled in the educational programs of Jack H. Brown College of Business and Public Administration (JHBC) at California State University San Bernardino (CSUSB). The JHBC offers a wide range of online courses for both undergraduate and graduate programs. Students sometimes have the option to choose between both face-to-face and online modes of learning. Both online and face-to-face classes generally have a maximum enrollment of 60 for undergraduate programs and 30 for graduate programs respectively.

A Qualtrics survey link was sent out by nine instructors at the College to students enrolled in their classes during the 2017-18 academic year. In all, approximately 1100 students were contacted, 397 of them responded, representing a 36.1% response rate. Although the sample was drawn from a single business school, it is a relatively broad sample, representing students from several disciplines—management, accounting and finance, marketing, information decision sciences, and public administration.

To increase the reliability of the evaluation scores, composite evaluation variables are formed after an exploratory factor analysis of the individual evaluation items. A principal component method with direct oblique rotation was applied to explore the factor construct of student perceptions of online teaching. The item correlations for student perceptions of quality coefficients were greater than .30 which indicates acceptable use of factor analysis.

A simple least square regression analysis was applied to examine the relationship between various factors and student online learning satisfaction.

RESULTS

Respondent demographic information is presented in Table 2. A majority, or 81%, of the respondents are in the age range of 21 to 29. About 92% of them are either juniors or seniors in college. Over 64% of them live more than 10 miles away from campus. Less than 10% of them have never taken online classes and about 80% of them have taken at least two online courses. Only about 10% of them have had one or more online experiences in high school. Only 5% of them report that they never communicate to others in face-to-face classes, whereas over 27% of the students who had online experiences reported that they never communicate with others in online classes.

Students were asked to respond to a list of evaluation questions about online course experiences (see Table 3). The descriptive data indicate that for students in the sample, based on a five-point Likert scale, the best rated functions are the most basic ones, such as online submissions (Mean=4.30), gradebook (Mean=4.06), quizzes (Mean=4.15) and online grading (Mean=3.99). Satisfaction as noted by enjoyment and general impression are moderate (both Means=3.46). Students overall are quite comfortable with technology (Mean=3.94). Perceptions of the quality of interactive features are rated substantially lower when examining the use of video lectures (Mean=3.40), small groups (Mean=3.32), and videoconferencing (Mean=3.17). Students are relatively neutral on instructor training and impact, when considering the students' perception of the impact of online training (Mean=3.23), students' perception of the impact in general teaching skills (Mean=3.17), and instructor impact on student enjoyment (Mean=2.94). Students were asked: assuming that you had a full array of hybrid/online classes available, and that they were well taught (based on your best experiences), how much would online education make up your entire course selections going forward? Overall, 18% students said less than 10%, 39% said from 10 to 50%, 32% said 50 to 90%, and 10% said 90 to 100%.

Table 2: Demographic Information of the Participants (n=397)

	Freq.	Valid %*		Freq.	Valid %*
Age			Number of HD/OL classes have taken		
Under 20	29	7%	None	34	9%
21 to 29	320	81%	Only one	48	12%
31 to 39	32	8%	2 to 4	224	57%
40 or older	16	4%	5 to 7	67	17%
Year in Program			8 to 10	11	3%
Freshman	5	1%	More than 10	11	3%
Sophomore	8	2%			
Junior	137	35%	Had HD/OL classes in high school		
Senior	224	57%	Yes	38	10%
Graduate	18	5%	No	357	90%
Major					
Finance	38	10%	Communicate to others in HD/OL classes		
Accounting	84	21%	Almost never	55	27%
Management	71	18%	Infrequently	44	21%
Marketing	60	15%	Sometimes	63	31%
Public Administration	33	8%	Quite frequently	29	14%
Information Decision Sciences	52	13%	Very frequently	15	7%
Other	59	15%			
Distance to University			Communicate to others in F2F classes		
Less than 1 mile	31	8%	Almost never	10	5%
1 to 5 miles	50	13%	Infrequently	19	9%
6 to 10 miles	61	15%	Sometimes	68	32%
11 to 25 miles	158	40%	Quite frequently	70	33%
More than 25 miles	97	24%	Very frequently	46	22%

*Percent eliminating missing values

Table 3: Survey Items of Student Perception of Online Classes

Item	Question From your experience with online teaching, what has been the average quality in the use of these methods by instructor? Please mark N/A if you have not experienced this feature:	n	Min	Max	Mean	Std Dev
Online Grading	Online grading of assignments by instructors (from very poor to very good)	361	1	5	3.99	1.03
Online Submission	Allowing students to make online submissions (from very poor to very good)	358	1	5	4.30	0.85
Online Gradebook	Online gradebook (from very poor to very good)	359	1	5	4.06	0.99
Online Quizzes	Online quizzes (from very poor to very good)	352	1	5	4.15	0.92
Video Conference	Zoom or other videoconference methods (from very poor to very good)	316	1	5	3.17	1.29
Group Discussion	Small groups discussions (chat rooms) (from very poor to very good)	342	1	5	3.32	1.22
Video Lecture	Video lectures (from very poor to very good)	330	1	5	3.40	1.16
Instructor's Training	How much difference do you think that the instructor's training in online teaching makes in their teaching online classes?	392	1	5	3.23	1.15
Instructor's Teaching Skill	How much difference do you think that the instructor's general teaching skills make in terms of their teaching online classes?	392	1	5	3.17	1.23
Instructor Making a Difference	How much difference does your instructor make in your enjoyment of an online class?	391	1	5	2.94	1.25
Technology Reliability	To what degree is the reliability of the technology itself (e.g., outages, glitches, etc.) a concern? (from very import to not important)	391	1	5	3.57	1.18
Control of Cheating	If you have taken hybrid/online classes, to what degree can instructors reduce and catch cheating? (from no effect to an enormous effect)	359	1	5	2.72	1.12
Enjoyment of Online Class	My enjoyment of online learning is (from very low to very high)	380	1	5	3.46	1.13
Impression of Online Class	What is your general impression of online learning? (from very bad to very good)	393	1	5	3.46	0.99
Choice of Online Class	Assuming that you had a full array of hybrid/online classes available, and that they were well taught (based on your best experiences), how much would online education make up your entire course selections going forward? (1=Less than 10%, 2=10-50%, 3=50-90%, 4=100%)	391	1	4	2.35	0.89
Comfort with Technology	In general, my comfort level with online learning in terms of the technology is (from very low to very high)	391	1	5	3.94	0.92

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According to university statistics, business and public administration students currently take 19.6% of their classes online (hybrid or fully online in 2018). So, if both availability and quality were increased, the increase in online instruction would be substantial.

Five factors were identified with Eigen values greater than one (see Table 4). The first, labeled Basic Online Modality Functions, had high loadings (above 0.60) in Online Grading, Online Submission, Online Gradebook, and Online Quizzes. The second, labeled Student Satisfaction With Online Learning (what then functions as our operational definition and dependent variable), had high loadings on Enjoyment of Online Classes, Impressions of Online Class, Comfort with Technology, and Choice of Future Online Classes. These items touch on the three aspects of student perspectives defined at the beginning of the paper related to teaching quality, perceptions of learning achievement, and course quality not related to teaching (e.g., Comfort with Technology). The third, labeled Interactive Methods, had high loadings on Video Conferences, Video Lectures, and Group Discussions. The fourth, labeled Instructor Capability, had high loadings on Instructor's Training, Instructor's Teaching Skills, and Instructors Making a Difference. And the fifth, labeled System Trust, had high loadings on Technology Reliability and Control of Cheating.

Table 4: Factor Loading

	Factor 1 Online Modality	**Factor 2 Student Satisfaction**	**Factor 3 Interactive Methods**	**Factor 4 Instructor Capability**	**Factor 5 System Trust**
Online Submission	0.8622				
Online Grading	0.8380				
Online Gradebook	0.8333				
Online Quiz	0.6314				
Enjoyment of Online Class		0.8420			
Impression of Online Class		0.7959			
Comfort with Technology		0.7032			
Choice of Online Class		0.6878			
Video Conference			0.8851		
Video Lecture			0.8301		
Group Discussion			0.7272		
Instructor's Training				0.8887	
Instructor's Teaching Skill				0.8487	
Instructor Making a Difference				0.6222	
Technology Reliability					0.7269
Control of Cheating					0.7260

Note: Five factors explain 66% of the variance. Decimal places and loadings less than .30 omitted

To ensure the reliability of the composite variables, the Average Variance Extracted (AVE), the Composite Reliability (CR), and the Cronbach's α are reported (see Table 5). A CR and Cronbach's α values of 0.7 or greater are considered acceptable. As reported in Table 5, the CR values for four composite variables—Online Modality, Student Satisfaction, Interactive Methods, and Instructor Capability—are greater than or equal to 0.84 and Cronbach's α values are greater than or equal to 0.71, demonstrating that these composite variables have adequate reliability scores. However, the fifth factor—System Trust has relatively low CR (=0.69), AVE (=0.53), and Cronbach's α (=0.20). Therefore, the fifth factor as derived from the exploratory factor analysis is not included; instead the two variables—Technology Reliability and Control of Cheating are treated as separate variables. The Partial Correlation values, partialed with respect to all other variables, are also reported in the table.

Table 5 Reliability and Variance among Factors

	Mean	**Std Dev**	**AVE**	**CR**	**Cronbach's α**	**Online Modality**	**Interactive Methods**	**Instructor Capability**	**Student Satisfaction**
Online Modality	16.55	3.04	0.63	0.87	0.82	**0.7960**			
Interactive Methods	9.83	3.13	0.58	0.84	0.80	0.3053	**0.7600**		
Instructor Capability	9.33	2.90	0.68	0.86	0.71	0.0319	0.0072	**0.8254**	
Student Satisfaction	13.29	2.98	0.64	0.84	0.77	0.2047	0.1259	0.0219	**0.8004**

Notes: AVE=average variance extracted; CR=Composite reliability. The diagonal elements (in bold) represent the root of AVE. The 5th factor was rejected due to low reliability.

A simple least square regression analysis was applied and the results are presented in Table 6.

Table 6: Summary of Multiple Regression Analysis for Predicting Students' Satisfaction to Online Class

Analysis of Variance				
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Ratio**
Model	11	396.56	36.05	4.84
Error	251	1867.84	7.44	**Prob > F**
C. Total	262	2264.40		<.01***
Parameter Estimates				
Term	**Estimate**	**Std Error**	**t Ratio**	**Prob>|t|**
Intercept	7.88	1.63	4.83	<.01***
Year in Program	-0.46	0.30	-1.54	0.12
Age	0.38	0.33	1.15	0.25
Distance to University	-0.12	0.15	-0.83	0.41
Number of hybrid/online classes have taken	0.58	0.21	2.75	<0.01***
Communicate to others in F2F classes	-0.30	0.16	-1.96	0.05**
Communicate to others in HD/OL classes	0.49	0.15	3.20	<0.01***
Control of Cheating	0.24	0.17	1.42	0.16
Technology Reliability	0.30	0.15	1.97	0.05**
Instructor Capability	0.01	0.07	0.17	0.86
Interactive Methods	0.00	0.06	-0.06	0.95
Online Modality	0.18	0.06	3.11	<0.01***

*p<.10, **p<.05, ***p<.01.

Factors found to be significant in affecting student satisfaction in this study include the number of classes taken in the past, communication preferences related to face-to-face and online modalities, technology reliability, and the basic online modality (i.e., the use of online submission, grading, grade book, and quizzes). However, factors that were not found significant included year in program, age, distance to the university, educational integrity (i.e., control of cheating), instructor capability, and interactive methods.

DISCUSSION

The descriptive data strongly suggest that students are most interested in the basics of online classes related to basic methodological functionality (roughly equivalent to *teaching presence*). As found in many studies, many students are highly interested in what they perceive as assistance with learning: the organization of the course, the clarity of presentations and materials selected, the accessibility of the instructor, and the quality of feedback (Bolliger & Martindale, 2004; Young & Duncan, 2014; Sun et al., 2008; Asoodor, Vaezi, & Izanloo, 2014). The quality of organization and course pre-planning are highly important to students whose attention is divided by other courses and external interests, and who are easily frustrated with confusion or vagueness in instruction. Readings and lectures, among other information-imparting techniques, can be clear and easy to understand, or considered excessively complicated and poorly explained to students. A somewhat surprising note in this regard is the inclusion of quizzes. Follow-up focus groups used to clarify some of the less clear findings indicated that students see quizzes (with no or low points associated) as rehearsal opportunities critical to practice and success in testing. For example, accounting and finance students indicated that quizzes are critical to ensure that they understand their readings and lectures. Electronic quizzes (and homework) were generally considered preferable to hand-graded work because of the speed of response.

While a sense of learning community is more important for some types of classes in the humanities, education, and social sciences, most students across disciplines find the physical connectedness of learners and the instructor, student-to-student interactions, and group learning to be important (Arbaugh, et. al., 2008; Artino, 2010; Clayton, Blumberg, & Anthony, 2018; Liaw & Huang, 2013; Richardson et al., 2017; So & Bush, 2008; Wyatt, 2005); but not all studies find social and cognitive elements significance on student enjoyment (e.g., Chang & Kang, 2016). The *cognitive and social presence* factors were most likely to be represented in this study by videoconferencing, pre-recorded lectures by instructors, and discussion groups. They were much less important on average for students in this study, and did not achieve significance in regression analysis. However, a negative finding here begs additional questions before asserting that social and cognitive factors do not significantly affect student satisfaction across most or all situations. If instructors improved their use of videos, videoconferencing, and small group discussion groups (as a function of instructional quality), would it affect significance (see Draus, Curran, & Trempus, 2014)? As students become exposed to more and more technologically sophisticated classes, will it affect significance?

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Overall, descriptively students generally believe that they can detect varying levels of *faculty training*; however, as a factor related to student satisfaction, it is not statistically significant. In an interesting response about the degree to which instructors affect student enjoyment are among the lowest in the survey. Because many online classes reduce lecture time and increase rehearsal and feedback time, students generally believe they are even more responsible for their personal achievement of learning than in face-to-face courses (Otter et al., 2013; Seok et al., 2010; Eom, Wen & Ashill, 2006). Indeed, despite the perceptions of many faculty to the contrary, Hoffmann & Oreopoulos, (2009, 83) assert that "the importance of college instructor influences [on student achievement] is small."

While *experience with online classes* in high school was not significant, experience with online classes at the university was; more classes meant that they tended to be more satisfied and that factor did reach significance. This related to the high level of importance placed on *comfort with technology* which reached significance. A different but related issue that was rated moderately high and significant for student satisfaction was *technical reliability*. In focus groups there were few complaints, but when problems occur, they are frequently very upsetting and/or frustrating for students who sometimes feel helpless to deal with malfunctions and glitches in the system. On the other hand, problems with educational integrity (a factor previously unexplored in terms of student satisfaction) were scored less important than other items but it turn out not to be significant. Student did not see that as a factor affecting their online learning satisfaction. However, that doesn't mean faculty should not try to prevent cheating; it is still a significant issue for faculty in designing online classes. A *student characteristic* that was very important was students' communication patterns. Those students who communicated a lot in face-to-face classes were less likely to be satisfied in online classes. This begs the question, if online instructors did a better job in providing those students averse to online modalities with quality online interaction opportunities, would those student preferences change over time? For example, online conferencing has vastly improved the visual options, easy interaction via video and sidebar chat, and even simple and automatic distribution of students into small groups. Other student characteristics that were not significant included age, despite the perception that younger people are more adept and more comfortable with technology. Nor was the year in program of study significant. Furthermore, even though students at a distance might value the opportunity of online learning more, it did not translate into higher levels of satisfaction.

CONCLUSION

With the purpose to see if various, under-examined aspects of online instruction align with past studies of student satisfaction, this study has several contributions to the literature. First, it examined the relationship of seven specific instructional methods with student satisfaction. Basic online functions relating to online submissions, grading, gradebook, and quizzes constituted a factor, were significant, and were consistent with the teaching presence construct. Three additional instructional methods, videoconferencing, group discussions, and prerecorded lectures constituted a separate factor overlapping with the cognitive and social presence constructs; however, the use of methods commonly associated with social/cognitive teaching were not significant in this study as a predictor of student satisfaction. Since the literature has heterogeneous results in this regard, it does seem possible that a study focusing on "advanced" teaching methods might find an impact with more sharply defined boundary conditions than in the current study.

Instructor training items constituted a coherent factor, but are not significant for student satisfaction in this study. Technology reliability and control of cheating load well as a fifth factor (labeled here as system trust) but have a low Cronbach's α. Therefore, they are not included in the analysis as a factor, and instead the two variables—technology reliability and cheating—are treated as separate variables. As partialed variables, technology reliability is significant, while control of cheating is not significant in terms of student satisfaction. Students' communication preferences in face-to-face versus online modes was also found to be a significant factor in determining student satisfaction.

There are a number of noteworthy study limitations. The study uses a single method and a single institution rather than multiple methods and an array of sources. Further, the study population is narrow—business and public administration students—whose preferences cannot be assumed to be similar to students in other disciplines (Arbaugh, 2013). These limitations restrict the generalizability of the study considerably, and must be aggregated with other studies to assure wider applicability.

Because student satisfaction is so important, and because the underlying elements of online instruction are changing, it is critical that future research probe this area more thoroughly, both quantitatively and longitudinally. In this study, the quality of basic online modality features are very significant, but more advanced features are not. Is that simply because they are unlikely to ever become significant predictors of student satisfaction, or because they are

still new, student expectations have yet to become more demanding, or possibly that the quality of implementation is so low that they are largely irrelevant to students at this point? While the *perceptions* of instructor training are not significant predictors of student satisfaction, is it possible that *actual* training interventions do affect student satisfaction? Indeed, there are many areas that will benefit from further study in student satisfaction, as the capacity and demand for online education continues to increase and the technology used in the field continues to evolve.

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Establishing Student-Led University Consulting Groups

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ABSTRACT

Significant student value is obtainable through the introduction and continuation of a student-led university consulting group. Universities and business schools gain community engagement presence and contribution through such groups as well. Consulting groups represent experiential learning opportunities as students provide consulting services to clients. This article outlines the requirements necessary to establish and maintain a student-led consulting group based on five years of consulting group experience at a major Northeast USA Research-One University. The requirements include experienced alumni, driven students, recruiting process, student training, project sourcing, project work, and project completion.

Keywords: Consulting group, experiential learning, clients, business school

INTRODUCTION

Student-led consulting groups are comprised of students interested in learning about and practicing professional consulting capabilities. Groups are supported by a faculty advisor experienced in professional consulting as well as several alumni who are consulting experts. Groups source project work and develop project scope with clients. Students work on the project and develop deliverables that align with established scope. The alumni consultants and faculty advisor support the students as they do their work. Consulting groups are based on the premise that, "Knowledge is continuously derived from and tested out in the experience of the learner" (Kolb, 1984, p. 27). In addition, more than half (51%) of the current generation of undergrads learn best "by doing" (Barnes & Noble College, 2018). While the students are engaged in the project, they learn experientially about marketing and sales, project scoping, project planning, storytelling, required technologies, and relationship development and management. By following a prescribed process, developed from five years of consulting group experience at a major Northeast USA Research-One University, universities and business schools can establish a successful student-led consulting group.

STUDENT-LED CONSULTING GROUP REQUIREMENTS

There are seven key requirements for establishing a student-led consulting group:

1. Driven students
2. Experienced alumni
3. Student recruiting process
4. Student training
5. Client project sourcing
6. Client project work
7. Client project completion

Driven Students

A core group of committed, driven students is required to establish a student-led consulting group. Student consulting groups don't work without driven and intelligent students. Students should exhibit a willingness to learn, and resiliency in the face of constructive criticism. The success of the group is predicated on the constant improvement of the students. A handful of students constitute the core and are often identified by faculty. Once the core group of students is identified potential alumni mentors are approached to participate.

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Experienced Alumni

Perhaps the most important ingredient in the creation of a student-led consulting group is the direction and involvement of experienced alumni mentors who are in the consulting industry. These alumni mentors are involved in the week to week operations of the group, and are a significant source of information, guidance, and training for initial members. Of import is their contribution of regular feedback on project work. Feedback is "informed, nonevaluative, objective appraisal of performance intended to improve skills" (Ende, 1983, p. 779) and timely feedback is known to enhance learning (Bakken, 2002). Alumni also connect the group with potential clients. Identifying potential alumni to serve as consulting group mentors is achieved through networking. University or business school alumni staff are a source of candidates as are university or school administrators. Faculty are also good sources of alums who can add value to such work. Potential mentors must have sufficient expertise, time and interest in helping students develop consulting expertise and in supporting group requirements. Selection of the faculty advisor is based on the same requirements. Selection of two to three alumni mentors eases the time burden that may arise.

Student Recruiting Process

The core group of students and an alumni mentor are able to source and perform work, however recruiting additional students is necessary in establishing the consulting group and required to maintaining it over time. The recruitment process is stringent and involves a number of steps:

Figure 1 – Recruiting Process

1. Resume Screening - Applicants are screened based on factors including GPA, and experience. Special note is given to year of graduation. The process of training is a continuous one, and the longer members participate, the longer they have to improve, and help train their peers. Freshmen and sophomores are strongly preferred.
2. Round One Interviews
    a. Case Interview - This is the same format as a consulting interview, usually pulled from a casebook, or designed by students.
    b. Fit Interview - Includes questions about why consulting, motivations and goals. One notable question used is "Why this University?".
    c. Group Case Interview - Four interviewees are put in a group and solve a case together. They are examined on how well they work with other people.
3. Round Two Interviews - The second round of interviews are done with alumni advisors. They consist of a case and a fit interview. These are one-on-one, and usually conducted virtually.

Student Training

Students receive formal training during the interview process and for the first year after joining the Group. Informal training from Group peers, alumni and the faculty advisor occurs continuously after the first year of Group membership. Formal training goals include:

- Equip members with skills and knowledge to be successful in client consulting projects
- Apply the Group's disciplines, processes and practices for client benefit and personal growth
- Ease the workload of board members/trainers by increasing self-sufficiency

Figure 2 – Training Topics

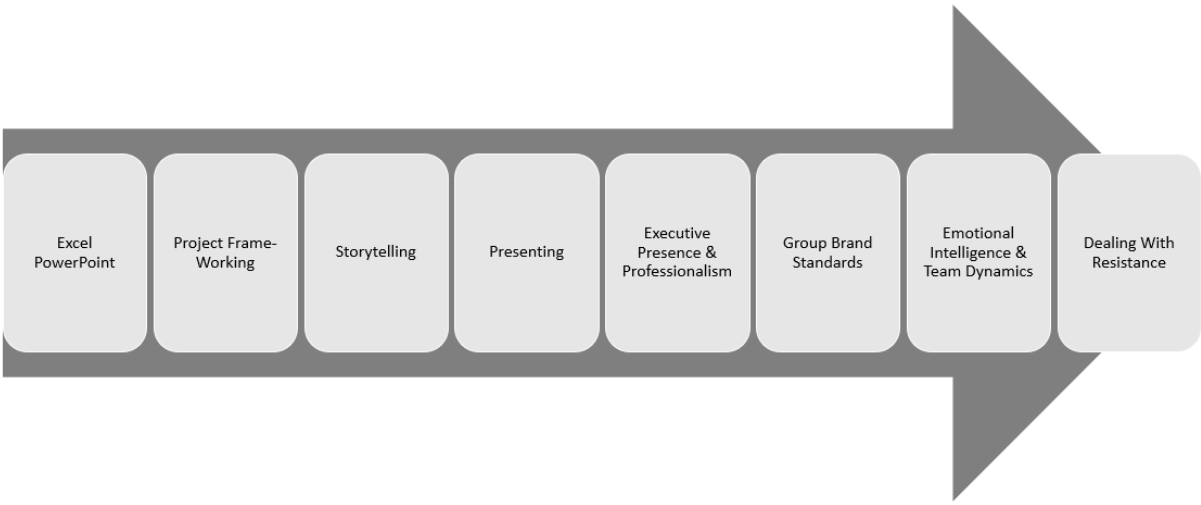

Table 1 - Training Topics, Learning Objectives, and Sources

Topic	Learning Objective	Source
Excel and PowerPoint	Apply basic skills to meet client project requirements	Microsoft®, Internet
Project Frame-Working	Apply processes, tasks, and tools to execute a client project	Alumni Mentors
Storytelling	Tell stories that engage your listeners more than facts alone	Alumni Mentors
Presenting	Create a professional, credible impression on listeners	Alumni Mentors, Internet
Executive Presence and Professionalism	Inspire confidence among senior leaders that engenders credibility and value	Alumni Mentors, Internet
Group Brand Standards	Apply Groups standards to ensure consistency	Group Officers or Trainer
Emotional Intelligence & Team Dynamics	Identify and manage one's own emotions and the emotions of others.	Internet, Group Officers or Trainer
Dealing with Resistance	Remove obstacles and resolve conflicts	Alumni Mentors, Internet, Group Officers or Trainer

Typically, training is delivered through topical PowerPoints that include application exercises and role-playing. As students join the Group and participate over their university careers, exiting the group is inevitable. As such, experienced Group members are paired with new members in mentor-mentee relationships. These relationships provide timely feedback and opportunities for discussion. At a minimum, mentors meet with mentees every two-four week to check-in on progress, answer questions, and resolve issues. Ad-hoc mentor-mentee conversations occur as needed.

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A typical mentor-mentee check-in agenda includes these questions:

- What issues have you run into?
- What are you finding difficult?
- What have been your strengths?
- What questions do you have about the project?
- Was there anything unclear about the lessons to date?
- How can your mentor help you with training moving forward?
- Are there any comments or thoughts you'd like to share?

Similar to the Group member mentor-mentee relationship is when alumni advisors meet with group members to provide training, insights, and answers to questions. Those conversations occur often on an as-needed basis.

Client Project Sourcing

Alumni mentors and the faculty advisor are the primary means of identifying potential consulting clients and projects. Initial discussion between the alumni mentor, faculty advisor, and client determine whether the project opportunity aligns well with Group capabilities and interests. If there is good alignment the discussion participants determine if the project can be completed within an appropriate timeframe, usually one or two semesters.
Once alignment is discerned there is a meeting with the Group leader (managing director or president), project leader, and alumni mentor with optional attendance by the faculty advisor. The goal of this meeting is to establish preliminary scope as well as a high-level timeline. At the follow-up meeting, the Group presents its final project scope and timeline. Prior to proceeding, the client signs off on the scope and a client employee is assigned as liaison to the Group. The Group commits to weekly or bi-weekly updates and the project work commences.

Client Project Work

The project leader is responsible for structuring the project team. Multiple, semi-independent workstreams are often appropriate when the project is broad or contains parallelizable work. An example is site selection and financial modeling, these tasks are not dependent on each other, and can be worked on at the same time by separate workstreams. Each project has one project leader and at least one alumni mentor. Teams meet weekly and each team member receives tasks to complete before the next meeting. Team members are expected to turn in slide decks showing progress on the day of the meeting. Before each meeting, slides undergo revision, with the PL, workstream leader, or alumni mentors. Presentation slide decks undergo many revisions, with some decks seeing as many as 20 iterations. Members develop skills through this process of revision, which helps them produce better work over time. This is the key to making the group successful with the idea that application experience and constant iteration are valuable means of learning and improvement.

Client Project Completion

When the approved project scope is met, the project team forwards a draft compilation of its client project deliverables. The client reviews the draft materials and provides feedback. The project team incorporates feedback and sets a final project meeting with the client. The project team presents its work to the client in a live or virtual meeting. The client asks questions and provides additional comprehensive feedback on the work performed, and recommendations rendered. This meeting marks the end of the project. The potential exists for a discussion of follow-on client work for another semester or academic year.

Client Project Examples

A leading research and teaching hospital with an expansive health provider network was interested in identifying why patients are referred to out-of-network providers when in-network providers are available. Development of mitigation strategies was an additional project requirement. A Group project team was assembled who learned about how to approach and interview patient referral staff, analyze interview results, and develop mitigation strategies. Feedback from a student analyst on the value of the project included, "This project provided an unrivaled experience to learn about an industry first-hand while developing critical analytical and interpersonal skills that I was able to leverage the next summer during my internship."

An international conglomerate providing unique medium-large scale venue experiences to gamers and spectators wanted to develop a process to make consistent, efficient, and intelligent property (venue) investment decisions to support organizational growth. The Group project team that was formed learned how to build a 150 line operating profitability model. They also learned how to evaluate a business venture based on industry-standard return metrics (NPV, IRR, cash-on-hand, etc.). From a team member perspective, students, "Got excellent first-hand leadership experience and became much better at managing upward and downward," and, the project "really showed me the amount of planning, diligence, and resources it takes to set up a large in-person event space."

CONCLUSION

By following the proven processed described herein, universities and colleges can establish and maintain a student-led consulting group. Careful attention must be paid to each of the seven consulting group requirements as weakness in any of them can diminish group efficiency and effectiveness. Student-led consulting groups benefit students by providing practical experience, applying concept and theory to real-world opportunities, requiring accountability, and supporting local and regional for-profit and non-profit organizations. The organizations served by student-led consulting groups appreciate the value the groups create as well as the ability to help undergraduates learn and develop.

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Closing the Technology Skills Gap in Accounting Education: Making Excel Certification a Student Responsibility

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ABSTRACT

Technology skills are increasingly cited as both curriculum deficiencies in accounting education and skills gaps in the workplace. Employers now view Microsoft Excel skills as the top technology competency required of entry-level accountants. To address these developments, the Western Connecticut State University (WCSU) Accounting Department began requiring Microsoft Office Specialist Excel certification as an independent assignment in its Intermediate Financial Accounting II curriculum. This paper describes the certification exam and the process by which a successful implementation was achieved without an overhaul of curriculum or a significant additional burden on faculty. Nearly all students passed the exam and their perceptions of the assignment show that they viewed the certification assignment positively in terms of its instructional merit despite indicating lesser enjoyment. Overall, students were satisfied with the assignment. The incremental time required by students to complete this requirement was reasonable for an out-of-classroom assignment.

Keywords: accounting education, technology skills gap, spreadsheet skills gap, Microsoft Excel certification

INTRODUCTION

In 2012, The Pathways Commission on Higher Education, a joint initiative of the American Accounting Association and the American Institute of Certified Public Accountants, was formed to study the future of accounting higher education and develop recommendations for its improvement. The Commission identified technology as a particular curricular deficit in accounting education and underscored the need for curriculum models that reflect current and emerging technologies. The report asserted, "Enhanced technological skills are increasingly important for business' success and, therefore, for future accountants" (Pathways, 2012, 133).

In 2015, the Technology Task Force of the Pathways Commission addressed the technology curriculum deficit identified in the 2012 Pathways Commission report. In its work, the Technology Task Force conducted focus groups comprised of academics and practitioners and asked "What technologies should accounting students know to be successful in the accounting workplace?" (Pathways, 2015, 10). From this, a top 25 technologies list was assembled. The number one ranked technology was "electronic spreadsheets", defined as "A computer application used for creating, editing, and analyzing data that is organized into rows and columns. Example: Microsoft Excel" (Pathways, 2015, 23). Highlighting the impact that changes in technology are having on the skills required of new accountants, the report emphasized, "An accounting generalist must master the intersection of technology skills with accounting knowledge" (Pathways, 2015, 4).

The Association to Advance Collegiate Schools of Business ("AACSB") reinforces the importance of technology skills development in accounting education through its Accreditation Standards for Accounting Accreditation (AACSB, 2018). Accounting Learning and Teaching Standard A5 addresses the continuously changing nature of technology and the need for accountants to continually adapt to these changes by learning new skills. Standard A5 refers to this dynamic as "information technology agility" (AACSB, 2018, 27). Standard A5 also provides examples of data analytics skills that are appropriate for accounting curricula such as statistical techniques, modeling, predictive analytics, text analysis, data management, learning systems and visualization. It is noteworthy that many of these skills can be performed with Microsoft Excel.

THE MICROSOFT EXCEL SKILLS GAP

Excel skills are frequently cited as the top technology skill required of entry-level accountants. To identify the gaps between business education and employer expectations, Rassuli (2012) surveyed 50 top Midwestern employers about the importance of numerous business skill areas. Rassuli concluded that proficiency with Microsoft Word and Microsoft Excel are the highest-ranked information technology skills required of undergraduate business students by employers. Noteworthy, employers emphasized that a student's ability to model business problems using

spreadsheets facilitated their ability to analyze alternatives, make decisions and contribute to project teams. Cory and Pruske (2012) emphasize that accounting students should master accounting-related technology skills prior to graduation. In a survey that included 213 CPAs and 251 non-public accountants, Microsoft Excel was the top technology skill required of accounting students prior to employment (Cory and Pruske, 2012). Echoing this conclusion, Pelzer and DeLaurell (2018) surveyed recent accounting graduates regarding their workforce preparedness. Excel training was the top subject that was not included in their undergraduate coursework that would have better prepared them for the workplace (Pelzer and DeLaurell, 2018). Further, the survey participants indicated that Excel was the top skill that students lacked upon entering the workforce (Pelzer and DeLaurell, 2018).

The accounting profession is taking steps to address its technology deficits and in particular its Excel skills gap. In April 2018, the American Institute of Certified Public Accountants (AICPA) added Microsoft Excel as a tool on the CPA exam. "The new Exam software will make the Exam more closely resemble the professional tools and business environment a CPA would experience in their everyday work life" (AICPA, 2018). This change was responsive to AICPA Examinations Team research investigating the knowledge and skills required of newly licensed CPAs and the impact of technology on their work. The Examinations Team determined: "Excel skills are essential" (Journal of Accountancy, 2019). The AICPA noted the evolving technology skills required of new CPAs, "Many of the skills newly licensed CPAs are using reflect CPAs' ability to integrate emerging technologies into the business environment and use technology for greater business insights" (Tysiac, 2019). The Association of International Certified Professional Accountants (2018) showed its support for the profession's technology initiatives though it's Pre-certification Core Competency Framework. This skills-based competency outline recommends that students entering the accounting profession be able to use technology and tools to analyze data. Furthermore, in an indirect reference to Excel skills, the 2014 Joint Curriculum Task Force of the Institute of Management Accountants and the Management Accounting Section of the American Accounting Association included spreadsheet skills among its technology competencies now required of entry-level accountants. "Technology competencies include the use of software, including proficiency in the development and use of spreadsheet models and the use of technology to enhance communication" (Lawson, 2014, 301).

CREATING AN EXCEL CERTIFICATION POLICY IN THE WCSU ACCOUNTING CURRICULUM

Each semester the WCSU Accounting Department faculty meets with its Advisory Council to gain practitioner perspectives on how developments in the accounting profession might impact curriculum requirements. The advisory team is comprised of partners from national and local public accounting firms as well as current and former staff of the FASB. The need for accounting graduates to develop technology competencies and Excel skills prior to entering the workplace is a regular topic of discussion. Echoing this conversation, job descriptions for entry-level accounting positions now commonly list Excel skills as preferred qualifications.

To address this need, the department amended its Intermediate Financial Accounting II curriculum to require Microsoft Office Specialist Excel certification. Intermediate II was selected because it is a gateway prerequisite for the upper level accounting courses in which Excel skills would be most utilized by students. Central to our implementation approach was positioning the certification requirement as an independent assignment. While the policy suggests on-line study courses such as GMetrix and Udemy, it clearly states that obtaining Excel certification is an independent assignment and is the sole responsibility of the student: "It is important to note that the exam content will not be taught in class. Students must prepare for the exam independently and outside of classroom hours" (WCSU, 2019). To facilitate communication with stakeholders, a policy document was prepared and shared with students, university administration and external partners such as local community colleges.

Per the policy, students unable to obtain Excel certification or receive a course equivalency waiver would receive a grade of "incomplete" for the course and have (per university policy) six weeks from the start of the next semester to cure the incomplete. Equivalency waivers for previously completed courses from other institutions are considered on a case-by-case basis and require the approval of the Department Chair. Failure to resolve the incomplete will result in an "F" for the course. While the department believed that the timeframe for resolving an incomplete grade was sufficiently flexible, the consequences of not obtaining certification were nonetheless high.

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BECOMING A CERTIPORT AUTHORIZED TESTING CENTER

The Microsoft Office Specialist Excel certification exam must be taken at a Certiport Authorized Testing Center ("CATC") and an exam voucher must be purchased in advance. To support our Excel certification initiative, WCSU successfully applied to become a CATC. This required working closely with our IT department to identify a Certiport-compliant on-campus testing location and install the test software on 30 desktop computers. This is likely a straightforward undertaking for schools with existing testing centers. In connection with this, we established test administrator and proctor roles and offered students a choice of four on-campus exam dates over the final four weeks of the semester. By eliminating the need for students to take the certification exam at an external testing center, we streamlined their examination process and demonstrated our commitment to their certification.

Our department administered 24 on-campus certification exams over four exam dates. In connection with this, we sold 22 test vouchers to students (2 students purchased vouchers directly from Certiport). Of the 22 vouchers, four (18%) were one-time vouchers and 18 (82%) were "voucher with retake" vouchers allowing students to retake the exam within 30 days if they failed the exam. The high percentage of retake vouchers purchased suggested that many students viewed their first test as a trial run.

As a dry run, I obtained Excel certification prior to the first semester that certification was required of our students. To prepare for the exam, I used the study resources suggested to students in the Excel certification policy. Because WCSU had not yet established a CATC, I purchased a voucher from Certiport and took the exam at an off-campus CATC. This hands-on experience proved invaluable in explaining the practical aspects of the certification process to students. Students were understandably apprehensive. Having obtained certification, I was well positioned to both answer their questions and share my genuine enthusiasm for Excel certification.

THE MICROSOFT OFFICE SPECIALIST EXCEL CERTIFICATION EXAM

The Microsoft Office Specialist ("MOS") Excel certification exam (Exam 77-727) is the first of three MOS Excel certification exams, followed by the MOS Expert and MOS Master exams. The MOS Excel certification exam is 50 minutes in duration and includes 35 questions. A passing score is 700.

According to Microsoft (2019), "Successful candidates for the Microsoft Office Specialist Excel 2016 certification exam have a fundamental understanding of the Excel environment and the ability to complete tasks independently. They know and demonstrate the correct application of the principle features of Excel 2016. Candidates create and edit a workbook with multiple sheets, and they use a graphic element to represent data visually. Workbook examples include professional-looking budgets, financial statements, team performance charts, sales invoices, and data-entry logs." Per Microsoft (2019), the exam measures the following Excel skills:

1. Create and manage worksheets and workbooks (30-35%)
2. Manage data cells and ranges (15-20%)
3. Create tables (15-20%)
4. Perform operations with formulas and functions (10-15%)
5. Create charts and objects (15-20%)

EXCEL CERTIFICATION SKILLS ARE IMPORTANT TO CPA FIRMS

The Excel skills measured by the MOS Excel certification exam are well-aligned with the Excel skills required of entry-level public accountants. Ragland and Ramachandran (2014) contend that CPA firms prioritize hiring Excel-proficient accounting students and identified the specific Excel functions that public accounting firm employees found to be the most important. Ragland and Ramachandran (2014) concluded that the top five functions are basic formula, filter and sort data, vertical / horizontal lookup, formatting documents and if/then statements. With the exception of vertical / horizontal lookup (which is covered by the MOS Excel Expert exam) four of the five top functions identified by Ragland and Ramachandran (2014) are addressed by the MOS Excel certification exam. Table 1 maps the five MOS Excel Exam skill categories to the top Excel functions identified by Ragland and Ramachandran (2014).

Table 1: MOS Exam Skill Category compared to Ragland and Ramachandran (2014) Top Excel functions

		Ragland and Ramachandran (2014) - Top Excel Functions				
		Basic	**Filter / Sort**	**Vert./Horiz.**		
MOS Exam Skill Category		**Formula**	**Data**	**Lookup**	**Formatting**	**If/ then**
Create and Manage Worksheets and Workbooks					X	
Manage Data Cells and Ranges					X	
Create Tables			X			
Perform Operations with Formulas and Functions		X			X	X
Create Charts and Objects					X	

PRE-CERTIFICATION EXAM SKILLS PROFICIENCY

To gauge student proficiency in the skills tested on the MOS Excel exam before they started their exam preparation, I conducted a voluntary survey. The survey asked students to indicate their ability to perform the various sub-skills within the five exam skill categories in terms of the following classifications: "proficient", "can do with help" or "cannot do". Survey participation was 15 (52%) out of 29 students. As summarized in Table 2, more than 70% of students believed that they were proficient in "Create and Manage Worksheets and Workbooks", "Manage Data Cells and Ranges" and "Create Tables", while slightly fewer than 70% indicated proficiency in the "Perform Operations with Formulas and Functions" and "Create Charts and Tables" categories.

Table 2: Pre-assignment Excel Skills Proficiency Survey

					Pre-Exam Survey - Student Responses		
MOS Exam Skill Category					**Proficient**	**Can do with help**	**Cannot do**
Create and Manage Worksheets and Workbooks					80%	15%	5%
Manage Data Cells and Ranges					76%	17%	7%
Create Tables					73%	18%	9%
Perform Operations with Formulas and Functions					67%	18%	15%
Create Charts and Objects					67%	27%	6%

STUDENT PERCEPTIONS

To assess student perceptions of the assignment, I followed the survey framework developed by Pirog (2019) to collect and analyze both pre-assignment and post-assignment data. Surveys were completed during class with students receiving one extra-credit point on their first and final exams for their participation in each survey. Students were reminded to not put their name on their surveys. To reinforce anonymity, surveys were constructed to ensure that they could not be attributed to particular groups of students (e.g. those that passed the exam or those that failed the exam). Students were also reminded that because they were the first students at WCSU to take the certification exam as a course requirement, the surveys would help faculty understand their perspective on the initiative. Thirty-one pre-assignment surveys and twenty-seven post-assignment surveys were completed.

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Pirog's (2019) model elicits student views on six variables: three variables regarding the merits of the assignment such as "helpful", "learned" and "realistic", two affective variables "involved" and "enjoyable" and one overall variable, ("worthwhile") that combines merit and affect and is intended to measure student satisfaction with the assignment. Students recorded responses to the variables using a nine-point Likert-scale where 1 = "strongly disagree" and 9 = "strongly agree". While pre-assignment and post-assignment survey variables were the same, pre-assignment questions were positioned to gauge student expectations for the upcoming assignment and post-assignment questions were positioned to assess student experiences with the completed assignment.

PRE-ASSIGNMENT SURVEY RESULTS

Table 3 summarizes the results of the pre-assignment survey conducted at the beginning of the semester.

Table 3: Pre-assignment Student Assessments of Excel Certification Assignment

Pre-assignment survey item	Variable	Mean	S.D.	r
1) I expect that the Microsoft Office Specialist certification assignment will be helpful to me in my understanding of Microsoft Excel (merit)	helpful	7.50	2.20	0.66
2) I expect to learn a lot about Microsoft Excel from this assignment (merit)	learned	7.00	2.30	0.70
3) I expect that working on this assignment will allow me to apply my knowledge to realistic business problems (merit)	realistic	7.50	2.00	0.79
4) I expect to be highly involved in this assignment (affect)	involved	6.90	2.20	0.90
5) I expect this assignment to be enjoyable (affect)	enjoyed	5.70	2.50	0.76
6) I expect that this assignment will be worth the effort (merit and affect)	worthwhile	7.30	2.50	1.00
	Average	7.00	2.30	
Notes: N = 31; Scale items: Strongly Disagree (1) to Strongly Agree (9).				
r = correlation with "worthwhile"				

The data indicates that students perceived the upcoming Excel assignment positively on an overall basis. The average mean score of all six scale items was 7.0 (S.D. = 2.3). Responses to the questions addressing the anticipated merit of the assignment (helpful, learned, realistic) were encouraging with mean scores of 7.5 (S.D. = 2.2), 7.0 (S.D. = 2.3) and 7.5 (S.D. = 2.0), respectively. Particularly pleasing were the high merit scores which indicated that students anticipated acquiring useful and relevant skills in the assignment. The "involved" score of 6.9 (S.D. = 2.2) indicated that students anticipated investing a meaningful amount of time to complete the assignment. It is noteworthy that the mean score for the affective variable "enjoyed" of 5.7 (S.D. = 2.5) was the lowest of the six scale items. While students saw the benefits of the assignment, this lower score indicated that they may have been apprehensive about the incremental work required. The response to the "worthwhile" variable was also encouraging; its mean score of 7.3 (S.D. = 2.5) was consistent with the high mean scores of the merit variables. This high score reflected student belief that the assignment would be a valuable use of their time despite the expected challenges and appears to reflect student support for the curriculum change.

Following Pirog (2019), Pearson r coefficients were calculated to determine the relationship of the "worthwhile" variable to the other variables (Table 3). Student pre-assignment expectations that the assignment would be worthwhile was most closely related to their anticipated degree of involvement (r=.90), an affective variable. This result was surprising as it had been anticipated that student views regarding whether the prospective assignment would be "worth the effort" would be closely correlated with a merit variable. In this regard, the merit variable "realistic" (r=.79) had the second strongest correlation with "worthwhile" and was consistent with my expectation.

POST-ASSIGNMENT SURVEY RESULTS

Table 4 summarizes the post-assignment survey results and Table 5 compares the pre-assignment survey values to the post-assignment survey values.

Table 4: Post-assignment Student Assessments of Excel Certification Assignment

Post-assignment survey item	Variable	Mean	S.D.	r
1) The Microsoft Office Specialist certification assignment was helpful to me in my understanding of Microsoft Excel (merit)	helpful	7.00	1.80	0.75
2) I learned a lot about Microsoft Excel from this assignment (merit)	learned	6.80	1.70	0.71
3) Working on this assignment will allow me to apply my knowledge to realistic business problems (merit)	realistic	6.60	2.00	0.83
4) I was highly involved in this assignment (affect)	involved	6.00	2.50	0.78
5) This assignment was enjoyable (affect)	enjoyed	4.30	2.70	0.64
6) This assignment was worth the effort (merit and affect)	worthwhile	6.70	2.30	1.00
	Average	6.20	1.90	
Notes: N = 27; Scale items: Strongly Disagree (1) to Strongly Agree (9).				
r = correlation with "worthwhile"				

Table 5: Pre-assignment survey scores vs. Post-assignment survey scores

Mean Response							
Question	**1**	**2**	**3**	**4**	**5**	**6**	**Average**
Variable	***helpful***	***learned***	***realistic***	***involved***	***enjoyed***	***worthwhile***	
Pre-assignment	7.5	7.0	7.5	6.9	5.7	7.3	7.0
Post-assigment	7.0	6.8	6.6	6.0	4.3	6.7	6.2
Change	-0.4	-0.2	-0.9	-0.9	-1.4	-0.6	-0.7
Change (%)	-6%	-3%	-12%	-14%	-25%	-8%	-11%

The average post-assignment mean score for the six scale items was 6.2 (S.D. = 1.9). While this value is 11% lower than its pre-assignment value, it remained favorable and reinforces the pre-assignment view that students evaluated the assignment positively on an overall basis.

Responses to the questions addressing the merit of the assignment (helpful, learned, realistic) attained mean scores of 7.0 (S.D. = 1.8), 6.8 (S.D. = 1.7) and 6.6 (S. D. = 2.0), respectively. While lower than the pre-assignment values for these variables, the results reflect favorable post-assignment student perceptions and indicate that students acquired practical knowledge (Excel skills) that would be useful in the workplace. Table 5 shows that the mean score for the "learned" variable only is 3% less than its 7.0 pre-assignment value, which reinforces the view that student learning expectations were met.

Mean responses to the affective questions (involved, enjoyed) were 6.0 (S.D. = 2.5) and 4.3 (S.D. = 2.7) respectively. Noteworthy, Table 5 shows that the mean score for "involved" declined 14% from its pre-assignment value. This suggests that students may not have been able to devote as much time to the assignment as initially contemplated. Table 5 also shows that the mean score for the variable "enjoyed" declined 25% (from 5.7 to 4.3). Moreover, the 4.3 mean score for "enjoyed" was 14% below a pure neutral score of 5. These results may reflect student perceptions that the assignment created a difficult workload burden. The compressed timeframe students used to prepare for the exam might have been a contributing factor (see Student Exam Preparation).

The mean response to the "worthwhile" variable was 6.7 (S.D. = 2.3). While this represented an 8% decline from its pre-assignment value, this result was nonetheless encouraging and suggests overall student satisfaction with the assignment. Following Pirog (2019), to gain insight into the relationship of the "worthwhile" variable to the other five variables, Pearson r coefficients were again calculated. Table 4 shows that post-assignment student beliefs about whether the assignment was "worthwhile" were most closely associated with their view that it was "realistic" (r=.83). In contrast, student perceptions of whether the assignment was "worthwhile" was least closely associated with the variable "enjoyed" (r=.64). These results indicate that overall student satisfaction with the Excel

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certification assignment was ultimately associated with their perceptions of how practical the learning experience was in acquiring real business problem-solving skills notwithstanding their lesser enjoyment.

STUDENT EXAM PREPARATION

To gather data about student exam preparation, additional questions were included in the post-assignment survey. Of particular interest was the incremental time-burden placed on students. Table 6 summarizes student responses to the following questions:

1. What study materials, if any, did you use to prepare to take the Microsoft Excel Certification Exam?
2. Approximately how many hours did you spend preparing to take the Microsoft Excel Certification Exam?
3. Approximately how many weeks in advance did you begin preparing to take the Microsoft Excel Certification Exam?

Table 6: Study Materials Used, Hours of Study, Weeks in Advance

Study Materials Used					
	GMetrix	**Udemy**	**Hardcopy**	**YouTube**	**None**
% of times indicated	30%	30%	6%	28%	6%
Hours of Study, Weeks in Advance					
	Mean	**S.D.**	**High**	**Low**	
Hours of Study	9.3	6.3	30.0	0.0	
Weeks in Advance	1.6	1.4	5.0	0.0	

GMetrix, Udemy and YouTube were the most frequently cited study resources receiving 30%, 30% and 28% weightings, respectively. All of these resources can be accessed on-line. GMetrix and Udemy are resources suggested in our Excel policy.

On average, students devoted 9.3 hours (S.D. 6.3 hours) preparing to take the Excel certification exam. The maximum number of hours spent was thirty and the minimum was zero. Students began preparing for the exam an average of 1.6 weeks (S.D. 1.4 weeks) in advance. The maximum was five weeks in advance and the minimum was zero weeks in advance. Given that on-campus certification exams were administered during the final four weeks of the semester, many students deferred beginning their exam preparation to the latter portion of the 15-week semester. Based on this data, the assignment did not place an unreasonable time-burden on students. Nonetheless, the compressed study timeframe may have created deadline pressure.

EXAM RESULTS

Our Excel certification exam results were as follows: 26 students (90%) passed, two students (7%) received equivalency waivers and one student (3%) did not take the exam. Of the 26 students that passed the exam, 15 (58%) passed on their first attempt, nine (35%) passed on their second attempt and two (7%) passed on their third attempt.

CONCLUSION

Technology skills have been identified as curriculum deficiencies in accounting education and Excel skills are the top technology skill required of entry-level accountants by employers. Nonetheless, Excel training is often cited as a subject lacking in undergraduate accounting coursework. This paper presents the WCSU Accounting Department's approach to implementing Microsoft Office Specialist Excel certification as a required independent assignment in its Intermediate Financial Accounting II curriculum. Unlike typical curriculum implementations, this assignment did not require Excel instruction or a dedicated Excel class. The implementation was successful due to a synergy of students embracing the value of the requirement and the significant consequences of not passing the certification exam. Microsoft Office Specialist Excel certification provides accounting students with the opportunity to develop accounting-related technology skills essential to their workforce preparedness. Moreover, Excel certification assesses competency with many Excel functions that are important to public accounting firms.

To prepare for and take the exam, students devoted an amount of time that is reasonable for an out-of-classroom assignment. However, students deferred their exam preparation and utilized a relatively compressed study timeframe, which may have impacted their enjoyment of the assignment. Overall, students were positive about the instructional experience provided by the Excel certification assignment and considered it worth the effort.

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Improving Students' Sentence-level Writing Skills in a Large Undergraduate Business Management Course

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ABSTRACT
Acknowledging the increasing challenges with respect to students' recurring development in the area of business composition is now a requisite for many business faculty, including those outside of traditional Departments of English or Business Communication. Central are the supporting roles and direct interventions that non-English and non-Business Communication faculty can take to improve business student composition, prose, and rhetoric on a continuous basis throughout a single course. We discuss our overall approach to this pertinent issue and the specific details of our pedagogy to assist students with improving their contemporary language use. Additionally, we provide preliminary but encouraging early results.

KEYWORDS
Business Communication, Technical Communication, College Writing, Pedagogy, Writing-Across-the-Curriculum, Language Use, Grammar

INTRODUCTION

Few can deny the importance of verbal and written communication for contemporary business professionals across industries and segments (NCW, 2004) and across functional areas within organizations (Quible, 1991). The learning outcomes associated with freshman composition have long been part of a formal university education (CWPA, 2014), and similarly, the skills, knowledge, and abilities affiliated with a Business Communication course have long been a part of a quality business school degree-based program (Wardrope, 2002). While the challenges of attracting, retaining, and developing employees with English-language skills for international firms is a pressing and growing matter (Lockwood, 2014), these same challenges persist for domestic firms too (Pittenger, et al., 2006; Quible and Griffen, 2007). In addition to employer feedback regarding the writing skills of entry-level professionals, some recent evidence suggests that even Masters of Business Administration (MBA) students require direct assistance with writing as well (May et al., 2012; Lentz, 2013). Lucas and Rawlins (2015) have argued for a change in the business communication curriculum to focus more on writing *competencies* (e.g., professional, clear, concise, evidence-driven, and persuasive) and less on writing *genres* (e.g, email, letters, reports, and speeches).

Jameson (2007) studied SAT and related test scores and writes "…that the proportion of students with solid writing and reading abilities has held fairly steady but remained small during the past 25 years" (p. 17). Jameson attributes the weak writing skills in college largely to "…the proportion of high school graduates who enter college within a year of graduation has soared, from one-half to two-thirds since 1980" (p. 19). She attributes weak writing skills to many factors: decline in writing instruction and practice, decline in time spent on homework, [inflationary] rise in grades, distorted self-perceptions of abilities, decrease in reading, and shifts in use of leisure time. A low level of writing skills at the beginning of college is disappointing; a low level of writing skills at the end of college is untenable.

Plutsky and Wilson (2001) interviewed several dozen faculty at a large, public, urban business school. These authors describe in extensive, disillusioning detail the recurring gaps in college-level writing proficiency between faculty expectations and student performance, and also, the gaps in the faculty members' own knowledge regarding composition in general and how to assist students specifically. In a different study, Wilson and Plutsky (1997) found that "…students seem to have the ability to…identify the errors for a series of questions on a test, but not the ability to identify and correct errors in their personal business documents." Our conclusion is that both faculty and students exhibit areas for improvement.

Although writing in general and business writing specifically may be considered a "basic skill" that doesn't mean it is either straightforward to learn or straightforward to teach. Along with other "basic skills," such as business mathematics, business statistics, critical thinking, and perhaps business computing, business writing might be as hard or harder to learn than discipline-specific subject matter. There is systematic evidence in the literature of the

difficulty associated with business writing (Badua, 2015) and the growing importance of assessment of General Education-related writing skill competencies for accredited business schools (Vitullo and Jones, 2010). Finally, there is anecdotal evidence that even the best business schools in the nation find the topic of college-level writing extraordinarily challenging (Middleton, 2011). Technical composition—in all contexts and for all purposes—is clearly a lifelong suite of skills, and this in turn, places new demands upon business school faculty.

ORGANIZATIONAL BACKGROUND

The two authors of this paper work at a large, public, urban, masters-comprehensive university in the United States. For the most recent academic year, the university enrolled approximately 42,000 students. More than 7,600 students are enrolled in the undergraduate programs in the College of Business and Economics, including more than 2,000 students in the Department of Management. The university is accredited by Western Association of Schools and Colleges (WASC), is an Hispanic-serving institution, and enrolls the second highest number of international students among masters-granting institutions in the United States. The College of Business and Economics is accredited by the Association to Advance Collegiate Schools of Business (AACSB), and nearly two-thirds of the business students are transfer students, mostly from regional community colleges.

The writing interventions described below are for a required, core, junior-level course titled Principles of Management and Organizational Behavior. This course is taught in a large-lecture hall; approximately 150 students enroll at the beginning of each semester, and most students stay enrolled. There are five sections of this course taught each semester, and the writing interventions discussed in this paper are in regards to one of those five sections. Approximately 80% of the students enrolled each semester are business students and the other 20% are students from other (non-business) majors. Approximately 20% of the business students enrolled in this course are Management majors, and most of the rest of the business students are one of the other three large majors in the College: Accountancy, Finance, or Marketing. All the students have passed a freshman-level English Composition course; in addition, all the business students have passed a sophomore-level course in Business Communication. The Department of Management has mandated a minimum number of words to be written by each student in the course (2,500 total), and each instructor scores and grades her or his own students' work. Additionally, this Management course is used to evaluate the first college-level Student Learning Outcome (SLO): "Have Strong Written and Oral Communication Skills."

PAPER OUTLINE

This papers proceeds as follows. We first provide detail as to the precise nature of our writing interventions with students in the classroom. We provide examples of student work that we show to all students both to follow best practices and to avoid common error patterns. While we assist students at the word-, sentence-, paragraph-, and argument-level, we focus here only on sentence-level remediation and development because that specific area is often the most pernicious (Quible, 2006b) and most challenging (Sitler, 2001) in the classroom. We then offer some preliminary but encouraging results from Spring semester, 2014. We end with a list of additional activities that business faculty can embark upon to aid in their own learning and collaborate with others across the campus. Finally, our work is not intended to be precisely prescriptive. A large university has many stakeholders with many objectives, and even small change takes time and effort. Faculty at other campuses can and should adjust our approach and pedagogy as appropriate.

OVERALL APPROACH

Our high-level approach is comprised of three key elements. The first element is to acknowledge that business faculty have a responsibility to play a role in the continuing development of student writing. This includes, at a minimum, a responsibility to adequately discuss the nature and scoring of a course's writing assignments (Anderson and Speck, 1997). While the scope and magnitude of the involvement with writing alongside the involvement of regular course material will vary with employer expectations, program objectives, course descriptions, and faculty preferences, we believe that active engagement at some level with this subject is necessary in the contemporary business school classroom. The outcome is for the students to improve their skills, and to do this, the students need to know that the course instructor, subsequent course instructors, and future employers are all serious about observing strong business writing capability in their students and entry-level professionals.

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The second element is to understand that individual instructors can improve their own knowledge of English language instruction and business writing pedagogies to assist students (Reinstein and Trebby, 1997). A related aspect is to learn how writing assignments can be designed and delivered in a way that complements existing course material and learning outcomes rather than substitutes for either. As a practical matter this means focusing on parsimonious efforts: the smallest amount of faculty effort that will lead to the largest amount of student improvement. Aligned with some suggestions from the literature, we elevate personalized and granular feedback over mere completion of a perfunctory minimum number of words required (see, for example, Hayes, 1998). Since the amount of reading of assignments and feedback on writing for a large class is difficult to automate, it is imperative that faculty have a serviceable strategy for dealing with the composition, prose, and rhetoric details needed in a management course. Finally, improving one's own learning regarding the language and linguistic details that helps students has spill-over effects with respect to other aspects of the teaching, research, service, and consulting activities normally conducted by faculty.

The third element is to present students early in the class with both quantitative data and qualitative data regarding writing performance aligned with course learning objectives. By quantitative we mean showing students actual numeric data which was appropriately summarized and anonymized. This could include, for example, the actual frequency distributions of various types of language use errors made by students similarly situated. In the age of the Internet and smartphones, modern students are exposed on a daily basis to tabular and graphical data. Instructors should be able to leverage that experience to help motivate students to improve. By qualitative data, we mean giving the students exemplars of various types of words, sentences, paragraphs, and arguments that demonstrate clear thinking and strong writing. Of course, general and technical writing handbooks are replete with such examples, but our experience is that providing current students examples from *prior students from the same course* leaves a cognitive residue and emotive affect that, again, helps motivate students to strive to improve. Striking a balance is key. Instructors want to provide enough materials to elevate and improve the student writing, but not provide complete, refined written products so that students are merely copying but not learning.

DETAILED PEDAGOGY

Our specific pedagogy is detailed below. This is not prescriptive but descriptive. This does not represent all of the interventions we have implemented but rather only a few of the most important. The total amount of in-class time required for all activities described below is approximately 25 minutes.

1. Add technical composition matters to the first-day lecture. Set high expectations and emphasize the importance of writing in the course learning objectives (if applicable), syllabus narrative, and in the syllabus grading criteria. Provide brief, tangible examples of why and how strong writing skills matter both in class and in the workplace, especially with respect to meaning and interpretation (see, e.g., Alshare, et al., 2011; Sandell and Svensson, 2014), professional credibility (Beason, 2001; Gilsdorf and Leonard, 2001), and lingering effects by industry (Chase, 1991). As needed, review the scoring criteria in detail for both content and language use. There are strengths (Riebe and Jackson, 2014) and weaknesses (Cohen and Billsberry, 2014) to using rubrics in management courses. We prefer to give the students simple rubrics for each writing assignment.
2. Give a simple writing assignment on the *first day* of class, make it due on the *second day* of class, and *return it* on the third day of class. We have found that a rudimentary, open-ended prompt such as "Describe the most important opportunity or difficult challenge you have faced as an employee or customer" is suitable. Through trial-and-error we have found that this first, early essay can be between one and one-half and two full pages. This assignment is sufficient to 1), help the instructor understand the class baseline ability (including identifying significant areas for improvement) and 2), reinforce to the student that demonstrating reasonable writing proficiency both early and throughout the course is critical.
3. On the day the first paper is returned, review the content and language use issues in class with *specific examples drawn from prior students' work on the same assignment* within, say, the last year or two. Our observation has been that students learn best from the peers' writing, both as strong exemplars to follow and recurring anomalies to avoid. This step also has the additional advantage that the students know that the instructor cares about the writing of each student. This leaves an impact on the students that is often missing, especially in classes in large-lecture halls or in hybrid/online environments. Also, capturing—and possible responding to—direct student writing in electronic form is easier on a campus with tools such as a Learning Management System (LMS) or similar technology.

4. Give the students one-half of their missed points back for the first assignment for errors in language use, including grammar and mechanics. This is referred to more formally as "glossing" (Johansen and Shaw, 2003). In terms of marking language use errors, we tend to follow a "minimal marking" strategy (Haswell, 1983). Also, we don't mark the same type of error twice; we have found that marking it once is sufficient to achieve immediate remediation in most cases. Unlike (Quible, 2006a) we don't label each error. Like Cook (2010), however, we find that students can correctly identify nearly all sentence-level errors; we therefore mark all types of errors, but generally only specifically identify ("label") three broad error types that students have regular difficulty with: run-on sentences, sentence fragments, and inflection (verb conjugation/noun declension) errors. The time frame for the completion of this activity is by the following class session after the first paper is returned, that is, the *fourth* day of class. The students must meet with the instructor during office hours (or by appointment) with what we refer to as an "error log," or more informally, as a "fix page" (Sitler, 2001). On such a "fix page," a student must, for each error, 1), try to learn the type and nature of the error, 2), identify the reason why the error matters, and 3), state how she or he will try not to make the same error again. The student also needs to show some type of writing handbook to the instructor. Handbooks vary in many ways and there is no single best book (Cranmer, 2003); the important element for faculty is to simply select one and recommend it to the students. We *recommend* Hacker (2014) but do not *require* it; any student writing reference guide that might be used in a freshman composition or business communication class is acceptable. As with the use of students' own writing as exemplars, this "give back" approach leaves a strong, positive affect in the minds of the students. The instructor's goal should be to design a points schema that offers an extrinsic reward early in the course but encourages an implicit incentive later in the course. Also, since the number of points back is a percent of the points lost, this approach tends to help the students who need the most improvement.
5. Sequence the writing assignments in the course for both breadth and depth. After major and minor errors are reduced by student work (and re-work) on the first assignment, more emphasis can be placed on either content directly or on higher-order writing elements such as paragraphs and arguments. Student written deliverables later in class can be more advanced (such as demonstrating mastery of theory and/or evidence) or merely longer in length.
6. Emphasize the similarities and differences between papers. An early paper may not need any citations or references; a later paper will likely require both. The first paper, since it is given on the first day of class may be first-person and use no theory; the final paper, since students have improved, will likely be in third-person and make extensive use of management and organizational behavior theory, tangible evidence (often from key resources), and strong reasoning and logic. These important but perhaps subtle distinctions in the minds of the students can be done with a simple side-by-side single PowerPoint slide that can be referenced more than once during the course.
7. Offer to read any student paper before the paper is turned in. Some students may require extensive drafting, while others less so. Similar to giving points back, this leaves a positive residue in the mind of a student. Additionally, such office and online conversations are a chance to explore a range of other but often related issues that impact students.

ASSISTANCE AT THE SENTENCE-LEVEL

Hayes (1998) suggests that, even after a deliberate intervention, "the technical aspect 'sentence syntax' was the most constant…[both as ranked by]…perceived difficulty and actual difficulty." Discussions with both business-school colleagues and business communication faculty also suggest that students require the most assistance at the sentence-level. We use a combination of writing resources to organize our students' work, such as Hacker (2014), Tufte (2006), and Garner (2013). We organize students' work into three areas: Technical Composition (e.g., introductory sentences, contrasts, and transition words), Artful Prose (e.g., conjunction and coordination, branching sentences, parallelism, and sentence variety), and Persuasive Rhetoric (e.g., linkages to domain/subject matter, quotes, and analogies). An excerpt of these elements is listed in Appendix I, and a more exhaustive list is available from the authors.

Associated with sentence-level improvement is general language improvement, and so we provide to a students a simple table identifying language use errors organized by typical writing handbook categories and sorted in decreasing order of frequency (see Appendix II). Note that the most recent, large-scale empirical research suggests that the *number* of errors undergraduate students make is relatively unchanged in many areas, but the *types* of errors have indeed changed, such as "errors in word choice" for "errors in spelling" (Lunsford and Lunsford, 2008).

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PRELIMINARY RESULTS

There is some evidence that the pedagogical approach of using a larger number of shorter writing assignments is helpful in business courses (Hall and Tiggeman, 1995). This course, therefore, use three writing assignments. The first is a brief narrative regarding **an important organizational opportunity or difficult organizational challenge**, the second is an **organizational dialogue** based upon the "Big 5 OCEAN" personality profile results, and the third is a **management analysis** of a current event in business and organizational context. As can be seen in Table 1, the results are promising. Errors in each of the language use categories were reduced. For this course, the error rate per 100 words written was 0.98 at the beginning of the course and 0.26 at the end of the course despite the fact that the written assignment at the end of the course is more difficult. An extension to the results from this course might be to do pre- and post-tests under more controlled conditions either at the course-level (Enos, 2010) or the degree program-level (Fraser, et al., 2005).

Table 1: Changes in Sentence-level Writing Errors in a Spring, 2014 Management course

	Assignment 1 Organizational Challenge	Assignment 2 Personality Dialogue	Assignment 3 Mini-case Analysis	% change (first to last)
Structure	54	15	11	-79.63%
Composing	16	12	8	-50.00%
Sentence Style	77	49	28	-63.64%
Word Choice	84	67	52	-38.10%
Grammar	151	108	73	-51.66%
Punctuation	141	120	101	-28.37%
Mechanics	48	45	38	-20.83%
Total	571	416	311	-45.53%
no. of pages	1.75	3.25	3.50	
no. of words (1 pg~250 words)	437.50	812.50	875.00	
no. of students	147	139	137	
Error rate per student	3.88	2.99	2.27	-41.56%
Error rate per student per page	2.22	0.92	0.65	-70.78%
Error rate per student per 100 words	0.98	0.37	0.26	-70.78%

Naturally, individual faculty should evaluate their own program-related contexts and instructionally-related preferences, and adjust (1), the number overall writing assignments and the alignment of each writing assignment to one or more student learning outcomes, (2), the difficulty and length of each writing assignment, (3), the weighted balance between scores for content and scores for writing, (4), the focus on which type and level of usage errors and other technical composition concerns are of prime interest, and (5), the weights given to the number of points back for identifying and rectifying any anomalies. Many other fine-tuning adjustments are possible within this framework as well.

ADDITIONAL SUGGESTIONS FOR FACULTY

In addition to the curricular and pedagogical specific discussed previously, additional opportunities for faculty learning and student assistance may present themselves at campuses, especially large campuses. A brief summary of those undertaken by the authors of this paper are described below.

Personal Development

- Learning about how English Language Learners (ELL) and international students come to read and write Standard[ized] American English is critical to any intervention. There are books devoted to this subject (see, for example, Miller, 2007). Faculty can begin with the most common non-English language in use within their classrooms.
- Learning about the linguistic differences between the English language and, for example, Indo-European languages assists faculty in marking and feedback strategies. For example, many Eastern European languages use verb inflections where English might use a preposition or an article. Two introductory, accessible books on this subject that the authors have found useful in assisting students are Meyer (2009) and Lieber (2010). A balanced approach to helping faculty help students with grammar is Huddleston and Pullum (2005).
- Learning about language use on an on-going basis is crucial for a modern business instructor. Rhetoric and composition instructors have traditionally relied upon usage guides for formal assistance in this area. A common usage guide for English instructors has often been Fowler's Modern English Usage (Butterfield at al., 2015). Business and Management instructors might augment the guidance from Fowler's with the guidance from Garner's (2009) Modern American Usage and, naturally, discipline-specific guides.
- Learning about what contemporary systems and technologies *can* do (Shermis and Burnstein, 2013) and just as importantly, *cannot* do (Ericsson and Haswell, 2006) to help students write and learn, and also, to help instructors score and teach writing, is important. Also, there are both commercial applications and open source tools that have been developed to assist students in writing and instructors in scoring, at least for surface-level (elementary language use) concerns. In addition to traditional functionality built into word processors, newer services include Grammarly (www.grammarly.com) and Turnitin (http://www.turnitin.com). These can be purchased and used on an individual-basis, or can be procured by an institution for use by all student and faculty stakeholders. The reaction by many users to these tools, and those like them, is that their use is limited and their benefits are small with respect to providing marking assistance for instructors and individualized, detailed feedback to students. However, for standardized graduate-level exams with uniform prompts and a small set of scorers responses encoded into a database, researchers have found that the Graduate Management Admissions Test (GMAT) and Graduate Record Exam (GRE) can be reliably scored as well by a computer algorithm as by a human scorer.
- Learning about the composition, prose, and rhetoric requirements and recommendations for the *next course* in the students' matriculation sequence (or at least the required core courses) can assist in (1), broadening and deepening an instructor's perspective from an intra-program and inter-program perspective, and, (2), explaining and predicting how the written deliverables in one course might impact another course.
- Campuses have several departments that collect, analyze, disseminate, and archive various types of academic data. We have looked at the difference in the grade earned in the business communication course between students who enter directly from high school and transfer students. For the past ten years, the students who entered directly from high school have earned 2.8 grade points (on a 4.0 scale) and the transfer students have earned 3.2 grade points (again, on a 4.0 scale). This elevated difference may account for differing expectations, among other things, in subsequent courses among transfer students. We have also looked at the difference in earned grade performance in the required core courses in the business program between students who entered directly from high school and transfer students, and have found no statistical difference. Learning about such distinctions assist faculty in understanding the overall student environment which, in turn, informs the pedagogical design and development.

Coordination and Collaboration

- At our campus all students must pass an upper-division writing proficiency exam when they have earned 90 units. For this exam students write several pages by hand in response to a general prompt, typically one drawn from a public, current event. This exam is scored by faculty who volunteer (with a small stipend) from across the campus. Among the benefits to the instructor from engaging in this activity are (1), learning the holistic style of essay grading, (2), learning to evaluate writing for which the instructor didn't choose

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the prompt, (3), learning the writing skillsets from students from colleges within the university other than the instructor's own college, and (4), learning from colleagues outside of one's home college.

- Most universities provide some type of Learning Research Center (LRC) or Writing Center. We have worked with our LRC to help them stay open during the Summer hours (our college alone offers more than 30 sections of courses during the Summer period) and also provided detail to our LRC on which courses are writing intensive and extensive so that the LRC can improve their overall planning and support. By interacting with this key support unit, they learn that we are serious about our writing improvement, and we learn about tutoring approaches, individualistic development, and key references and resources used by knowledgeable tutors, both professional and student-peers. Similarly, we will begin to interact with the International Student Center on writing issues soon.
- Representatives from our college have begun to meet on an annual basis with the English Department leadership that manages the business communication course. This collaboration should improve the inter-college communication which in turn should improve the students' writing skills, knowledge, and along the entire matriculation value stream over time. So far constructive comments and open discourse have enabled each college to understand the other college's perspective at both the conceptual and practical levels. We anticipate more positive results from this activity in the next few years.

CONCLUSIONS

Demonstrated competency with written work, regardless of communication venue or rhetorical situation, remains vital to the academic success of students and the career success of entry-level professionals. Many pressures on students, faculty, and institutions are creating a "perfect storm" that inhibits some students from achieving their goals. At the same time, mainstream technology to scaffold composition, prose, and rhetoric is developing at a slower—perhaps *much* slower—pace than technologies that support other aspects of pedagogy and delivery in the classroom, and other aspects of business work in contemporary professional practice.

In response, discipline faculty, including in colleges of business, can design, develop, implement, and evaluate new classroom interventions to assist students in continuously improving their written work. This requires (1), acknowledging the root causes of the issue, (2), learning new skills related to the technical aspects of composition, and (3), and taking an active role in assisting students. While the challenges are many, this paper provides an overview of an approach and pedagogy that can be taken to address lingering writing issues.

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Appendix I.

Exemplar Student Sentences

The following well-written sentences are drawn verbatim from student writing on the first written assignment in this course during the academic year 2013-2014.

Technical Composition

Introductory Sentences

"He routinely yells at his employees and threatens to cut our hours if we don't work harder."

Contrasts

"However, they are doing so effectively but not efficiently."

Transition Words

"*Furthermore*, the manager did not provide any benefits such as health insurance." (emphasis added)

Artful Prose

Conjunction and Coordination

"The manager approved my idea, and now every week I have the employees and their supervisor sign their report."

Branching Sentences

"As I returned to my desk thinking on how mad this client sounded over the phone, I heard screaming coming from the reception area."

Parallelism

"Work tasks were monotonous: unchallenging, unrewarding, and unsatisfying."

Sentence Variety (same student, same document)

(short) "We are a small firm."

(medium) "On the rare occasions that they do notify me, they send an email saying a package in my name has arrived."

(long) "Customer service is a problem faced by any service industry and this issue is a priority for restaurants because it's a big part of the restaurant experience for the customer."

Persuasive Rhetoric

Linkages to Domain/Subject Matter

"Elements of *planning* are demonstrated when high levels of management determine specific plans and goals of the [bank] tellers." (emphasis added)

Quotes

"All ye abandon hope who enter here."—Dante

Analogies

"Going to work every day became a chore if I knew I would be working with her. However, I knew in the back of my mind that the person that would have to change would be me. Just like in the clips [the class instructor] showed us in class, *the horse trainer stated that your life is reflected into your horse, just like my inappropriate behavior reflects back into my team*." (emphasis added)

Appendix II.

Frequently-made Language Use Errors

The following errors were made on the first written assignment in this course for Spring, 2014.

Error or Error Pattern	***Frequency***	***Example(s)--incorrect/correct***
Assignment Structure		
	17	wrong typeface
	12	not double-spaced
	10	late submission
	6	not minimum page length
	5	not left-justified only
	3	wrong typesize
	1	weak ink coverage
Composing and Revising		
	9	ungrammatical or awkward construction (phrase or clause)
	3	extra space between words
	2	inconsistent line break
	1	no paragraph breaks
	1	other
Sentence Style		
	19	missing word -- an article (i.e., a, an, the)
	13	missing word -- a conjunction (i.e., for, and, nor, but, or, yet, so)
	13	missing word – other
	10	missing word -- a preposition (e.g., of, at, on, in, etc.)
	8	extra (single) word
	5	missing word -- a verb
	4	missing word -- the infinitive "to"
	3	extra words (more than one)
	2	missing more than a single word
General Word Choice		
	30	wrong word -- other
	24	wrong word -- near (phonetic) homophone (e.g., were/where of/off, sales/sells)
	13	non-use of compound word (e.g., hardship, within, myself, whereas, overnight)
	11	wrong word -- homophone (heterographs) (e.g., site/sight, hire/higher, you're/your)
	2	wrong word -- incorrect preposition in an idiom
	2	wrong word -- pronoun
	1	wrong word -- lexical misunderstanding (e.g., affect/effect)
	1	non-use of hyphenated word (e.g., pre-determine)
Grammatical Sentences		
	49	wrong inflection -- verb conjugation (e.g., ask/asked, was/were, go/goes, do/did)

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	21	wrong inflection -- noun declension (i.e., for tense, number, or aspect)
	18	run-on sentence (comma splice)
	11	error in subject-verb agreement
	11	sentence fragment
	9	missing apostrophe for a singular possessive
	9	error in antecedent-pronoun agreement
	8	run-on sentence (fused sentence)
	4	misuse of irregular possessive (i.e., its)
	3	missing apostrophe for a plural possessive
	3	incorrect use of an adverb
	3	misuse of apostrophe
	2	use of plural form when possessive form is correct
Punctuation		
	61	no comma connecting a dependent (opening) clause and an independent clause
	47	no comma before a coordinating conjunction (i.e., for, and, nor, but, or, yet, so)
	15	no semi-colon connecting an independent clause with another independent clause
	9	misuse of the comma
	3	misuse of the semi-colon
	3	missing comma(s) surrounding a non-restrictive clause
	1	missing needed comma in a series
	1	misuse of the colon
	1	missing needed colon
Mechanics		
	30	misspelled word
	10	proper noun not capitalized
	3	missing or incorrect terminal mark at end of sentence
	3	common noun capitalized
	1	common word (non-noun) capitalized
	1	first word in a sentence not capitalized

Disseminating Information to College Students in a Complex Media Environment

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ABSTRACT

Colleges and universities have a need to provide information to students for many reasons. There are many university events to market to students to encourage attendance and enhance the college experience. There is also vital university information, such as registration deadlines, school outages, financial aid deadlines, etc. that must be disseminated to students as well. As such there is a need to understand how to best communicate with students in today's complex media environment, so they stay informed. Students have very diverse methods in which they may prefer to receive information, most of which are not traditional types of media. While colleges and universities may use things like flyers and brochures as well as university television and radio, most students are likely to prefer some type of social media in which to get their information. This study exams communication methods with students at a university. It investigates whether students would prefer to get their information via traditional media, email, or some type of social media or app. The preliminary study investigated how students received their information about a specific event, Earth Day. From that study a questionnaire was constructed in which students were asked their preferences on how to receive information from the university. The data was examined to determine the types of media students prefer to use to get university information. The media preferences by student classification were also considered to determine if preferences change as the students age and become more familiar with the university.

Keywords: college student social media use, university social media use

INTRODUCTION

As a university, there are many different activities and events that we would like to publicize to college students. Knowing student preferences on how to receive this information could make the distribution of that information more efficient and cost effective. By understanding student preferences in information delivery, the university can effectively target appropriate information to the target audience.

There is a significant body of research that indicates that success in social relations is a key element in college admissions and retention strategy as well as overall life success for college students (Primary Research Group, 2020). Yet only 48.2% of all students consider themselves rather successful or very successful in making friends at college. Studies do show that students with higher grades tend to perceive the efforts of colleges at promoting social interaction as "favorable," however, these are not usually the students who are most likely to drop out of college.

Social interaction can be fostered through better student involvement on college campuses. Student involvement can come in several forms. It can be from developing friendships and peer groups, attending sporting events, attending university sponsored events, joining fraternities, sororities, and/or other organizations and clubs. There are numerous activities and events that take place weekly on college campuses that provide opportunities for students to be involved, but many students are unaware of the many events, organizations, and opportunities that are available to them to become more involved. To get students more involved, students must know what opportunities for involvement are available to them. Thus, universities have a need to provide information to current college students.

Universities have many options on how to deliver information to students. There are traditional methods like campus newspapers, campus TV, campus radio, flyers and brochures, and posters, email announcements, as well as nontraditional media sources such as social media.

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LITERATURE REVIEW

College students are known to utilize social media for a variety of reasons—to express their identity and opinions, to build social relationships, to stay in touch with family and friends, to know about social activities, and to feel connected (Kim, Wang, and Oh 2016). Kim et al (2016) found that individuals who feel more need to belong are more likely to share their experiences with others on social media and to communicate with their friends through mobile phones, thus using social media and smartphone interaction more frequently leading to greater levels of social engagement. "Social media use is found to affect individuals' communication behaviors by providing interactive and convenient features of communication space in which many others from various backgrounds are connected." (Kim et al, 2016, 265). Based on this, Kim et al (2016) found that because individuals' social media networks are based on interpersonal relationships, students are more interested in information about social events that their friends share and are encouraged to get together through social media which can motivate them to actually attend social activities. The findings actually indicated that the more college students use social media and smartphones to interact with others, the more they participated in social activities. So, social media use can positively influence college students' social engagement. As such, any communications directed at college students should include social media. The question is which social media outlets are the best options for relaying information to those college students.

There is a significant volume of literature about college students and social media. It runs the gamut of how college students use social media to different sources utilizing social media to sell ideas and/or products to students. This study is more interested in how students utilize media than how marketers sell through social media. There are several studies that do address how social media is used by students to gather information. Firat, Altinpulluk, Kilinc, and Buyuk (2017) indicated that on the Open Education related Facebook sites, students tended to utilize pages and groups related to programs emphasizing current job opportunities and student support services, while noting there were also numerous commercial accounts that tried to exploit students' exam anxiety instead of generating actual content. Khan, Kend, and Robertson (2016) looked into the university social media use by accounting students and found that accounting students use social media for a number of academic-related purposes including establishing and maintaining fluid mentor/mentee relationships around academic activities related to interactions through social media. Potter (2012) found that exposure to a social marketing campaign from the university concerning bystanders taking an active role in reducing sexual and relationship violence and stalking increased participants' awareness of their role and willingness to get involved. So, studies do show that social media is effective at reaching college students and affecting their behaviors.

What the literature does not do is elaborate on the types of social media that college students would prefer to get their information and how the delivery method may change as the student becomes more familiar with the university. It also does not examine how media preferences may change based on age or classification of the student. In this study, we exam the types of media students prefer to use to attain information about the university. A preliminary study was conducted during an Earth Day event to determine how students learned about the event to give the researchers some ideas about the types of media used by students.

METHOD

Earth Day is celebrated on campus each year and the event is heavily publicized through various media. All attendees were asked to complete a simple survey and were given an Earth Day t-shirt in return for their completed survey. The survey asked each respondent: Which of these media outlets do you use regularly to find out about events and general information on university activities. Demographic data including age group and whether the respondent was a student, faculty or staff.

RESULTS

A total of 295 people completed the survey including 246 students, 19 faculty and 30 staff members. A total of 74% of the students were 18-22 years old, 19% were 23-29, 5% were 30-39 and 2% were older than 39.

Overall Results

Table 1 summarizes the results from all respondents. A total of 57.2% of respondents indicated the most popular method of receiving information is through their University email. This result may be because instructors widely use Blackboard to send emails to students in their classes and students are accustomed to checking email for course

information. After email, the popular social media cites were most often used: Instagram, Facebook, Twitter and SnapChat. Only 26% of the students indicated personal interaction via talking, chatting or texting with others is used regularly to convey University information. GroupMe and OrgSync (University student organization site) are used to a lesser extent but this may be because students must join or be added to a particular group they are interested in to receive communications. Finally, local news was used by a smaller percentage.

Table 1: All Respondents Preferred Method of Receiving Information From the University

Information Source	User Percentage
University Email	57.2
Instagram	39.7
Facebook	34.8
Twitter	33.4
SnapChat	32.1
Talk/Text	26.3
GroupMe	22.8
OrgSync	15.5
Local News	11.7
Other	0.3

Preferred Social Media by Age Groups

Analysis of the four popular social media cites (Instagram, Facebook, Twitter and SnapChat) revealed that each of the four is used by more than 30% of the respondents. When studied by age group, interesting differences are apparent. Facebook is the only social media used by respondents in the over sixty age group. The typical college age respondent (18-22) used Twitter most often but Instagram and SnapChat were used almost as much. Facebook was used by this age group to a much lesser extent. Looking at the 23-29 age group, Twitter and SnapChat popularity decreases dramatically, and Instagram is most often used. Facebook is the most used by each of the remaining age groups. Respondents 30 and over indicated some use of Instagram with much less interest in Twitter and SnapChat. Table 2 provides details of social media use by age group.

Table 2: Social Media Use by Age Group

	All Subjects	18-22	23-29	30-39	40-49	50-59	60+
Instagram	**39.7**	41.8	**50.0**	28.6	30.8	12.5	0.0
Facebook	34.8	26.9	46.6	**47.6**	**69.2**	**50.0**	**16.7**
Twitter	33.4	**46.7**	13.5	9.5	15.4	6.3	0.0
SnapChat	32.1	41.8	26.9	4.8	7.7	6.3	0.0

Preferred Group Media Outlets by Age

GroupMe is used by groups of friends or organizations to communicate. Individuals must be added to a group and only group members have access to the information. A decline in the total number of users was expected since groups are private, but it is interesting that 22.8% of respondents use GroupMe and traditional college-aged respondents (18-22) show a slightly higher (28.6%) use. For groups, this may be an important tool to share

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information. OrgSync is a University system that all university student organizations are registered in. Students can choose to join any organization on OrgSync. Some organizations on campus use this as an important tool to communicate but others do not go beyond the basics required by the University. The results are a little surprising with the highest use of this method in the 23-29 year old age group (19.2%), 50-59 (18.8%) and 60 plus (16.7%). Perhaps, the higher number in the older age groups is because these age groups are composed primarily of faculty/staff and each organization is required to have a faculty/staff advisor who monitors OrgSync. Table 3 details this information.

Table 3: Group Media Use by Age

	All Subjects	**18-22**	**23-29**	**30-39**	**40-49**	**50-59**	**60+**
GroupMe	**22.8**	**28.6**	17.3	**19.0**	**7.7**	0.0	0.0
OrgSync	15.5	14.8	**19.2**	14.3	**7.7**	**18.8**	**16.7**

Other Information Sources by Age

Only 26.3% of the respondents indicated they gathered information by talking, texting or chatting with other people and for the typical college aged student this was only 24.2%. As discussed in the literature review, students indicate they have a difficult time making friends and the lack of personal interaction to stay informed may be linked to this issue. Local news was cited by 11.7% as a way to find news about the university with older respondents using this method more than younger. Finally, other sources appeared to have little importance in respondents being informed. Table 4 highlights these results.

Table 4: Other Information Sources by Age Groups

	All Subjects	**18-22**	**23-29**	**30-39**	**40-49**	**50-59**	**60 +**
Talk/Text	**26.3**	**24.2**	**26.9**	23.8	**53.8**	**31.3**	16.7
Local News	11.7	7.7	3.8	**28.6**	38.5	**31.3**	**33.3**
Other	0.5	1.9	0.0	0.0	0.0	0.0	0.0

CONCLUSIONS AND RECOMMENDATIONS

Of primary interest in this study is how students are informed about University events. As discussed earlier, students who are engaged are more successful and more likely to stay in college. All universities are looking for ways to engage and retain students. To be involved, students must know what is going on and universities and organizations must know how best to communicate with students. This research is a first step in filling a research gap by studying media preferences of college students. The results indicate universities should use a wide range of social media to reach as many people as possible. To reach traditional 18-22-year-old students, Instagram, Twitter and SnapChat are the favored social media outlets. The results indicate that each of these outlets are used by more than 40% of respondents in the 18-22-year-old age group. In addition, 50% of the 23-29-year-olds use Instagram. Universities can easily and effectively communicate information to a large percentage of students using these three social media outlets.

FUTURE RESEARCH

Additional research needs to be conducted in this area. A more extensive survey is currently being administered to students. The survey is looking at media sites students use to find out what is going on at the University, as well as, which sites they prefer. The new survey is also looking at how frequently students check each of the sites and collecting more detailed demographics.

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I Can't Get No (Grade) Satisfaction: Self-regulated Learning and Success in a School of Business

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ABSTRACT

Self-directed learning is a vital educational concept in need of further research, not just for its impact on learning, but also to the effects on student academic performance and satisfaction. Self-directed learning consists of the student taking initiative in identifying what their individual learning needs are, formulating their goals, recognizing what resources are available, and determining all possible outcomes. However, does this truly impact student learning, academic achievement, and grade satisfaction? Studies suggest that student motivation, academic performance, and levels of self-efficacy could yield positive increases through the implementation of self-directed learning. This article will examine self-directed learning strategies and their relationship to academic performance and grade satisfaction.

Keywords: learning strategy, self-directed learning, self-regulated learning, grade satisfaction, academic achievement, academic performance, self-efficacy

INTRODUCTION

It is widely accepted that the development of self-regulated learning strategies is beneficial to students and educational institutions alike, through the retention of successful learners. Self-regulated learning (SRL) has developed into what Panadero (2017) describes as "one of the most important areas of research within educational psychology". SRL has been examined extensively and internationally from various perspectives in academia and practice.

Early research efforts were directed toward identifying the characteristics of, and defining, self-directed learning theory as a subset or "pillar" of adult learning theory (Mezirow, 1997). Recently targeted categories of SRL research include: (1) modality (Howardson, Karim, & Horn, 2017; Panadero, 2017); (2) language learning and acquisition (Gelan, Verjans, Fastré, Martin, Janssenswillen, Creemers, Lieben, Depaire, & Thomas, 2018; Parsons, 2008); (3) learning intervention (Leins, Cuenca-Carlino, Sharlene, Jacobson, and Thompson, 2017; Dörrenbächer & Perrels, 2016; Khosa & Violet, 2013); (4) motivation and self-efficacy (Paciello, Ghezzi,Tramantano, Barbaranelli, and Fida, 2016; Rosário, Núñez, Valle, González-Pienda, & Lourenco, 2013; Fried & Chapman, 2012; Paulsen & Feldman, 2005); and, (5) online and blended technologies (Lau, Lam, Kam, Nkhoma, Richardson, & Thomas, 2018; Lin, 2018; Hill, Chidambaram, Summers, & Jama, 2017; Tsai, 2013; Chang, Tseng, Liang, & Liao, 2013; Tsai, Shen, & Tsai, 2011; Kitsantas & Dabbagh, 2011).

Prevalent academic subject areas targeted for learning research have included: (1) STEM disciplines (Colthorpe, Sharifirad, Ainscough, Anderson, & Zimbardi, 2018; Sun, Xie, Anderman, Lynley, 2018; Han, 2017; Chatzistamatiou, Dermitzaki, & Bagiatis, 2014; Postholm, 2010, 2011; Kopp, Starki, Heitzmann, & Fischer, 2009); (2) law (Crowder, 2015); physical education (Kolovelonis, Goudas, Dermitzaki, & Kitsantas, 2013; Keay & Lloyd, 2009); and, (3) business-related majors (Stoten, 2015; Strang, 2011, 2014; Opdecam, Everaert, Van Keer, & Buysschaert, 2013; Fearn, 2009; and, Loo, 2002).

PURPOSE OF STUDY

Despite the prevalence of studies related to self-regulated learning, there is a relative scarcity of research of business students. Loo (2002) noted a greater focus on accounting majors in studies of learning styles among business students, but few focused studies of self-regulated learning among business-related majors have been conducted. This study targets business majors to identify (1) student self-reported self-regulated learning strategies; (2) strategies associated with higher achievement and with grade improvement on exams; and (3) study approaches students proposed to use for future exams. The current paper seeks to identify differences among student grades, grade expectations and satisfaction levels with their grades related to the application of SDL. Conceptually, student outcomes could be expected to improve if students apply SDL/SRL strategies. The outcomes will inform schools of

business and offices of retention about promotable strategies to increase student success. For the purpose of the study, self-regulated learning and self-directed learning are interchangeable concepts.

Research Questions

1. Will measurable differences exist in student grade expectations between SDL measurement periods?
2. Will measurable differences exist in student actual grades between SDL measurement periods?
3. Will measurable differences exist in student grade satisfaction between SDL measurement periods?
4. Will measurable differences exist in student application of self-directed learning between SDL measurement periods?

REVIEW OF LITERATURE

Robbins and Sanders (2018) examine the relationship between self-directed learning theory and student academic performance using Knowles' (1975) definition of SDL theory as the process in which "…individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (p. 3). Knowles, while focusing on andragogy, suggested key elements of motivation and personal responsibility for outcomes through the concept of self-directed learning. These elements in a classroom of traditional college-age students, within the bounds of what Knowles described as "new learning of an intensive nature" (Smith, 2002), suggest examination of students' motivation to achieve learning outcomes and their satisfaction with their efforts as indicated by grade improvement.

Self-directed learning, according to the Knowles definition, requires motivation toward a goal of improvement and recognition that change is needed to achieve the goal. Initiative must result from one's own desire for a different outcome, but may be facilitated by others; for instance, a teacher who establishes a learning contract (i.e., a syllabus). Robbins and Sanders (2018) note that the goals formed in learning contracts are key to critical thinking, which Paul and Elder (2003) indicate is transformative in nature, causing the thinker to improve the quality of thinking through the application of standards to thinking. This is not unlike Mezirow's (1997) concept of transformative learning as "the process of effecting change in a frame of reference." Robbins and Sanders (2018) describe the learning contract as generally established by the instructor but managed by the student. The learning contract provides: (1) study goals (learning objectives); (2) structure and sequence (how and when learning takes place, through the accomplishment of activities within a period of time); (3) grading methods, scales and procedures (how measures occur, the relationship of the graded assignment to the learning objectives, when students can expect to know the outcomes of their efforts); (4) feedback and evaluation (information from the instructor above and beyond scoring); (5) meeting with the student (direct communication); and, (6) agreement on policies regarding task completion (presentation of expectations, opportunities for student input and questions, and adjustments as needed. (Self-directed, 2018).

Content in university-level courses varies by discipline and class level, and pedagogy differences are further indicated by individual teaching styles. Knowles' assumptions regarding andragogy can be applied in classrooms of college-age individuals:

- Self-concept: the move from dependence to self-direction in learning
- Experience: accumulated experience as a resource for learning
- Readiness to learn: orientation toward developmental responsibility in social roles
- Orientation to learning: the shift from knowledge to application and from subject-centeredness to problem centeredness
- Motivation to learn: internally driven learning (Smith, 2002)

Empirical studies

Sebesta and Speth (2017), noting the "gatekeeping" role of introductory courses in college, make an argument for the importance of the advanced attributes that Knowles' andragogy assumptions credit to adult learners for even young students' success. These attributes related to cognition, behavior, motivation, and development influence social and academic success. In response to the student question, "How should I study for the exam?", the researchers ask, "How do you study for the exam?" This led to development of a Likert-type questionnaire based on self-regulated learning (SRL) strategies from the SRLIS structured interview protocol. Their selection of items for

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the questionnaire was based on their knowledge of resources and protocols available to their students. They identified two measurement periods, after each of two major tests/exams, and gathered data regarding students' self-reported strategies.

Surveys were administered as a homework assignment and students received credit for completion. No demographic or identifying information was associated with the student responses. Student SRL strategies were grouped using a rubric which resulted in six broad categories: (1) self-evaluation; (2) keeping records and monitoring: organizing and transforming; (3) goal setting and planning: time management; (4) seeking information; (5) environmental structuring; and, (6) seeking assistance from others.

Sebesta and Speth (2017) associated the reported SRL strategies in three contingencies: (1) those associated with exam grades (strategies identified by higher scoring students); (2) those identified in study plans (strategies students identified to use in subsequent exams); and, (3) strategies associated with grade improvement (SRL approaches used between exams 1 and 2 that resulted in higher scores).

They identified six strategies associated with grades on both exams: self-evaluation, seeking information, keeping records and monitoring, seeking instructor assistance, reviewing exams, and reviewing graded work. Five strategy categories were identified in student study plans, regardless of grade: goal setting and planning/time management; reviewing notes and/or course materials; self-evaluation; keeping records and monitoring/organizing and transforming; and, seeking assistance from other resources. They noted higher achieving students were much more likely to suggest further study of notes and other resources. Lastly, the researchers excluded from the grade improvement group all students who performed well ("A" or "B") on the first exam, and divided the remaining students based on second test performance: higher grade, maintained grade, lower grade. The strategies associated with improvement were: self-evaluation; goal setting and planning; seeking information; reviewing notes; and, reviewing exams.

The type of learning examined in this study is referred to by Habermas (1981) as *instrumental*, that which one does to manipulate or control the environment or other people to enhance efficacy to improve performance.

Relationship between self-directed learning strategy and student academic performance

The relationship between self-directed learning and student academic performance is a vital dyad in need of further exploration. This theory consists of the student taking initiative in identifying what their needs are, formulating learning goals, recognizing what resources are available, and determining all possible outcomes (Knowles, 1975). Studies suggest that student motivation, academic performance, satisfaction, and self-efficacy yield positive increases through the implementation of self-directed learning. Specifically, this review will examine the relationship between self-directed learning strategy and student academic performance.

Numerous studies have shown correlation between self-directed learning and student academic achievement. Gabrielle (2006) introduced optional supplemental technology-based materials to 784 students enrolled in required courses at a military college and found that those who accessed the modules had increased levels of readiness for self-directed learning and higher-grade averages than a control group that had the same opportunity to use the modules, but did not access them. Long (1991) using a sample of undergraduate students found a positive relationship between overall grade point average and self-directed learning scores. Long concluded "attitudes toward learning as measured by the self-directed learning readiness score positively interact with quality of performance (as defined by GPA in school)". Long and Smith (1996) examined 340 students, recent graduates, and withdrawn students in a bachelor's degree program and found a difference of nearly an entire standard deviation between self-directed learning readiness scores of those who graduated and those who withdrew from college. Reio (2004) found that self-directed learning readiness scores were by far the most robust predictor of learning performance after the effects of age, gender, and ethnicity were controlled. Slaughter (2009) in a 4-year study of students in a pharmacy preparatory program found that students with above SDLRS performed better than those with lower scores. Broadbent & Poon (2015) conducted a search of relevant databases in December 2014 for studies published from 2004 to December 2014 examining self-regulated learning strategies as correlates of academic achievement. From 12 studies, the key components found in self-directed learning (time management, metacognition, critical thinking) positively correlated with student academic outcomes.

Additional studies further advance the positive relationship between self-directed learning and student academic performance. Cho & Shen (2013) identify self-directed learning as one of the most important factors for student success in a learning environment. Artino (2007) conducted an exhaustive research review on the relationship between self-directed learning and academic performance. This review encompassed relevant research published

from 1994 – 2006. Results indicated that self-efficacy had a positive correlation with the use of learning strategy, satisfaction with course, and academic performance.

METHODS

Participants and consent

Participants in this study were enrolled in college courses across several business-related majors: Accounting, Business Administration, Entrepreneurship, Finance, and Marketing at a small private university in the southern United States. The student population (n=800) consists of approximately 600 undergraduate students and approximately 200 graduate students. The investigation was conducted in fourteen different courses, some with multiple sections, for a total of 21 classes that participated. All courses were face-to-face classes, and no online classes were targeted in the study. While content varied in each course, professors who voluntarily distributed the survey, reported their courses routinely require students to: (1) engage with textbook resources through reading and completion of activities; (2) work in collaborative groups; (3) attend in-class lectures and discussions; and, (4) apply their understanding through a variety of means (discussion, quizzes, projects, homework assignments). Each professor indicated that their class had two major quizzes or exams.

The research was conducted with approval of the university's Institutional Review Board (December, 2017), and carried out during spring semester 2018. At the beginning of the semester, all school of business professors were made aware of the study and asked to voluntarily participate if their classes had at least two major quizzes or exams. A participation form was distributed at a regularly scheduled faculty meeting, asking for the professor's name, the course name and number, and the course enrollment. Each participating faculty member was provided instructions for delivery of the survey, a specific number of surveys based on course enrollment, and a survey protocol. Most professors chose to offer the survey as an extra credit assignment to their classes, which helped encourage participation by the students. Informed consent was given at the beginning of the survey, and students were advised that they could discontinue completion of the survey at any time without penalty. Students were further advised that the collection of their student number on the surveys was for matching comparisons only, not for student identification.

Learning strategies survey and procedure

The researchers adapted a Likert-style questionnaire created by Sebesta and Speth (2017) for use across a variety of business-related courses. Sebesta and Speth credited the existence of validated instruments in their study of students in introductory science courses. In particular, Sebesta and Speth developed their questionnaire based on categories of Zimmerman's and Martinez-Pons' (1986) self-regulated learning (SRL) strategies identified for the SRLIS structure interview protocol. They adapted the descriptions to describe study behavior in language their specific students would understand. While one purpose of their study was to examine freshman students, our purpose was to examine students at several class levels and across business disciplines. To that end, additional descriptive data were gathered in the adapted survey, including: undergraduate major, course name, gender, whether the student was domestic or international, the student's affiliation with the university as a freshman or transfer, employment, and undergraduate major. The researchers slightly adjusted the wording of specific items in the survey itself, for the same reason Sebesta and Speth adjusted their descriptions. This allowed the survey to remain, as Sebesta and Speth warranted, "brief yet comprehensive and targeted" (p. 10).

Sebasta and Speth noted their future research could benefit from the use of identifiers to track student responses over time. Another adjustment the current study makes is the use of student identifying numbers to match second-survey responses with first-survey responses. Students were also asked which of three learning styles (visual, auditory/aural/kinesthetic) they most closely associate with (if learning style is known). The researchers chose the VAK model to inform the responses to this item, despite there being other more technically developed models since the development of VAK. Most students have been exposed at some point to the concepts behind visual, aural/auditory, and kinesthetic learning.

The complete survey asked students (1) how often they used each of the 15 learning strategies on a 5-point Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = very often); (2) other learning strategies they may have used; (3) their actual grade on the exam (A, B, C, D, or F); and, (4) their satisfaction with the grade (1 = strongly dissatisfied, 2 = dissatisfied, 3 = neither satisfied or dissatisfied, 4 = satisfied, and 5 = very satisfied); and (5) how they plan to prepare for the next exam.

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RESULTS

The surveys were completed by 585 students for the initial administration and 520 students on the follow-up survey. In the initial survey, the group consisted of 56.35% male and 43.65% female participants. The average expected grade from the exam was 85.35%. Over one-tenth (12.05%) of the students identified as international students. Another 65.10% of the students responding to the survey started their academic careers at the university where the data were gathered. Of the remaining students, 23.95% transferred from a two-year institution, and 10.95% transferred from a four-year institution. Over half (50.30%) of the students were currently employed.

In the follow-up survey, the group consisted of 55.74% male and 44.26% female participants. The average expected grade from the exam was 80.15%. A lower percentage (10.76%) of the students identified as international students. Most (62.36%) of the students responding to the survey started their academic careers at the university where the survey instrument was distributed. Of the remaining students, 25.01% transferred from a two-year institution and 12.63% transferred from a four-year institution. A larger percentage (53.66%) of the students were currently employed.

For each strategy in the study, frequencies were calculated. The results were analyzed by grouping the "very often" (5) and "often" responses into a single category. The lower use responses of "sometimes" (3), "rarely" (2), and "never" (1) were also grouped together. We then calculated the relative frequency of responses that reported high use (5 or 4) for each of the strategies. These results are presented in Tables 1 and 2. In each survey, the strategies with the highest use were: seeking information, self-evaluation, environmental structuring, and reviewing notes. In contrast, the lowest use strategies were: reviewing exams, seeking assistance from other resources, and self-consequating (choosing self-reward/punishment as a consequence of behavior).

Table 1: Relative Frequency of Students who Reported Higher Use of a Strategy on Exam 1

		Survey 1				
	A	**B**	**C**	**D**	**F**	**AVERAGE**
SRL Strategy	127	128	129	78	80	**542**
1. Self-evaluation	99%	95%	92%	96%	96%	**96%**
2. Organizing and Transforming	76%	74%	85%	78%	80%	**79%**
3. Goal Setting and Planning	80%	83%	82%	77%	84%	**81%**
4. Seeking Information	99%	98%	95%	99%	98%	**98%**
5. Keeping Records Monitoring	91%	88%	84%	87%	86%	**88%**
6. Environmental Structuring	96%	90%	91%	94%	94%	**93%**
7. Self-consequating	62%	64%	71%	65%	70%	**67%**
8. Rehearsing and Memorizing	85%	84%	89%	83%	85%	**85%**
9. Seeking Assistance from Peers	82%	84%	87%	81%	84%	**84%**
10. Seeking Instructor Assistance	82%	80%	75%	72%	70%	**76%**
11. Seeking Assistance	47%	51%	52%	42%	50%	**48%**
12. Reviewing Notes	95%	91%	91%	91%	96%	**93%**
13. Reviewing Exams	16%	23%	22%	22%	25%	**22%**
14. Reviewing Textbook	80%	86%	78%	82%	89%	**83%**
15. Reviewing Graded Work	88%	88%	84%	85%	90%	**87%**

This study used both descriptive and inferential statistics to explore and evaluate the data. The research questions were analyzed via hypothesis testing. Paired sample t-tests were used to determine whether the mean difference between the two sets of observations was zero. In the current study, each student was measured at two separate times, creating pairs of observations.

H0: $\mu d = 0$

H1: $\mu d \neq 0$

Statistical significance is determined by calculating the p-value. The p-value describes the probability of the null hypothesis being valid, where P<.05

Research question 1 asks: *Do measurable differences exist in student grade expectations between SDL measurement periods?*

Table 2: Relative Frequency of Students who Reported Higher Use of a Strategy on Exam 2

		Survey 2				
	A	**B**	**C**	**D**	**F**	**AVERAGE**
SRL Strategy	**118**	**149**	**110**	**51**	**41**	**469**
1. Self-evaluation	96%	97%	92%	90%	90%	**93%**
2. Organizing and Transforming	81%	81%	84%	78%	85%	**82%**
3. Goal Setting and Planning	81%	79%	80%	69%	78%	**77%**
4. Seeking Information	97%	97%	95%	96%	95%	**96%**
5. Keeping Records Monitoring	90%	89%	86%	82%	83%	**86%**
6. Environmental Structuring	91%	92%	92%	94%	88%	**91%**
7. Self-consequating	65%	68%	74%	73%	68%	**70%**
8. Rehearsing and Memorizing	87%	93%	82%	84%	80%	**85%**
9. Seeking Assistance from Peers	82%	81%	78%	76%	73%	**78%**
10. Seeking Instructor Assistance	74%	78%	71%	76%	71%	**74%**
11. Seeking Assistance	47%	53%	51%	57%	44%	**50%**
12. Reviewing Notes	91%	93%	91%	90%	85%	**90%**
13. Reviewing Exams	23%	27%	26%	31%	20%	**25%**
14. Reviewing Textbook	83%	83%	86%	84%	78%	**83%**
15. Reviewing Graded Work	86%	87%	85%	82%	80%	**84%**

Table 3: Differences Between Measurement Periods

t-Test Paired Two Sample for Means	**Test 1**	**Test 2**
	Exp. Grade	*Exp. Grade*
Mean	3.415019763	3.205533597
Variance	0.437318514	0.690345556
Hypothesized Mean Difference	0	
t-Stat	3.607235076	
P (T≤t) two-tail	0.00034026	
T Critical two-tail	1.964672639	

As shown in Table 3, student grade expectations declined between the first measurement period and the second measurement period. The calculated value for the t statistic of 3.607 is greater than the critical value (two-tail) of 1.965. Thus, the null hypothesis is rejected. Therefore, the difference in expected grades between the two testing samples is significant at the 5% significance level.

Research question 2 asks: *Do measurable differences exist in student actual grades between SDL measurement periods?*

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As shown in Table 4, student actual grades improved between the first measurement period and the second measurement period. The calculated value for the t statistic of -3.618 is less than the critical value (two-tail) of -1.965. Thus, the null hypothesis is rejected. Therefore, the difference in actual grades between the two testing samples is significant at the 5% significance level.

Table 4: Actual Grade Improvement

t-Test Paired Two Sample for Means	**Test 1**	**Test 2**
	Actual	*Actual*
Mean	3.178723404	3.52978723
Variance	465.5841945	464.445806
Hypothesized Mean Difference	0	
t-Stat	-3.618300175	
P (T≤t) two-tail	0.000328763	
T Critical two-tail	-1.965034989	

Research question 3 asks: *Do measurable differences exist in student grade satisfaction between SDL measurement periods?*

Table 5: Student Satisfaction

t-Test Paired Two Sample for Means	**Test 1**	**Test 2**
	Satisfaction	*Satisfaction*
Mean	3.623188406	3.96480331
Variance	477.9531541	477.121165
Hypothesized Mean Difference	0	
t-Stat	-3.348806355	
P (T≤t) two-tail	0.000875202	
T Critical two-tail	-1.964897881	

As shown in Table 5, student grade satisfaction increased between the first measurement period and the second measurement period. The calculated value for the t statistic of -3.349 is less than the critical value (two-tail) of -1.965. Thus, the null hypothesis is rejected. Therefore, the difference in grade satisfaction between the two testing samples is significant at the 5% significance level.

DISCUSSION

The initial survey of students introduced a number of self-directed learning practices in the questions. Among the practices are: self-evaluation and review; information organization; goal-setting and time management; further research (information look-up); note-taking in class; arrangement of the study environment; self-reward for goal attainment; memorization practice; seeking peer assistance; seeking instructor assistance; seeking tutor or lab assistance; re-reading notes; practice exams; textbook and learning management system review; and, review of previous assignments for clarity. Additionally, participants answered open-ended questions about (a) other strategies they used for exam preparation and (b) strategies they plan to use for their next exam.

Between measurement periods 1 and 2, which occurred after the first and second major quiz or exam, students' expectations of test grades moderated, while actual scores improved, and satisfaction increased. The findings suggest that students applied self-regulating strategies: setting learning goals, monitoring progress toward them, and applying appropriate study strategies, as suggested by Sebasta and Speth (2017).

"Expected grade" responses in the first survey period, which occurred within days of the first test in the course, indicate higher expected scores than the later period. The high expectation could be attributed to student confidence (or overconfidence) in the current study habit, the perception that material is less demanding during the first part of the course, previous experience, or optimism. "Actual scores" on the first test provided a "reality check" which may have encouraged students to practice greater self-direction (self-regulation). Realizing their initial efforts did not result in the outcome (actual scores) expected (setting learning goals and monitoring the progress towards them),

students identified additional practices they would employ between test periods. Approximately 20% said they would practice homework and problems; 20% indicated they would take or rewrite notes; and another 20% said they would re-read text material and do practice quizzes/quizlets. The remaining 40% of responses were divided (in descending order) as: prepare flash cards, review study guides and handouts, read aloud or record oneself, review materials online, watch or review lectures, and copy or highlight material. A small, but equal percentage of students noted they would (1) watch or listen to television while studying or (2) have no distractions.

Test 2 expected grades and actual grades suggest participants not only exercised caution by expecting a lower grade, but also exercised greater self-regulation/self-direction in preparing, based on the higher actual grades. Consequently, satisfaction levels between the first and second test period increased.

In deference to Jagger's and Richards' (1965) double negative, students can get (grade) satisfaction by using SDL/SRL.

CONCLUSION

While the current study's results are not generalizable, they support the relationship between expectation, self-directed/self-regulated learning strategies, performance and grade satisfaction. Results are useful for offices of student learning/success to promote viable strategies and interventions for students.

FUTURE RESEARCH

Future research involving between group comparisons will examine if differences exist between students based on gender, class level (freshman, sophomore, junior, senior), undergraduate versus graduate, and major. The purpose of the between group comparisons will be to identify key differences to inform successful strategies and early interventions.

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The Week in Review: The Impact of a Current Events Assignment on Students' Interest in Marketing

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ABSTRACT

This study measures the effectiveness of a marketing-related current events assignment that was administered over a six-year timeframe to a Principles of Marketing class. Results demonstrated that upon completion of the assignment that students reported higher levels of following the external marketing environment, new product launches, and marketing strategies of firms than they did prior to beginning the project. Further, students reported that the importance of business students following new product launches and marketing strategies of firms was also significantly higher after completing the assignment. Finally, students conveyed their satisfaction with the assignment with a Net Promoter Score of 57.

Keywords: principles of marketing, active learning, current events, net promoter score.

INTRODUCTION

The enormous amount of digital information that exists has arguably allowed customers to gain greater insight into company actions than they have had at any time in history. In fact, it is contended that customers are now so informed about brands that marketing managers have had to adapt in how they communicate with their target market (Acar & Puntoni, 2016). Although customer engagement with brands is high, many educators are concerned that students are not required to spend enough time on understanding how businesses apply the theories and procedures that are taught in the classroom. In a candid critique of business schools, Bennis and O'Toole (2005) call for the need for an increased focus on applied learning throughout the curriculum. Subsequently, Jain (2009) suggested that educators need to direct more attention on how organizations are addressing their business opportunities in order to create a better learning environment. Further, Schaller (2018) explains that if students are required to apply their learning to the real world that they are more likely to examine their environment in the context of what they have studied.

In parallel to the appeal regarding the importance of connecting students to current business practices is the push to find creative ways to engage students in their education. One method that has gained significant traction is active learning. It is conceptualized as an instructional technique that focuses on students developing their understanding of what they have been taught by applying what they have learned (Bonwell & Eison, 1991). The trend of active learning coursework is demonstrated in the abundance of articles that chronicle novel methods to connect with students. For instance, White (2019) captured students' attention by using the Mega Millions lottery to teach introductory finance students key concepts such as annuities and interest rate. Haywood and Newman (2016) created a business game to teach the integration of the several business functions and found high student satisfaction with the activity and strong comprehension of the concepts being taught. Another successful example of active learning is described by Sheets and Tillson (2016) who teach a multitude of skills ranging from problem solving and critical thinking to written and oral communications proficiency through their assignment requiring business students to develop their own training seminar.

The assignment described in this article merges the call for business courses to connect theory to classroom topics and the trend of creating active learning assignments that capture the interest of the modern student. Broadly, this assignment challenges students to think critically about recent marketing initiatives of companies and to form a well-reasoned justification for whether they believe the decision will ultimately result in a positive or negative outcome for the organization. As a result, this assignment compliments the conclusions of Fisher and Smith (2010) who indicate that allowing students to form their own opinions about how marketing works is an advantageous teaching approach that challenges students to connect what they have learned to business actions.

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METHOD

Eighteen sections over a six-year timeframe of a Principles of Marketing course at a mid-sized university were used for the context of the study. The data collection process and the assignment itself spans much of the semester and contains three distinct phases, which are the pre-test measures, the assignment, and the post-test measures.

Pre-test

On the first day of class in the Principles of Marketing course, students were asked to complete an anonymous handout that informed the instructor of their level of interest in following marketing-related current events. Students responded to a series questions using seven-point Likert scales anchored by not very close/very close to determine, in general, how closely they follow the external marketing environment, new product launches, and the marketing strategies of companies. Next, using seven-point Likert scales anchored by not very important/very important, they reported how important they thought it was for business students to follow these same three content areas. Collectively, these six measures, listed in the Appendix, comprised the pre-test. The responses obtained in the pre-test phase were used as the benchmark level of interest that students have in these topics as well as the benchmark level of importance that students assigned to the topics.

The assignment

Students were informed during the second week of class of the "Week in Review" assignment. The premise of the assignment is for students to connect what is being discussed in class to what is presently occurring in business. This aligns with the conclusion of Karns (2005) that students are more engaged when they are provided with opportunities to see how course material is applied in a business setting. Moreover, since students are required to apply the concepts they learn in class to their own research of current marketing decisions of firms, the Week in Review delivers much needed depth to the Principles of Marketing class. Thus, the assignment helps to offset another problem associated with the Principles of Marketing course, which is the lack of depth that is the natural result of the enormous breadth of introductory courses (Ferrell & Gonzalez 2004; Thomas et al., 2018). Likewise, Upshaw et al. (2018) note that instructors may feel pressure to continually update their classroom examples. Since this assignment requires students to find current examples of marketing decisions, this issue is also effectively addressed.

The Week in Review assignment is both a written and oral assignment that instructs students to find an example of an action a company has taken in the seven days preceding the due date that is related to a topic covered in the preceding or current week. As a result, new topics are naturally presented throughout the semester as each new week typically brings a new chapter. In addition, students are given a list of business and marketing related websites in order to assist them in finding current events. Importantly, students are instructed that they are not limited to just these websites and that they are free to find examples of marketing decisions from any source they choose. Next, students are required to explain how the action taken by the company could be beneficial to that organization by considering the external marketing environment and by applying the principles they have learned in class. The ensuing step is to explain at least one potential shortcoming or risk associated with what the company is implementing. Again, students are asked to respond to this part of the assignment by analyzing the external marketing environment as well as concepts learned in class. In the following phase of the assignment, students are instructed to argue whether they believe the company action will ultimately be a positive or negative decision by evaluating their research and rationale from the previous sections of their paper. Finally, a ten minute presentation followed by five minutes of questions and answers concludes the project. In order to facilitate a more active listening environment, all students are required to ask questions of presenters over the course of the semester. Due dates for the assignment span the semester with presentations occurring once per week for as many weeks as necessary to have all students complete the assignment.

Post-test

At the end of the semester, students were given an anonymous evaluation form about the Week in Review assignment, which can be found in the Appendix. The measures regarding their interest and perceived importance of business students following marketing related current events were identical to the measures they saw the first day of class. Similar to the methodology used by Pearson et al. (2007), students also indicated whether they thought the assignment was a good learning experience. Finally, the Net Promoter Score (NPS) was obtained by instructing students to specify whether they would recommend the assignment be given in future semesters. The NPS was measured according to Reichheld's (2003) guidelines of a 0 (Not at all likely) to 10 (Extremely likely) scale to assess students' likelihood of recommending the assignment be given in future semesters of the class.

RESULTS

A total of 387 Principles of Marketing students attended the first day of class and completed the pre-test measures over the six-year data collection period. On the day the post-test was administered, 334 students were in attendance. The reduction of 43 students was due to a combination of students dropping the course or being absent on the day the post-test measures were taken.

As illustrated in Table 1, students systematically reported an increase in their ratings of how much they follow current marketing events at post-test as compared to pre-test across all three measurements. However, the level of importance assigned to business students following current marketing events was not consistently higher at post-test. Specifically, the importance score of following the external marketing environment was not significantly higher at post-test. On the other hand, students judged the importance of following new product launches to be significantly more important at post-test. In addition, students reported a marginally higher level of importance of following the marketing strategies of firms at post-test. These mixed results are largely explained by the high levels of importance assigned to each of the current event categories at pre-test that left little room for increase at the end of the semester. Still, the assignment was able to build on the high pre-test scores regarding the perception of importance that business students place on monitoring marketing-related current events in two of the three categories.

Table 1: Results of Pre-Test and Post-Test

Questions	Pre-test (n=387)	Post-test (n=343)	Significance Level
1. How closely do you:			
a. monitor the external marketing environment	3.63	4.13	< .001
b. follow new products that brands bring to market	4.09	4.91	< .001
c. follow the marketing strategies of companies	3.04	3.27	< .05
2. How important is it for business students to:			
a. monitor the external marketing environment	5.84	5.95	Not significant
b. follow new products that brands bring to market	5.03	5.39	< .01
c. follow the marketing strategies of companies	5.36	5.54	< .10

Student satisfaction with the assignment was gauged only at post-test. The NPS analysis guidelines set forth by Reichheld (2003) were followed. Consequently, a rating of the assignment of 0-6 indicated that a student was a detractor, a rating of 7 or 8 signified the student was passively satisfied, and a rating of 9 or 10 designated the student as a promoter. In order to calculate the NPS, the percentage of detractors are subtracted from the percentage of promoters. Therefore, the NPS can range from -100 (all students are detractors) to +100 (all students are promoters). A generally accepted rule of thumb is that a positive NPS is good, an NPS of +50 is excellent, and an NPS of +70 is world class (Gocheva, 2017). The NPS of this assignment was 57 which demonstrates strong student satisfaction. Exactly 72% of students were categorized as promoters while 15% of students were classified as detractors. The remaining 13% of students were considered passively satisfied with the assignment. Providing complementary support for student satisfaction is a secondary measure, which asked students to report whether they thought the Week in Review was a good learning experience. The students' mean rating of 5.84 (SD = 1.24) was significantly higher than the scale midpoint of four, $t(333)$, $p < .001$.

CONCLUSION

The benefits of students following current marketing events has the potential to create more informed business students with a greater appreciation for how theory applies to business contexts. Although it was not formally measured, it was clear that classroom discussion became livelier after implementing this assignment since students are able to collectively contribute a broad set of current marketing initiatives that are being undertaken by organizations worldwide. Importantly, these student contributions are not limited to just presentation days. Their increased level of engagement with current marketing events is also apparent on non-presentation days where it can be expected that students will more frequently participate in classroom discussions because they are more aware of marketing actions that have been executed by firms.

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The results of the study also showed that the self-reported scores of students following the marketing strategies of firms was below the scale midpoint at both the beginning and end of the semester. While this is discouraging, it is not surprising since following the marketing strategies of firms is a very involved process that is likely outside the scope of introductory marketing students. Even so, students did report significant increases in following the marketing strategies of firms.

The NPS results provided strong evidence that students were satisfied with their experience in completing this assignment. By extension, utilizing the NPS provides a way to track the satisfaction of assignments as judged by students. As a result, NPS scores of assignments within the class could provide a consistent way to measure student satisfaction with the several activities and projects that take place throughout the semester. Since this assignment requires both an oral and written component, instructors are able to provide valuable training in the development of communications skills, which is the competency that is the most assessed by business schools accredited by the Association to Advance Collegiate Schools of Business (AACSB) according to Wheeling et al. (2014). Student presentations with a required question and answer session may be particularly meaningful active learning exercises because, not only are students on-stage presenting their findings, they are also fielding questions from an engaged audience that is actively listening.

Depending on the size of the class, it may not be possible to allocate enough time for all students to complete an individual paper and presentation. Instructors could consider eliminating the presentation phase of the assignment. Alternatively, the Week in Review could be converted into a group project. Another challenge that is typically encountered is student reaction to the requirement that the company action must have taken place within seven days preceding the due date. Directing students to websites such as https://www.prnewswire.com/ that have hundreds of press releases daily from companies touting their recent activity significantly reduces this concern. Finally, it has been anecdotally noted that students' presentations are sometimes met with apathy from their peers in the audience. Accordingly, it is recommended that instructors require questions from the audience in order to facilitate more discussion and an active listening environment.

Cumulatively, the outcomes of this assignment provide another example of the value that students place on actively participating in their own learning. This assignment required students to provide their rationale for whether the decision made by the firm will ultimately succeed or fail. To make the assignment more involved, instructors could consider requiring students to explain how they would modify the decision made by the firm in order to increase its likelihood of success. Moreover, the Week in Review assignment has abundant potential for modification to enhance student learning in several courses. For instance, marketing research instructors could require students to find a recent marketing research study that was completed and have students assess the pros and cons of the research. Additionally, students could be required to develop future research questions for the firm based on the results of the study that was analyzed. Further, instructors of courses in other business disciplines could shift the focus of the assignment to their area and have students evaluate the potential risks and rewards of the decisions made by the organization. Ultimately, the outcomes of this exercise suggest that students valued linking their classroom learning to current business decisions of firms. Therefore, any modification to this assignment that requires students to analyze the decision making of firms by incorporating concepts learned in the classroom has a high probability of engaging students and creating a meaningful educational experience.

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APPENDIX

Pre-test and post-test measures

1. In general, how closely do you monitor the external marketing environment which consists of how changes in the economy, politics, regulations, sociocultural trends, and advancements in technology impact businesses? (Not very close = 1; Very close = 7).
2. In general, how closely do you follow new products that brands bring to the market? (Not very close = 1; Very close = 7).
3. In general, how closely do you follow the marketing strategies of companies? (Not very close = 1; Very close = 7).
4. How important do you think it is for a business student to monitor the external marketing environment which consists of how changes in the economy, politics, regulations, sociocultural trends, and advancements in technology impact businesses? (Not very important = 1; Very important = 7).
5. How important do you think it is for a business student to follow new products that brands bring to the market? (Not very important = 1; Very important = 7).
6. How important do you think it is for a business student to follow the marketing strategies of companies? (Not very important = 1; Very important = 7).

Additional post-test measures

1. Overall, I would rate the Week in Review assignment as a good learning experience. (Strongly disagree = 1; Strongly agree = 7).
2. How likely is it that you would recommend that the Week in Review assignment be given in future semesters of this class? (Not at all likely = 0; Extremely likely = 10).

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A Cause-Related Marketing Approach to Improving Assessment Culture

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ABSTRACT

The assessment process for AACSB can become a systematic application of requirements to achieve accreditation. It can be compliance driven, rather than improvement seeking. Assessment programs struggle to show significant ways that they influence curriculum redesign or truly improve learning outcome achievement. While some faculty are aware that their college has a robust assessment program, few of them can describe what the results of the assessment program are. To engage faculty in assessment culture, this research took a novel approach from the field of marketing to build a more positive view of assessment among the faculty at a large business school. Using cause related marketing (CrM), faculty were asked to participate in assessment tasks of their choosing. By participating, they earned cash to purchase a cow for a needy family in a third world country. By allying with a positive cause, good will is created for the assessment program at the college. This study used a pre and post survey to measure faculty attitudes about assessment. Results indicate that a more positive attitude towards assessment was achieved and that there is a significant need for participation of adjunct faculty in assessment.

Keywords: AACSB, Assessment, Assurance of learning, Cause-related marketing, Assessment culture

INTRODUCTION

Assurance of learning activities play a critical role both in improving student learning and success and in securing and maintaining AACSB accreditation for Colleges of Business through The Association to Advance Collegiate Schools of Business (AACSB). To ensure that institutions are meeting their student learning outcomes and are continually improving their curricular and co-curricular activities is a critical aspect of high-quality education and a valuable pedagogical activity (Flores, Simao, Barros, & Pereira, 2015).

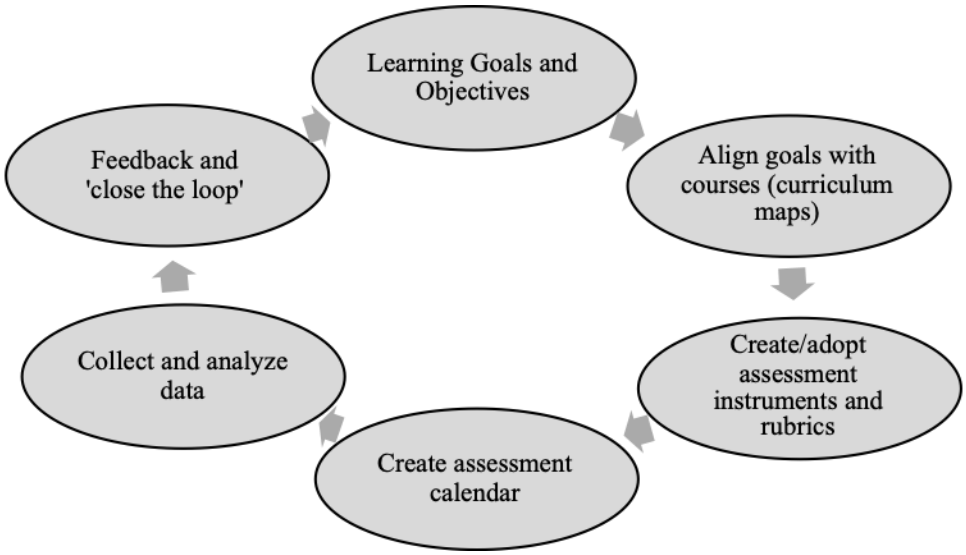
A key challenge in assurance of learning processes is the difficulty of achieving high faculty participation in and engagement with assessment activities (Smith & Gordon, 2018). Assessment planning, activities and reporting necessitate time and effort on the part of faculty, who are already overwhelmed with many competing responsibilities, such as teaching, research and committee work. It becomes challenging to secure high faculty participation in activities such as revising assessment plans, preparing rubrics and collecting data. Further, assessment data collection occurs at the end of a term, when faculty are leaving. This is a hindrance to disseminating the results of college assessment. High turnover of assessment committee membership also contributes to a lack of follow through on sharing assessment outcomes.

This paper presents the results of a cause-marketing project implemented to improve faculty attitudes and increase faculty knowledge of assessment in the College of Business. Faculty were given an opportunity to earn money towards the purchase of a cow for a community in a third world country. The intent was that their desire to participate in something altruistic would help to improve their knowledge and attitudes about assessment. This highly novel approach to improving assessment culture is the first of its kind in a University setting.

PREVIOUS RESEARCH

Assessment planning, activities, reporting, and reflection on the results make up a considerable portion higher education assurance of learning cycle, shown in Figure 1 (Kumar, Myers, Aytug, & Preiser-Houy, 2018). However, a key challenge in assurance of learning processes is the difficulty of achieving high faculty participation in and engagement with assessment activities (Smith & Gordon, 2018).

Figure 1: Assurance of Learning Cycle



This study focused on two critical and interrelated elements: high faculty interest and ownership of assessment, and effective communication on assessment results. These two factors are identified by AAUP as two of eleven essential elements for effective assessment programs (Weiner, 2009).

Faculty Attitude, and Engagement with Assessment

According to the theory of planned behavior (Ajzen, 1991) and the tripartite model of attitudes (Kaiser & Wilson, 2019), attitudes affect behavior; and behaviors may impact attitudes as well (Ajzen, 2015). Empirical findings support that a positive attitude towards a subject matter is associated with engaging with that subject matter (Ashnai, Henneberg, Naude, & Francescucci, 2016; Botsaris & Vamvaka, 2016; Kroesen, Handfy, & Chorus, 2017). Positive faculty attitudes about assessment is important in ensuring faculty ownership and participation in educational assessment programs.

Faculty views of assessment are often negative, viewing it as ineffective, tedious and time consuming. This contributes to limited engagement with college assessment programs (Andrade, 2011; Jonson, Thompson Jr, Guetterman, & Mitchell, 2017; Norton, Norton & Shannon, 2013; Smith & Gordon, 2018). Faculty workloads, institutional initiative overload, lack of clear connection between assessment programs and personal goals, lack of rewards for assessment activities, resistance to mandates from the top, and lack of adjunct faculty integration are some of the common obstacles reported by the faculty (ERIC Cutting Edge Series No.1, 2011; Jonson et al., 2017; Smith & Gordon, 2018). Prior research shows that running the assessment process through faculty governance and achieving faculty buy-in for assessment activities contributes substantially to the effectiveness of assurance of learning (Kezar, 2013). In a faculty survey on teaching, learning and assessment, Dey and Hurtado (2001) found that the faculty strongly agreed that 'student assessment is more effective when determined by the faculty member rather than by the institution', and 'the effectiveness of teaching is enhanced when faculty regularly assess students' (p. 17). For these reasons, minimizing faculty resistance, gathering faculty support for assessment activities, and establishing a culture of assessment have been common goals among higher education institutions (Andrade, 2011; Green & Hutchings, 2018; Guetterman & Mitchell, 2016; Smith & Gordon, 2018; Wheeling, Miller, & Slocombe, 2015). Consequently, there is a clear need to improve faculty's attitudes and their engagement with assessment.

Cause-Related Marketing Approach to Enhancing Faculty Attitudes and Engagement

CrM refers to marketing activities that involve an offer from the company to donate a portion of the proceeds or sales to a specific cause or social campaign (Ponte & Richey, 2014; Varadarajan and Menon, 1988). CrM campaigns are a type of corporate social responsibility (Bozoklu, 2018), with dual purpose of increasing profitability while

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bettering the society. Toms Shoes adopted a one-for-one business model, where each pair of shoes sold would results in a pair of shoes being donated to a child in need. Walgreen's 'red-nose' campaign, raised $18 million dollars by selling red clown noses to support raising children out of poverty in the United States.

Corporations utilize CrM to attract new customers and to improve customer attitudes and their brand image by associating the brand with a positive organization, cause or charity (Moosmayer & Fuljahn, 2013; Sheikh & Beise-Zee, 2011). By associating their brand with a positive social cause, the company convinces customers to take an action that creates social value and revenue for the company. Therefore, the promise of CrM is to create warm feelings and positive attitudes in customers, resulting in an intention to purchase (Andrews, Luo, Fang, & Aspara, 2014). Empirical evidence show that CrM can generate more revenue than comparable price discounts (Andrews et al., 2014) and that CrM incentives lead to better results than standard incentives (Imas, 2014).

RESEARCH DESIGN

Two hypotheses were tested that focused on faculty participation in engagement and on changes in faculty attitudes about assessment. By allying with a charitable cause, faculty were enticed to participate, even if they had less than positive feelings about assessment. By participating, faculty could earn a micro-assessment payment that went towards the purchase of a cow and sustainable farming equipment for a family in need. Faculty did not pay for the donation of the cow, rather they worked on a micro-assessment task that earned a payment towards the cow.

> Hypothesis 1: A CrM campaign of assessment will increase the number of assessment activities faculty participate in.
>
> Hypothesis 2: Participants of a CrM campaign of assessment will experience an attitude change for the better with regards to assessment activities.

This study also looked at the participation of adjunct faculty in assessment. The percentage of adjunct (i.e. non-tenure-track and part-time) faculty in the United States rose from 43% in 1975 to 70% in 2016 (Integrated Postsecondary Education Data System, 2017). Although they make up 70% of the higher education faculty, adjunct faculty often face tremendous challenges that lead to low satisfaction and engagement (American Association of University Professors, 2018; Bickerstaff & Chavarin, 2018; Mangan, 2015; Guthrie & Wyrick, 2018; Simonton, 2018). Considering the tremendous amount of influence adjunct faculty have in classrooms, it is important to consider the impact they have on assessment. Tenure-track faculty are paid to serve on committees, college accreditation projects, governance and administrative tasks, and assessment-related research activities, whereas adjunct faculty are not. This research looked for differences in assessment attitudes between tenure-track and adjunct faculty.

> Hypothesis 3: As a result of the CrM campaign, tenure-track faculty will exhibit higher levels of improvement in participation and engagement in assessment than adjunct faculty.
>
> Hypothesis 4: As a result of the CrM campaign, tenure-track faculty will exhibit higher levels of improvement in their attitudes towards assessment than adjunct faculty.

METHODOLOGY

This study used a pre-test, post-test methodology, with the CrM Assessment Cow campaign as the treatment. The study was conducted at an AACSB accredited business school at a large public university. As of 2019, the college had 5,000 (undergraduate and graduate) students, and160 faculty (49% tenure-track, 51% adjunct) in 6 departments. The college has a well-defined assurance of learning process (i.e. assessment planning, annual data collection, data analysis and reporting, and discussion of findings), conducted and overseen by the faculty members of two college-level assessment committees and department assessment representatives, in collaboration with the college faculty. Only a small portion of faculty are actively involved with assessment activities such as annual planning, rubric and assignment development, data collection, artifact scoring, data analysis and reporting.

In early August, the research team announced and marketed the Assessment Cow campaign. The goal was to reach to a total of $1,000 dollars by the end of the campaign, and purchase a cow and/or sustainable farming equipment for a small village via Heifer International. Heifer International is a non-profit organization that works with communities around the world to end hunger and poverty by training people in sustainable farming, providing them with resources, and to promote the empowerment of women.

The Assessment Cow campaign had three parts:

1) A short, online *pre-study survey* was conducted in late August to early September 2018, collecting data on the participant's department, faculty rank, years of experience, and the assessment activities they previously engaged in. As an exploratory examination, the survey also asked participants to describe their experience with the assessment program in the college.

2) Once the pre-survey period ended, the intervention began. The Assessment Cow campaign encouraged faculty to participate in some assessment-related activities. A life-size cardboard cut-out cow was placed at the entrance of the college building along with the campaign information. Campaign announcements and reminders were sent out via email and monthly assessment newsletters were put in faculty mailboxes. Researchers visited departments and verbally encouraged individuals to join the campaign. The Cow took a college tour and spent a few days at each department, ending the campaign in the lobby with a surprise guest, a cardboard cut-out of Brad Pitt.

The assessment activities were grouped in two categories (Figure 2). Some assessment activities are far more thoughtful and time consuming than others. Activities like reading a newsletter and attending a workshop were more passive, earning $5. Activities like committee membership, publishing a paper or taking assessment measures earned the higher amount of $10. The newsletter (The Assessment Times) was mailed out monthly and was written in an informative style to engage the reader with headlines such as "Are you smarter than your students?" Some assessment results were published in the newsletter too. Items like the departmental pass rate of the Graduate Writing Test were very popular because people could compare their student results with other departments. It became a good way to disseminate assessment results that faculty probably had no knowledge of.

Figure 2: Assessment Cow Activities

Assessment Cow Activities
Goal: $1000

Do It ($10)

- Give a presentation about assessment on or off campus.
- Publish a paper on assessment.
- Participate on an assessment committee.
- Support the assessment program by giving an assessment in your class.

Learn It ($5)

- Read the college assessment newsletter or the assessment web page.
- Contribute to an assessment newsletter forum discussion.
- Attend an assessment workshop on campus.
- Attend an assessment workshop at an annual meeting in your discipline

If you engage in some other assessment-related activity not listed here, please do not hesitate to reach out to us. You will be able to earn $5 to $10 based on the nature of the activity.

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In November, the reward amounts were doubled to build more participation as faculty perceived the goal as reaching closure. Researches attended faculty meetings and made in-person visits to tell faculty about the Assessment Cow. During the in-person visits, faculty could select their own assessment topic to discuss or they could view assessment materials and results that the college had produced in the past.

3) At the end of November, a post-survey was conducted after the goal was reached. The survey collected data on the participant's department, faculty rank, years of experience, whether or not they took the pre-survey, and the assessment activities they engaged in. Faculty were asked if their attitude about assessment had changed as a result of the outreach efforts of the college this semester. Participants were invited to submit 3 words that describe the college's assessment program.

At the end of the CrM campaign, the faculty raised a total of $1,000, and the researchers completed the purchase of a cow and sustainable farming equipment for farmers in need via Heifer International. The Cow stood at the entrance of the college with a thank you note until the next semester.

RESULTS

Demographic data is available in Table 1. Participation was 24% and 29% in the pre and post surveys respectively. The demographic data shows that the pre and post survey groups are highly similar, even though a paired test was not conducted. Hypothesis 1 posited that the CrM campaign would increase the number of assessment activities faculty participate in. For this hypothesis, an independent samples t-test was conducted to compare the pre and post means for assessment activities participated in. In addition, frequency distributions of the pre and post response categories for the number of activities were examined, and a Pearson chi-square test was conducted to identify any significant changes in the number of assessment activities participated before and after the CrM campaign. Overall, on average, faculty had participated in 3.2 (SD = 1.5) assessment activities before the CrM campaign; however, the mean significantly increased to 4.2 (SD = 2.3; F = 7.39, p = .01) after the CrM campaign (see Table 2). Examination of the frequencies of the number of assessment activities participated (see Table 2) reveals that the distribution shows significant shifts towards higher number of assessment activities [$\chi^2(df)$ = 14.863 (7), p = .04] as a result of the CrM campaign. Thus, the CrM campaign did significantly increase the number of assessment activities faculty engaged in, and Hypothesis 1 was supported.

Table 1: Descriptive data from pre- and post-intervention surveys

	Pre	Post
Number of Participants	38 (24%)	47 (29%)
Faculty		
Tenure Track	28 (74%)	34 (72%)
Adjunct	10 (26%)	13 (28%)
Teaching Experience		
Less than a year	13%	11%
1 to 2 years	13%	11%
3 to 5 years	13%	15%
6 to 10 years	18%	13%
Over 10 years	42%	50%
Assessment Experience		
Served on a college assessment committee	45%	57%
Attended assessment workshops	53%	55%
Revised course(s) based on assessment results	40%	28%
Participated in college assessment data collection	55%	51%
Presented a teaching/learning paper at a conference	40%	32%
Published a teaching/learning paper	42%	32%

Hypothesis 2 posited that participants of the CrM campaign would experience an attitude change for the better with regards to assessment activities. Overall, a majority of the participants (almost half of them) reported that their attitude about assessment process got better as a result of the CrM campaign, while about 9% of the faculty responded as "what assessment?" revealing some degree of cynicism and an overall negative attitude, and about 2% reported that their attitude about assessment got worse (see Table 3). Therefore, we have empirical evidence and some support for Hypothesis 2 that the CrM campaign of assessment resulted in a positive attitude change in the majority of the faculty.

Hypothesis 3 posited that, as a result of the CrM campaign, tenure-track faculty would exhibit higher levels of improvement than adjunct faculty in participation and engagement with regards to assessment. To test for this hypothesis, the changes in the assessment participation of tenure-track and adjunct faculty were examined separately. On average, tenure-track faculty had participated in 3.4 (*SD* = 1.3) assessment activities before the CrM campaign; however, the mean significantly increased to 4.7 (*SD* = 2.1; *F* = 5.27, *p* = .03) after the CrM campaign (see Table 2). The tenure-tracks' distribution for the number of activities exhibited a marginally significant shift towards higher number of assessment activities [$\chi^2(df)$ = 13.832 (7), *p* = .05] as a result of the CrM campaign. However, the findings are quite different for the adjunct faculty: On average, adjunct faculty had participated in 2.3 (*SD* = 1.8) assessment activities before the CrM campaign; and this mean did not significantly increase after the CrM campaign (M = 2.4, *SD* = 2.0; *F* = 0.143, *p* = .71; see Table 2). Similarly, for the adjunct faculty, an examination of the frequencies of the number of assessment activities participated in revealed that the distribution did not exhibit a significant shift towards higher number of assessment activities [$\chi^2(df)$ = 6.300 (4), *p* = .18]. The CrM campaign significantly increased tenure-track faculty's engagement with and participation in assessment

Table 2: Chi-Square Tests of Difference in the Engagement with Assessment Activities

Number of activities	**Pre-intervention**	**Post-intervention**	
Overall			
M	3.2	4.2	
SD	1.5	2.3	*F = 7.39, p=.01*
Tenure-Track Faculty			
M	3.4	4.7	
SD	1.3	2.1	*F* = 5.27, *p* = .03
Adjunct Faculty			
M	2.3	2.4	
SD	1.8	2.0	*F* = 0.143, *p* = .71

Number of activities	Overall		Tenure-Track		Adjunct	
(response categories)	Pre%	Post%	Pre%	Post%	Pre%	Post%
One	21.2	11.4	12.0	8.8	50.0	20.0
Two	12.1	22.7	8.0	8.8	25.0	70.0
Three	24.2	6.8	32.0	8.8	0	0
Four	18.1	15.9	20.0	20.6	12.5	0
Five	21.2	13.6	28.0	17.6	0	0
Six	3.0	9.0	0	11.8	12.5	0
Seven	0	11.4	0	14.7	0	0
Eight	0	9.0	0	8.8	0	10.0
	$\chi^2(df)$ = 14.863 (7) *p* = .04		$\chi^2(df)$ = 13.832 (7) *p* = .05		$\chi^2(df)$ = 6.300 (4) *p* = .18	

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Table 3: Change in the attitudes towards assessment following the CrM Campaign

Question: Do you think that your attitude about assessment has changed as a result of the outreach efforts of the College this semester?			
Responses	Overall	Tenure Track	Adjunct
What assessment?	8.7%	0	30.8%
My attitude about assessment got worse	2.2%	3.0%	0
My attitude about assessment stayed about the same	41.3	45.5	30.8
My attitude about assessment got better	47.8	51.5	38.5
	$\chi^2(df) = 11.367$ (3) $p = .01$		

activities, while it did not have a significant effect on adjunct faculty's participation or engagement levels. Hypothesis 3 was supported.

In addition, it was hypothesized (Hypothesis 4) that as a result of the CrM campaign, tenure-track (versus adjunct) faculty would exhibit higher levels of improvement in their attitudes about assessment. To test for this hypothesis, tenure-track and adjunct faculty responses were examined separately and a Pearson chi-square test was conducted to check for a significant difference between the two groups (see Table 3). Results showed that while none of the tenure track faculty exhibited cynicism about assessment (i.e. "what assessment?"), almost one in third (31%) of adjunct faculty exhibited this attitude. In addition, while 52% of tenure track experienced a positive attitude change about assessment, only 39% of adjunct faculty experienced such an attitude change. Chi-square test also confirmed this finding that the tenure-track and adjunct faculty responses had significantly different distributions [$\chi^2(df) = 11.367$ (3), $p = .01$]. Consequently, there was empirical support for Hypothesis 4 that tenure-track (versus adjunct) faculty exhibited higher levels of improvement in their attitudes towards assessment as a result of the CrM campaign.

Exploratory findings

Before the CrM campaign, participants were asked to describe their experience with assessment at the college. Fourteen tenure-track and 8 adjunct faculty responded with comments. Among the tenure track faculty, a majority (42.9%) reported that assessment activities seemed to be conducted for *compliance and accreditation*, and not for achievement of long-term improvement; and 21.4% reported that, so far, they had only *limited experience* with assessment activities. Out of 8 adjunct faculty, six (75%) reported *none* to *limited experience* with assessment; for example, one faculty shared that the only assessment experience they had was once being asked by a tenure-track faculty to have their students participate in an assessment activity.

Following the CrM campaign, participants were asked to report 3 words to describe assessment at the college. Eighteen tenure-track and 11 adjunct faculty made entries. Among the tenure-track faculty, the most common words were "important" (22.2%), "necessary/essential" (17.6%), "time consuming" (17.6) and "commitment" (11.7%), followed by singular occurrences of some positive (e.g. excited, optimistic, effectiveness) and negative notions (e.g. frustrated, cumbersome, haphazard). Among the eleven, adjunct faculty, the most common words were "necessary/essential" and "commitment" (18.2% each), followed by few singular occurrences, such as, "pressure," "required," and "lack of understanding."

DICSUSSION

The Assessment Cow CrM campaign got people to talk about assessment at the business school. Results show that the campaign was effective in enhancing the participation in and engagement with assessment activities. The campaign resulted in a significant increase in the number of assessment activities faculty engaged in, revealed by both means and frequency distributions. Moreover, the campaign was effective in creating a significant attitude

change for the better. The campaign met its core objectives of increasing the engagement with and attitude towards assessment, although these changes have to be sustained via continuing efforts and projects at the college.

It is important to note that culture change is slow. Examination of systematic reviews on attitude change reveal that, change in attitudes via interventions or messages tends to be small (i.e. $d = 0.22$; see Albarracin & Shavitt, 2018). Thus, it takes time and consistent effort to achieve a substantial and widespread change in attitudes and culture (Lars, 2019; Weick & Quinn, 1999). Considering that this was a relatively short-term (i.e. semester-long) campaign, where only so many assessment activities and communication opportunities could be offered due to time limitations, attaining a significant level of attitude change is still a meaningful achievement. Future research needs to examine the effectiveness and the outcomes of longer campaigns and projects that provide a larger variety of assessment involvement opportunities and emphasize other factors of assessment culture. For example, with more time, support for risk-taking with innovative teaching methods could be implemented and measured.

Another possible explanation for limited attitude change may be the low-level of organization-cause fit in our CrM campaign. Organizational-cause fit is the level of association between the organization's main line of activity and the designated cause of their CrM (Kim, Cheong, & Lim, 2015). An example of high organization-cause fit would be an eyewear company donating a portion of proceeds to charities such as Eyes for Africa or Restore Vision, which provide no-cost ophthalmologic medical care and products to people in need; whereas an example of low fit would be a fashion brand donating a portion of its revenues to a children's hospital. Research shows that a company ad with (versus without) an embedded CrM message, results in more favorable consumer attitudes toward the company, regardless of the level of fit between the company and the cause. However, when the fit is high (versus low), consumer attitudes were even more favorable (Nan & Heo, 2007). While an improvement of positive assessment attitudes was achieved, a higher impact might be possible if the "cause" of the campaign had a higher fit with undergraduate education. Inviting faculty to participate in an assessment campaign that provides scholarships to students or resources for teaching improvement might be of more interest to faculty. However, the caveat is that high organizational-cause fit may cause customer skepticism and leave the impression that the organization engages in this campaign just for strategic reasons (Forehand & Grier, 2003).

This research also identified some significant differences between tenure-track and adjunct faculty groups. The Assessment Cow CrM campaign did not improve either engagement level or attitude among the adjunct faculty. To reiterate, adjunct faculty, teaching a significant number of courses for the College, are an essential group regarding student learning and success. They make up a large percentage of college faculty (51% in our college; 70% of faculty in the U.S.); they teach a substantial percentage of classes (about half of the classes in our college, with higher coverage of classes nationwide); and thus, they experience much facetime with (particularly, undergraduate) students, which makes both short-term and long-term positive impact on retention, GPA and graduation (Schudde, 2019). Any student learning or success project that does not secure the partnership and involvement of adjunct faculty cannot result in solid and widespread improvements for the students. Therefore, it is crucial to engage the adjunct faculty to achieve the student learning and success goals at higher education institutions (Guthrie & Wyrick, 2018; Mangan, 2015).

In 2016, a nonprofit student success organization, Achieving the Dream (ATD), provided six colleges with funds and support to experiment with strategies to engage adjunct faculty in student learning and success activities (ATD, 2019). In order to meet their student success goals, these colleges have been working to improve the conditions for their adjunct faculty by (i) providing them with clear and accessible information about institution and college resources and policies; (ii) creating opportunities for tenure-track and adjunct faculty collaboration and connection, (iii) inviting and incorporating adjunct faculty opinions, input and feedback in assurance of learning process, and (iv) re-examining the existing practices of adjunct faculty compensation and advancement (Bickerstaff & Chavarin, 2018; Smith, 2016). There is a need throughout the U.S. for more of these types of projects to improve the working conditions and information access of adjunct faculty and to create meaningful connections and collaborations between tenure-track and adjunct colleagues. Creating learning communities and a culture of assessment may take time. By, involving adjunct faculty in the process of assessment can help build a more durable and impactful culture of assessment.

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CONCLUSION

As reported earlier, in order to learn more about the faculty approaches to assessment, we asked some brief, open-ended questions in our surveys. Importantly, the majority of the faculty criticized that assessment activities appeared to serve the compliance and accreditation needs, rather than the goal of enhanced student learning and success. This observation was supported by their own reporting of none to limited participation in assessment activities.

As assessment grows in importance with all colleges, it is important to have faculty led assessment programs that have meaningful results. In an evidence-based and student-success-oriented culture, assessment activities and process should be more natural, systematic, and ongoing part of the faculty's job. Then accreditation becomes the expected result of such focus on student success. It is clear in the open-ended comments that faculty are well-aware of the importance and necessity of assessment and understand that assessment requires faculty commitment. However, there is need to establish evidence-based, student-focused assessment cultures at our institutions, where learning communities and assessment campaigns like our CrM project can be effective tools. Finally, among the 11 adjunct faculty who described assessment with 3 words, occurrences of words "pressure," "required," and "lack of understanding" may signal feelings of being imposed upon and not being completely clear about the assessment process, once again emphasizing the need to better inform and partner with the adjunct faculty in the assessment process.

We would like to note that the participation rate of our study was good. Faculty in the pre-survey participated at a 24% level and at 29% for the post-survey. Future research and campaigns may benefit from further encouragement and rewards to increase faculty participation. This was a short-term campaign that lasted one semester. Future research conducted using longer-term projects may result in more substantive and durable improvements. In this research, the sample was the entire college of business faculty. The survey did not track participant responses in the pre and post surveys. However, the demographic information collected shows the samples to be highly similar. The overlap between the pre and post samples was between 53% to 76%. In addition, an examination of the department distribution, faculty status, and number of years worked at the college did not reveal any substantial differences between the pre and post samples. Still, if possible, future research studies should use identifiers for participants and conduct a complete pre-post comparison on the exact same participants to obtain a clearer picture of the exact extent of campaign/project effectiveness.

This research presented an innovative CrM approach to assessment that was effective in significantly improving faculty engagement with and attitude towards assessment within a short period of time. This paper provides an example to other institutions interested in designing similar, creative assessment projects that boost faculty participation and knowledge of assessment. By implementing novel approaches to assessment, it may be possible to have a skeptical faculty member look at assessment with fresh eyes and ideas.

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Experimental Investigation on the Impact of Changing Class-Attendance Policy on Student Performance

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ABSTRACT

Though the positive relationship between class attendance and student performance is prevalent, it needs further support from a research design that is coherent and well-controlled for legitimate findings. This study involved conducting a field experiment to improve the controllability of a study and increase the ecological validity of the experiment. In our field experiment, a change in the class-attendance policy was announced in the middle of a quarter, while students were still taking a class. With the policy change, students were not required to attend class. Students' exam performances before and after the policy change were compared and analyzed for a statistical implication of a potential relationship between their performance and the policy change. This research design is unique and contributes to the literature. To strengthen the validity of the study, we analyzed the results using the difference-in-difference method. The evidence confirms the positive relationship between class attendance and student performance.

Keywords: class attendance, student performance, change in policy, difference-in-difference, field experiment.

INTRODUCTION

Some instructors consider class attendance for grading, but others do not. Regardless of the instructors' personal preferences about taking attendance, such disparate adoption of a class-attendance policy seems contradictory when considering the persistent argument that class attendance is an essential part of the educational process and should be considered both a privilege and a responsibility. Or, is this disparate adoption an indication of an instructor's knowledge of inconsistent findings on the relationship between class attendance and performance in literature?

We argue that inconsistent literature that employs different settings or methods in studies may explain the different adoptions of class attendance policies. Most earlier studies considered data that was collected from multiple classes across different semesters or school years. Though there might be little statistical difference among the subjects for study, various situational factors and selection issues cannot be disregarded. Thus, the research design must be coherent and well-controlled for legitimate findings.

This study conducted a field experiment to improve the controllability of the study and to increase the ecological validity of the experiment being carried out, as the environment mirrors what they experience in real life. More importantly, in our field experiment, a change in the class attendance policy is announced while students are still taking a class in the middle of a quarter. With the policy change, students were not required to attend class. Exam performance before and after the policy change is then compared and analyzed for a statistical implication of a potential relationship between the change in a class attendance policy and student performance. This research design is unique and contributes to the literature.

We consider two classes offered in earlier quarters (spring and summer 2017) as a control group. Class attendance was required during their full quarters. These students and the class of 2018 students took the same exams. To strengthen the validity of the study, we analyzed the results using the difference-in-difference method.

PREVIOUS RESEARCH

There have been many studies across the disciplines of psychology, economics, health, medical sciences, and the physical sciences that have indicated a positive correlation between class attendance and performance. Marburger (2006) investigates the impact of enforcing an attendance policy on absenteeism and student performance and suggests that an enforced mandatory attendance policy significantly reduces absenteeism and improves exam performance. He used two principles of macroeconomics sections taught in two different semesters in the fall 2002 (no-policy class) and the fall 2003 (policy class). Though the sections were taught by the same instructor, students in the two classes are different. Meanwhile, Lukkarinen et al. (2016) investigated the relationship between university students' class attendance and learning performance with data from a course in a university in which attendance to

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classes is *not mandatory*. After controlling for the effect of other variables potentially related to performance, they found that attendance is positively and significantly related to performance for students who attend classes as well as the exam.

Chen and Lin (2008) conducted a randomized experiment to study the average attendance effect for students who have chosen to attend lectures and found that class attendance significantly benefits on students' exam performances. The study may contribute to the literature with the experimental method taken for the same finding, but it ran a randomized experiment using a survey that involves student subjects in two different sections to estimate the average treatment effect on the treated. The study still suffers from the sample selection issue because of the students' different, endogenous class-attending choices in different sections.

More recently, Dey (2018) found that attending class has a positive and significant effect on exam performance, but also found that the average attendance effect is not uniform across subgroups of students. Another recent study suggests that attending class continues to have a positive impact on student learning in this technological age (Alexander & Hicks, 2016). However, they used the data of 383 students who completed introductory psychology courses in classes over the years 2012-2015.

In the meantime, some studies show a different relationship. Caviglia-Harris (2006) collected data from four sections of microeconomic principles classes taught by the same instructor to estimate performance and found that the attendance policy did not impact grades. He suggested that instructors encourage but not mandate attendance in both small and large lecture settings. Durden and Ellis (2003) found that personal motivation (not classroom attendance) is a robust independent determinant of classroom performance, and the effect of classroom attendance as a proxy for the effects of internal motivation with regard to average scores that students earned is weak.

Therefore, we argue that though prevalent, the positive relationship between class attendance and student performance needs further supports with research design that is coherent and well-controlled for legitimate findings.

FIELD EXPERIMENT

Field experimental studies have certain advantages over laboratory experiments and are more susceptible to bias. As the participants are less likely to know they are in an experiment, they are more likely to act naturally and less likely to show demand characteristics and adapt their behavior to what they believe the researcher wants them to do.

Method and Results

An instructor announced and conducted a full-class attendance checking until the first two exams were taken in his two marketing principles classes (MKTG 3401-04 [Section 4; 55 students] and MKTG 3401-05 [Section 5; 54 students]), offered in the Spring 2018 quarter. Then, the instructor stopped checking attendance for the remaining one-third of the quarter and checked how many points students gained or lost in the next exam. Class attendance rates dropped to 58.2 percent from 85.5 percent (section 4) and to 50 percent from 93.2 percent (section 5) after the policy was lifted. Before the class attendance policy was removed, students earned 21.04 (70.13%) out of 30 points. However, the score dropped to 17.43 points on average, losing 3.61 points (17.14 percent), after the instructor lifted the policy. The difference in exam scores is significant:$\alpha = 0.05$ (Section 4: $t_{108} = 3.9539$, $p < .01$; Section 5: $t_{106} = 4.8563$, $p < .01$)). These findings indicate that requiring students to attend class may benefit students by helping them achieve better exam performance. The table below shows the result.

Table 1: Change in Exam Scores

	Average Exam Scores (points)			
Class	Before	After	Difference (points)	
Section 4	20.65	17.27	(3.38)	-16.36%
Section 5	21.43	17.59	(3.83)	-17.89%
Average	21.04	17.43	(3.61)	-17.14%

To strengthen the validity of the study, we compared the results with the earlier classes (i.e., summer and fall 2017) that the same instructor taught and checked full quarter-long class attendance. The earlier classes are significantly different from the two sections of the spring 2018 class *without* class attendance policy (i.e., after treatment) but not different from the section(s) *with* attendance policy (i.e., before treatment) at $\alpha = 0.05$ (see Table 2). The mean grade for all 3 exams in the Summer 2017 section was 21.53. The mean grade for section 4 for the first 2 exams with an attendance policy was 20.65. When the attendance policy was changed, the mean grade for section 4 for the third exam dropped to 17.27.

Table 2: Class Exam Performance

Unit: points

	2017		Spring 2018			
	Summer	Fall	Before treatment (with policy)		After treatment (without policy)	
			Section 4	Section 5	Section 4	Section 5
Mean	21.53		20.65	21.43	17.27	17.59
Variance	13.13		0.42	13.85	39.76	19.79
df			51	100	88	100
t-stat			1.6740	0.1446	4.2776	4.9439
p-value[1]			0.1003	0.8854	0.0000*	0.0000*
Mean		20.18				
Variance		15.25				
df			55	105	91	104
t-stat			-0.8757	-1.6941	2.8881	3.1939
p-value[1]			0.3850	0.0932	0.0048*	0.0019*

[1] *p*-value – two-tailed.
[*] significant at $\alpha = 0.05$.

Difference-In-Difference

Difference-in-difference (DID) is a statistical technique used in econometrics and quantitative research in the social sciences that attempts to mimic an experimental research design using observational study data by studying the differential effect of a treatment on a treatment group versus a control group in a natural experiment (Abadie, 2005; Angrist & Pischke, 2008; Bertrand, Duflo, & Mullainathan, 2004). To increase the validity of the findings, we employed DID to further analyze the treatment impact. The DID estimator is the difference in average outcome in the treatment group before and after treatment minus the difference in average outcome in the control group before and after treatment. The following equation models the outcome Y_i ($i = 1, \ldots, N$):

$$Y_i = \alpha + \beta T_i + \gamma t_i + \delta\,(T_i \cdot t_i) + \varepsilon_i \tag{1}$$

where T is treatment status ($T = 0, 1$ where 0 indicates the control group; 1 indicates the treatment group), and t is time period ($t = 0, 1$ where 0 indicates pre-treatment; 1 indicates post-treatment); and the coefficients given by $\alpha, \beta, \gamma, \delta$ are all unknown parameters, and ε_i is a random, unobserved error term that contains all determinants of Y_i, which our model omits. The coefficients are as follows:

α = constant term
β = treatment group-specific effect (to account for average permanent differences between treatment and control)
γ = time trend common to control and treatment groups
δ = true effect of treatment

And the DID estimator can be written as

$$\hat{\delta}_{DID} = \bar{Y}_1^T - \bar{Y}_0^T - (\bar{Y}_1^C - \bar{Y}_0^C) \tag{2}$$

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where $\bar{Y}_0^T$ and $\bar{Y}_1^T$ are the sample averages of the outcome for the treatment group before and after treatment, respectively, and $\bar{Y}_0^C$ and $\bar{Y}_1^C$ are the corresponding sample averages of the outcome for the control group; that is, subscripts correspond to time period, and superscripts to the treatment status.

In the middle of the 2018 spring quarter, the class attendance policy was lifted; however, observing a change in students' performance for that quarter only, before and after the treatment, would fail to control for any omitted variables. By including the earlier quarters' performance as a control in a difference-in-differences model, any bias caused by variables common to the 2018 class and the 2017 class is implicitly controlled for even when these variables are unobserved. Assuming that the 2018 class (treatment group) and the 2017 class (control group) have parallel trends over time, the 2017 class's change in performance can be interpreted as the change the 2018 class would have experienced, had they not lifted the class attendance policy, and vice versa. The evidence suggests that the lift of the class attendance policy in the 2018 class led to a 2.82-point drop in exam score, confirming the positive relationship between class attendance and student performance (see Table 3).

Table 3: Difference-in-Difference

Unit: points

	Treatment (2018)	Control (2017)	Difference
Pre (with policy)	21.15	21.01	0.14
Post (without policy)	18.18	20.85	-2.68
Change	-2.98	-0.16	-2.82

CONCLUSION

Should class attendance still be required in this technological era? Conventional wisdom is that attending class is a basic necessity for student learning and intellectual growth at universities. However, there has been a call for educators that they must get ready for a technology-rich future and sustain with change by accepting effective strategies that permeate lessons with appropriate technologies (Valdez, 2005). This is because technology integrates teaching and learning inside and *outside* the classroom and improves the way the material is presented and comprehended. Nevertheless, a recent study shows that attending class continues to have a positive impact on student learning in this technological age (Alexander & Hicks, 2016). Our study provides additional support for conventional wisdom. Class attendance is important because students are more likely to succeed in academics when they attend school consistently. Moreover, it is difficult for instructors and the class to build their skills and progress if a large number of students are frequently absent. We hope our study provides instructors with better guidance to utilize the class attendance policy for effective teaching in their classes.

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Are We Bonding Yet? Using a Mixed Methods Survey Design to Evaluate Team-building Exercise Outcomes

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ABSTRACT

This exploratory research utilizes a mixed methods survey design to evaluate business students' attitudes following participation in a team-building exercise. Qualitative results identify themes related to student perceptions of the exercise, including those that address team needs associated with Tuckman's forming stage of team development. Additionally, quantitative results indicate the relative effectiveness of the exercise in achieving the instructor's goals for the exercise. Based on the study's findings, the authors discuss the value of adopting a mixed methods survey strategy for evaluating team-building exercise outcomes and offer suggestions for instructor implementation.

Keywords: team development, team-building exercise, attitudes, mixed methods survey, Tuckman's model

INTRODUCTION

Work teams in today's organizations are here to stay. Both the academic literature and the popular press stress the importance of teamwork in today's successful organizations. It is also commonly believed that the utilization of teams will continue to serve as an important means to meet the challenges of 21st century global competition.

The ability to work as a team member is one of the top two attributes most frequently sought by employers when reviewing candidate resumes, second only to problem-solving skills (National Association of Colleges and Employers, 2020). Businesses today continue to seek out candidates who can work well with others and accomplish goals in a team setting (Chen, Donahue, & Klimoski, 2004; Hart Research Associates, 2016; Hobson, Szoztek, Griffin, Lusk, & Rydecki, 2017; Kidder & Bowes-Sperry, 2012). The practice of utilizing teams in the workplace promises to be even more important in the global economy.

The numerous benefits of students working together in teams is well documented. Weldy and Turnipseed (2010) reported that increased student learning occurs when students work together in teams. Group experiences provide valuable opportunities for cooperative learning and enhance creative problem solving (Voyles, Bailey, & Durik, 2015). These activities have the potential for engaging students, producing deep learning about complex content areas and promoting the cross-fertilization of ideas (Jassawalla, Sashittal, & Sashittal, 2009). Additionally, the benefits of group decision making over individual decisions have frequently been noted in the decision theory literature (Voyles et al., 2015).

In an effort to prepare college students to be employees who effectively contribute to their organizations, business school faculty have long recognized the importance of helping their students develop teamwork skills. A variety of interventions have been shown to be effective in developing student teams, including team-building exercises. Team-building exercises have been regularly promoted as a means to improve competencies associated with high team performance and student satisfaction. Ekimova and Kokurin (2015) examined psychology students' attitudes toward teamwork and different types of team-building methods, both before and after team-building training. Overall, students perceived the team-building methods to be effective and developed a more positive attitude toward teamwork after participating in the exercises. Team-building exercises can take many forms, including games focused on breaking down barriers among members; creating team identity through development of team names, logos, mottos, songs, mission or vision statements; and encouraging group interaction through some task (Hansen, 2006).

Because the nature and intended objectives of specific team-building exercises can vary greatly, gathering student feedback following an exercise can help faculty determine the degree to which the intended objectives of the exercise were met. Student feedback can also help faculty gain a better understanding of the nature of the exercise and specific student reactions to it. This research used a mixed methods survey design to evaluate the impact of a

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team-building exercise at the beginning of a team project. Quantitative items are used to measure the degree to which the exercise achieved its intended outcomes. In contrast, a qualitative methodology is used to obtain a deeper understanding of the impact of the exercise on the participants. Based on insights gained from the results, recommendations are provided to other faculty considering the use of a mixed methods approach to evaluate team-building exercise outcomes.

This research provides unique value to the literature by describing and evaluating the utility of gathering of student feedback using a mixed methods survey approach. The research can assist faculty in their efforts to verify the intended impact resulting from student participation in a team-building exercise and gain deeper insights into student perceptions of their team-building experience.

LITERATURE REVIEW

Stages of Group Development Tuckman (1965) proposed four developmental sequences that groups pass through as members come together and begin to function. These stages have become the standard model for understanding group development. Tuckman (1965) named these stages: forming, storming, norming and performing. Each stage has its own developmental activities that the team completes in order to move into the next stage of development. Tuckman and Jensen (1977) later added a 5th stage, known as adjourning, to this model. Although Tuckman referred to these stages as a group development model, those seeking to understand the development of teams have also adopted the process. Even though the words "group" and "team" are often used interchangeably, there are subtle differences in their meanings.

Katzenbach and Smith (1993) defined a team as a small number of people with complementary skills who are committed to a common purpose for which they hold themselves mutually accountable. In contrast, a group may consist of several people who share some interest or common characteristic but who work independently of each other. Within this paper, the word "team" and "group" will both refer to Katzenbach and Smith's definition.

Benefits and Challenges of Using Teams in the Classroom The use of teams in the classroom has been associated with a number of positive outcomes. Betta (2015) found that after participating in team-based learning, students viewed it as beneficial for group functioning as well as individual skill development. Likewise, in research conducted by Frame et al. (2015), students found team-based formats preferable to traditional lecture-based learning and that the team-based format assisted with critical thinking, problem solving and exam preparation.

While the value of using teams in classroom assignments is widely recognized in the literature, negative outcomes may occur if teams are not provided ample support by faculty members. Bolton (1999) found that although 72% of Business School professors at San Jose State University assigned team projects, 81% of those professors gave "modest, limited or no support" to students assigned to teams. In a follow-up survey, Bolton found that although 90% of faculty reported being somewhat satisfied with their student teams, only 64% of their students felt the same way. All of the students reported a higher satisfaction level when provided with in-class team-building training.

When faculty take a hands-off approach, problems with student teams may occur. Common problems include social loafing (Jassawalla et al., 2009; Voyles et al., 2015) deficiencies in skills for handling group dynamics (Peterson, 2012), as well as inadequate preparation for team projects, negative student attitudes toward team projects and team project goals that are unclear (Ekimova & Kokurin, 2015).

Strategies for Addressing Challenges and Improving Team Outcomes To address the problems commonly associated with student teams, a number of interventions have been proposed. Druskat and Wolff (2001) asserted that emotional intelligence (EI) is just as critical to groups as it is to individuals and that EI is the foundation for developing high functioning teams. They proposed that one way to help build a team's EI was to have members participate in team-building exercises prior to beginning the team's work. Peterson (2012) also described using an instructional method to develop group emotional intelligence (GEI). Results of Peterson's research found GEI instruction was positively associated with effective group behavior.

Vik (2001) suggested that faculty require students complete confidential evaluations of each team member and incorporate the evaluations into a student's course grade. Vik also recommended that team grades count enough to generate student motivation for doing a good job but not so much that they can sabotage a poor student's grade.

A number of best practices for faculty to adopt when using student teams have been offered. Burbach, Matkin, Gambrell, and Harding (2010) describe preparing faculty to use classroom teams effectively. In this study, faculty participated in a year-long program of instruction in the effective use of teams. It was found that faculty who participated had a significant impact on students' knowledge, skills and abilities. Likewise, Tombaugh and Mayfield (2014) reported on the benefits of experienced student teams offering advice to newly formed student teams. Advice from experienced teams focused on ten themes which included: foster open and honest communication, effectively manage conflict, conduct face-to-face meetings whenever possible, manage team meetings effectively, develop personal relationships, and plan and schedule carefully.

Likewise, McKendall (2000) and Page and Donelan (2003) offer faculty suggestions for developing effective student teams that include explaining the importance of developing teamwork skills, establishing clear objectives for the project, establishing team member roles, using team contracts and team evaluations, and providing training in decision making, planning, and accountability. Hansen (2006) offered 10 suggestions for faculty seeking to improve student team performance and satisfaction including teaching teamwork skills, determining the best method for team formation, and providing some class time for time meetings.

Using a Mixed Methods Survey Design to Evaluate Team-building Exercise Outcomes While there is ample evidence that team-building exercises can positively impact the attitudes, learning, and collective performance or team members, faculty members should give careful consideration as to which particular team-building exercises be utilized. Considering that teams have different developmental needs as they progress through stages, correctly timing the introduction of any team-building exercise is important. Tuckman and Jensen's model (1977) provides insights into a team's needs at each stage in its development. In the first stage, forming, appropriate team-building exercises that facilitate team development would include those exercises enabling member introductions, promoting communication, and building trust.

An abundance of team-building exercises exists, allowing faculty to address any number of different team developmental needs. While a given exercise may claim to develop a specific team-related skill or attitude, best practices would include the systematic evaluation of intended outcomes following a team-building exercise. As such, surveying students following their participation in a team-building exercise can help faculty determine the degree to which the intended outcomes of the team-building exercise were achieved. This research can assist faculty in verifying the impact of a team-building exercise on team members.

Close-ended, quantitative survey items can be utilized to assess the changes in student attitudes or learning related to the objectives of a team-building exercise. However, the use of such items are unlikely to capture the full impression of the team-building exercise upon the student. In contrast, open-ended, qualitative items provide respondents full freedom of expression and enable the researcher to identify issues salient to the respondent and the strength of respondent's feelings (Foddy, 1993; Iarossi, 2006). As a result, responses to open-ended items can provide insights that cannot be captured by using closed-ended items alone.

Research Questions In this research, student perceptions of team-building exercise participation were collected using both qualitative and quantitative survey items. Using qualitative data, themes related to student perceptions of the exercise are identified, including those that address team needs associated with Tuckman's forming stage of team development. Quantitative items are used to measure the relative effectiveness of the exercise in achieving the instructor's goals for the exercise. Last, qualitative and quantitative data are compared to garner additional insights into team-building exercises. Thus, the data gathered helps us answer the following questions:

1) What themes emerge when students utilize qualitative, open-ended items to describe experiences relating to their participation in a team-building exercise?
2) Which themes relating to student participation in a team-building exercise occur most frequently?
3) To what degree do themes relating to student participation in a team-building exercise appear to address team needs associated with Tuckman's forming stage of team development?
4) In what ways can quantitative items help faculty assess the relative effectiveness of the exercise in achieving the instructor's goals for the exercise?
5) What insights into the impact of a team-building exercise can be gained by collecting and comparing qualitative and quantitative data?

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METHODS

Survey Instrument The survey consisted of one open-ended, qualitative survey item and six close-ended, quantitative items. Table 1 includes a list of survey items. To avoid participant priming for the open-ended item, it was presented before the close-ended items in the survey. Each close-ended item used six-point Likert-type scale with "Strongly Disagree" and "Strongly Agree" used as anchors. The close-ended items were developed based on team development outcomes the instructor set for the exercise.

Table 1: Survey Items

Open-ended item.	
1.	Was today's team-building activity a positive experience for you? If so, in what ways? (Please write 2-3 sentences).
Close-ended items - Please indicate your agreement with each statement below. (Likert-scale 1= Strongly Disagree, 2= Disagree, 3= Slightly Disagree, 4= Slightly Agree, 5= Agree, 6 = Strongly Agree).	
1.	Today's team activity was fun.
2.	Today's team activity helped me get to know my team members better.
3.	Today's team activity was helpful in getting our team off to a positive start.
4.	Today's team activity leaves me feeling more confident that our group will work together well on the project.
5.	I believe team-building activities similar to this one would be useful when participating in team projects in my other classes.
6.	I believe the team activity was a good use of class time.

Participants The research participants were students earning a Bachelor of Business Administration degree and enrolled in the human resource management core course in a public, teaching-oriented institution. Students who participated in the team-building exercise had formed teams of 4-5 members a few days prior. Students were aware the teams would be working together on a semester-long team-based project. From a total of 112 undergraduate students across three class sections, 75 students were present for the team-building exercise and completed the subsequent online survey, resulting in an overall response rate of 67%. Response rates for each of the three sections were 76%, 69%, and 56%.

Data Collection and Analysis Each student team was asked to participate in a straw tower team-building exercise. In this exercise, student teams were provided a limited amount of supplies (tape and straws) and instructed to construct a straw tower in 15 minutes with the goal of constructing the tallest tower of all teams. At the end of 15 minutes, the team with the tallest tower standing was recognized as the winning team. A short instructor-facilitated discussion followed, with the dialog focusing on student insights gained into teamwork as a result of participating in the exercise. Following the discussion, the instructor announced an opportunity for students to earn extra credit by completing an online survey pertaining to the student's perceptions of the exercise. The instructor emailed the participants a link to the survey later that same day. The survey was open for a week following the exercise.

Data was collected using both quantitative and qualitative survey items. The mixed method survey design provides value by enabling the researchers to collect, analyze and interpret both quantitative and qualitative data, resulting in a broader and deeper understanding of participant attitudes (Doyle, Brady, & Byrne, 2016). Means and standard deviations were calculated for the quantitative, close-ended items. For the open-ended item, participant responses were content analyzed to identify themes. Content analysis is a frequently utilized procedure that allows a person's thoughts, intentions and attitudes to be inferred from textual data (Morris, 1994). In the text analysis process, words, phrases, or full sentences, or paragraphs can be highlighted and coded. Consistent with this process, the primary documents (student written responses) were coded with a phrase or sentence as the unit of analysis (Krippendorff, 2004). Each phrase or sentence that referred to a specific idea was separated as a unit. As part of the process of identifying and separating the units, all possible ideas were recognized and captured in separate comments. Overall, 151 unitized comments relating to the open-ended item were identified.

Once the unitized comments were created, two researchers coded the comments together. This was accomplished by first writing each unitized comment on a notecard. Then each comment was discussed and taped to the wall next to similar comments that appeared to have a common theme. In an iterative process, discussions of how each new comment related to existing themes resulted in the creation, modification and elimination of themes as the analysis

progressed. Coding was exploratory to allow coders to be open to new thoughts and ideas shared by the participants. Once consensus on the themes was achieved by the two researchers, a third researcher was asked to independently code the comments into the list of themes provided.

To be confident in the assignment of unitized comments to the different themes, the degree of agreement between the third researcher and the first two researchers was calculated. Overall agreement was strong (78%). For unitized comments in which the coding differed, we reviewed the coding to determine the rationale for the difference. We found differences were due to typical reasons – some words had multiple meanings and the interpretation of some phrases were dependent on the context of other words. In each case, differences were discussed and the coding was updated until 100% agreement was achieved.

RESULTS

Relating to research question one, a total of seven different themes emerged from the qualitative analysis. Table 2 provides the list of resulting themes with examples of participant statements illustrating each theme.

Table 2: Sample Codes with Selected Texts from Participant Responses to the Open-ended Item

	Theme	Response Example	Frequency *Total n=151*
1.	Served as opportunity for each team member to work together towards a common goal.	• *…it allowed us to come together as a team* • *…nice to do an activity that needed all of our input.*	24.5% *(n=37)*
2.	Served as opportunity for members to cognitively evaluate characteristics of teammates and team dynamics (personalities, workstyles, interpersonal dynamics, strengths, weaknesses, appropriate roles).	• *… I did think it was a good exercise in so far as figuring out what kind of people I am working with on my team.* • *… It showed me the strengths and weakness of the team members.*	22.5% *(n=34)*
3.	Served as a means to utilize, and/or develop communication skills.	• *…we…shared our ideas and came to an agreement of what would work well to build our tower.* • *…it helped us to communicate our ideas.*	14.6% *(n=22)*
4.	Facilitated building closer interpersonal relationships	• *… allowed our group to get to know each other a bit better…* • *… it made me feel more comfortable and helped to break the ice with my peers.*	14.6% *(n=22)*
5.	Provided a fun experience	• *…it was a fun activity* • *…this activity was fun*	9.3% *(n=14)*
6.	Prompted the recognition of the importance of forming a plan or a strategy.	• *…it helped my group realize we need a plan.* • *…worked together to come up with a strategy*	7.9% *(n=12)*
7.	Provided challenge (time pressure, competition) resulting in positive benefits (excitement, adrenaline rush, focus)	• *…it allowed us to learn how to work together under pressure* • *… it also gave us an opportunity to have a friendly competition that…stimulated our minds with problem solving.*	6.6% *(n=10)*

In considering research questions two and three, the most frequently mentioned student comments centered on their perception that participating in the team-building exercise served as opportunity for each team member to work together towards a common goal (24.5%, n = 37). In the second most frequent theme that emerged (22.5%, n = 34) student comments noted that participation in the exercise served as opportunity for members to cognitively evaluate characteristics of teammates and team dynamics (personalities, workstyles, interpersonal dynamics, strengths, weaknesses, and appropriate roles). The third theme identified centered on comments focusing on recognition that participation in the exercise served as a means for team members to utilize, and/or develop communication skills

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(14.6%, *n* = 22). In the fourth theme (14.6%, *n* = 22), student statements identified participation in the exercise as a means to facilitate building closer interpersonal relationships. The fifth theme that emerged centered on student perceptions of the exercise as a fun experience (9.3%, *n* = 14). The focus of the sixth theme centered on statements indicating that participation in the exercise reminded students of the importance of forming a plan or a strategy (7.9%, *n* = 12). The seventh and final theme included comments recognizing the value of the team-building exercise as serving to provide some type of challenge (time pressure, competition) resulting in positive benefits (excitement, adrenaline rush, focus) (6.6%, *n* = 10).

In results relating to research question four, Table 3 includes a list of quantitative items and a summary of student responses. The responses indicate an overall positive experience for the students, with a majority of students strongly agreeing with each of the item statements. It is worthwhile to note that the two items focusing directly on the participant's evaluation of their team had slightly lower means and greater variance. These responses indicate that although most students felt very positively about their team after participating in the exercise, the positive view wasn't universally held by all participants.

Table 3: Summary of Means, Standard Deviations, and Distributions for Close-ended Items.

Please indicate your agreement with each statement below. (Likert-scale 1= Strongly Disagree, 2= Disagree, 3= Slightly Disagree, 4= Slightly Agree, 5= Agree, 6 = Strongly Agree).

Item	Mean (SD)	Strongly Disagree (%)	Disagree (%)	Slightly Disagree (%)	Slightly Agree (%)	Agree (%)	Strongly Agree (%)
I believe the team activity was a good use of class time.	5.82 (0.37)	0	0	0	0	17.0	83.0
Today's team activity was fun.	5.77 (0.70)	0	2.1	0	2.1	10.6	85.1
I believe team-building activities similar to this one would be useful when participating in team projects in my other classes.	5.66 (0.63)	0	0	2.1	2.1	23.4	72.3
Today's team activity helped me get to know my team members better.	5.63 (.52)	0	0	0	2.1	31.9	66.0
Today's team activity was helpful in getting our team off to a positive start.	5.45 (1.02)	2.1	0	4.3	4.3	23.4	66.0
Today's team activity leaves me feeling more confident that our group will work together well on the project.	5.38 (1.15)	2.1	4.3	0	6.4	21.3	66.0

DISCUSSION

The four most common themes identified in the qualitative analysis are consistent with prior meta-analysis findings that team-building exercises improve team outcomes relating to trust, coordination and communication (Klein et al., 2009). These four themes are also consistent with research that found effective teams are typically characterized by unified commitment, clear goals, relevant skills, good communication, and mutual trust (Costa & Anderson, 2011; Mathieu, Maynard, Rapp, & Gilson, 2008; Pentland, 2012).

The three least frequent themes in our study were consistent with team-building components of goal setting and problem solving recognized by Klein et al. (2009) to positively impact team-building outcomes. These three themes provide helpful insights into the particular nature of the team-building exercise. While many team-building exercises result in outcomes consistent with the four most common themes, the nature of individual team-building exercises can vary greatly; the specific nature of this team-building exercise (fun, strategy-focused, challenging, fast-paced,

competitive, and exciting) was recognized in these last three themes. Achieving a better understanding the specific characteristics of a given team-building exercise can help instructors select the most appropriate exercise to utilize in a team's stage of development.

Tuckman's forming stage is characterized by activities in which members focus on becoming familiar with one another as well as the task (Bonebright, 2010; Tuckman, 1965). When comparing the themes identified in the qualitative responses with forming stage activities, there appears to be a great deal of consistency. Specifically, five of the qualitative themes aligned with addressing group needs associated with the forming stage, including: #1) serving as opportunity for each team member to work together towards a common goal; #2) serving as opportunity for members to cognitively evaluate characteristics of teammates and team dynamics (personalities, workstyles, interpersonal dynamics, strengths, weaknesses, and appropriate roles); #3) serving as a means to utilize, and/or develop communication skills; #4) facilitating building closer interpersonal relationships and #6) prompting the recognition of the importance of forming a plan or a strategy. From an instructor's point of view, it is also encouraging feedback that the exercise facilitated team development in its earliest stage.

The quantitative data indicate the faculty's objectives of the exercise were largely achieved. Consistent with the qualitative data, the quantitative responses indicate that that the exercise facilitated the development of the teams in their formation stage. In responding to quantitative items, participants indicated they believed the exercise helped the team members get to know each other; the exercise was useful in getting their team off to a good start; and the exercise left them feeling more confident that their team would work well together on the project. The positive impact of the team-building exercise on participant attitudes toward teamwork and group functioning is consistent with findings of Betta (2015) and Ekimova and Kokurin (2015).

Participant responses to the quantitative items indicated most students agreed the exercise was fun, was a good use of class time, and that similar team-building exercises would be useful when participating in team projects in other classes. These responses provide additional valuable insights. Students indicating the exercise was a good use of class time provide insights regarding their perceived value of the exercise in the larger context of the course; they believed that the exercise was worthwhile when considering the time could have been spent on other class activities. Likewise, students indicating a similar team-building exercise would be useful in other classes recognizes the utility of the exercise wasn't class-specific, but could be beneficial in other classes in which team projects are part of the curriculum.

Adopting a mixed methods approach to collect and analyze both quantitative and qualitative data following a team-building exercise can provide faculty greater insights than would be possible collecting either form of data alone. In this study, the quantitative data numerically measured students' attitudes relating to the exercise, while the qualitative data provided context-rich insights into the students' perceptions of the exercise and its outcomes. Specifically, the qualitative themes shed light into the "how" and "why" the specific exercise resulted in positive outcomes. Considering the qualitative and quantitative results together provides a more complete picture of the impact of the exercise and allows for triangulation. In this particular exercise, it is noteworthy that without prompting, many student comments were very consistent with the quantitative items representing the objectives of the exercise. Specifically, the qualitative themes of having fun, cognitive evaluation of teammate characteristics, and relationship building were consistent with the results of quantitative items that gauged the degree of fun experienced by students and the degree to which the exercise helped students get to know their team members better.

Suggestions for Faculty Following a team-building exercise, surveying students using a combination of qualitative and quantitative questions can serve as a valuable tool to help faculty evaluate the degree to which the exercise achieved desired goals. Surveying students using open-ended, qualitative items allow for participants to share reactions which would otherwise not be captured if only close-response items were included. These qualitative responses can help faculty better understand subtle differences in the impacts of different exercises which might not be readily apparent. Likert-type items can provide useful quantitative insights by measuring the degree to which the exercise achieved anticipated goals.

As with any pedagogical tool, the utilization of team-building exercises is best reserved for situations in which the exercises can effectively achieve relevant learning objectives. Before deciding to use any team-building exercise, it is important to first determine the needs of teams in order to select the most appropriate exercise. While some team-building exercises can effectively facilitate learning that supports the forming stage of team development, other team-building exercises will be better suited to facilitate subsequent stages of team development. Likewise, online

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classes that utilize teams possess different characteristics to consider when determining appropriate teambuilding activities (McLaughlin & Daspit, 2016). Attention should be given to specific desired outcomes when selecting a team-building exercise (i.e. improved communication, trust building) as well as other relevant characteristics (fast paced and high-energy versus slower paced and reflective).

Reviewing the characteristics associated with effective teams can help educators identify key areas to target with team-building. Such characteristics of effective teams include clear goals, unified commitment, good communication, mutual trust, relevant skills, and effective leadership. More broadly, team-building exercises should be considered but one of many team development tools from which educators can choose, including use of a team contract, establishing individual member roles, providing collaborative tools, using detailed peer evaluations as part of grading, and providing some class time for meetings (Hansen, 2006; Johnson & Smith, 1997; McKendall, 2000; Page & Donelan, 2003; Smith, 2018).

CONCLUSION

As acknowledged in the literature review, the ability to work as part of a team is one of the most valuable professional skills. Team-building exercises provide a means for helping individual students develop their teamwork skills. For the team as a whole, benefits can include increased performance and member satisfaction by improving communication, promoting creative problem-solving, and developing trust among members.

This research used both qualitative and quantitative items to survey students about their experiences following their participation in a team-building exercise, which provided rich insights into the impact of the exercise that could not be captured by using either type of item format alone. Student responses to qualitative items centered on a number of themes illuminating the impact of the exercise on individual team members. Many of the themes were consistent with addressing team needs associated with Tuckman's forming stage (Bonebright, 2010; Tuckman, 1965). Responses to quantitative items provided a useful measurement of the degree to which the instructor's goals for the exercise were accomplished.

When faculty take time to survey students in order to evaluate the impact of a team-building exercise, they are able to verify the degree to which their goals for the exercise were achieved. Including an open-ended, qualitative component can allow faculty to gain unanticipated insights into the impressions the exercise leaves on their students. Survey results can be used to modify or replace the exercise to better achieve the desired goals of the instructor.

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Entrepreneurship Centers and Skill Development In The Nigerian Polytechnic System

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ABSTRACT

The study examined the influence of entrepreneurship centers on acquisition of vocational and entrepreneurship skills in Nigerian polytechnics. The researchers employed mixed method design. The study population consisted of teachers and final-year students of entrepreneurship in public polytechnics in two Nigerian states. A validated structured questionnaire was used for the quantitative aspect of the study, while some respondents were interviewed to obtain clarifications on the result of the quantitative study. The results show that teachers and students uniformly credit entrepreneurship centers for having strong influence on the impartation of vocational and innovation skills; however, the centers are only moderately effective in imparting business/management related entrepreneurship skills. Students and teachers also differ significantly in their assessments. It was concluded that while entrepreneurship centers are effective in imparting both vocational and entrepreneurship skills, their influence on the latter is rather tenuous and open to improvement. The study consequently recommends the merger of both the theoretical and practical aspects of the entrepreneurship program, to be handled by theoretically qualified and technically competent teachers for optimal impartation of vocational and business competencies.

KEY WORDS: Entrepreneurship centers, skill development, entrepreneurship skills, vocational skills, Nigerian polytechnic system.

INTRODUCTION

Global concern over the increasing rate of youth unemployment has brought the issue of entrepreneurship education to the front burner of discourse especially in developing countries. To promote entrepreneurship and reduce graduate unemployment, the Nigerian federal government in 2006, made entrepreneurship education a compulsory course for all tertiary education students at all levels irrespective of discipline. In polytechnics, which have equal status with universities for undergraduate studies, students are supposed to take three entrepreneurship courses (Principles of Entrepreneurship; Practice of Entrepreneurship; and Entrepreneurship Development). The courses seek to impart in students, the fundamentals of entrepreneurship theory and practice. In addition, students are to acquire and master at least one vocational skill, not necessarily in the students' study area, for possible future self-employment. For this purpose, all accredited polytechnics are compelled to have functioning entrepreneurship centers for vocational and entrepreneurial skill development (Idogho & Esheotse, 2011; Binuomote & Okoli, 2015). The centers are often equipped with industrial type equipment for training in disciplines as varied as bakery and masonry; the idea being that if paid employment is unavailable in the student's professional area, the auxiliary vocational/technical training acquired may lay a foundation for entrepreneurial pursuits. While the regular entrepreneurship courses are taught by lecturers, vocational skills are imparted by instructors and facilitators, often skilled and experienced craftsmen whose level of theoretical knowledge and entrepreneurial engagement may not be certain.

Polytechnics are one of the three arms of tertiary education in Nigeria. Polytechnics are charged with the primary responsibility of producing the technical manpower needed for industrial growth in Nigeria. They offer courses in various fields of Technology, Environmental Studies, Applied Sciences. Communication and Management, among others, leading to the award of National Diploma (ND) after two years of study and Higher National Diploma (HND) following the second phase of the four year programme (Federal Republic of Nigeria, 2013). Polytechnic entrepreneurship centers are supposed to be functional, well manned, well equipped as a multi-purpose workshop/business incubation outfits where students can acquire and demonstrably master variegated vocational and entrepreneurial skills. A skill is an ability, not necessarily innate, which can be developed, and which is manifested in performance, not merely in potential (Osemeke, 2012). In the context of this work, skill acquisition is universally recognized as the recipe for poverty eradication (Isaac, 2011; Evans, 2011). Skill acquisition is the mastery of a skill, mental or manual for 9the purpose of entrepreneurial engagement.

Entrepreneurship is the willingness and ability of an individual to seek investment opportunities, to establish and to run an enterprise successfully (Kuratko, 2007; Hisrich, 2008; Solomon, 2009). It is the act of starting a company, arranging business deals and taking risks in order to make profit (Baba, 2013). To be able to achieve this, several set skills are indispensable. Needless to say, an entrepreneur needs basic technical knowledge and skills in his area of investment interest. Basic technical/vocational knowledge is the foundation of creativity and innovation. In addition, the entrepreneur would need business related competencies in management, marketing, communication, accounting and other allied disciplines for successful entrepreneurial engagement (Ademiluyi, 2007; Solomon & Fernald, 2011).

In this study, the term 'vocational/technical skills' refer to skills needed for production of goods and services, like carpentry, bricklaying, tailoring among others. The term also covers the creativity and innovation competencies needed to optimize the skills. 'Entrepreneurship skills', in this work, refers to business related skills like marketing, accounting, management, communication, without which technical skills cannot be put to optimal and profitable use. In the Nigerian context, entrepreneurship teachers include lecturers and instructors who concern themselves mainly with the impartation of theories; and facilitators, who are often craftsmen and professionals, concerned mainly with the teaching of skills.

Entrepreneurship Centers became a compulsory element of entrepreneurship education in 2010, with all accredited polytechnics in full compliance by 2014. However, while anecdotal inferences suggest that students enthusiastically take advantage of the vocational skills offered by the centers, the extent to which vocational skills have been effectively embedded with entrepreneurship skill development is unknown, hence the need for this study.

STATEMENT OF THE PROBLEM

The Nigerian educational system has responded to the demand for impartation of entrepreneurial skills by introducing entrepreneurship courses as a compulsory part of the curricula in an effort to promote entrepreneurship development (Agboola, 2010). The assumption is that entrepreneurial education and training will promote entrepreneurship orientation and hence student's preference for entrepreneurship career. Entrepreneurship centre is an important part of the effort to promote entrepreneurship. There is the need, therefore to understand how entrepreneurship centers influence students' entrepreneurship skill development.

Entrepreneurship centers are designed to provide place and opportunity for acquiring vocational and allied skills which can subsequently be transformed into entrepreneurship opportunities. A functioning entrepreneurship center is one of the most important quality indicators of a Nigerian polytechnic program, without which an institution cannot be accredited. Institutions and governments spend a lot of money erecting, equipping and staffing entrepreneurship centers. However, the extent to which these centers have influenced the acquisition of skills is uncertain as it does not appear that the introduction of entrepreneurship centers has enhanced students' interest in entrepreneurship as a career. It appears that the centers have concentrated on the acquisition of vocational skills while de-emphasizing the equally indispensable business and management-related entrepreneurship skills. Also, operational errors and possible remedial options have not been identified, to the best knowledge of the researcher, using empirical methods. This study seeks to bridge this gap in knowledge. The concern of the study therefore is to determine the influence of entrepreneurship centers on acquisition of vocational and entrepreneurial skills among polytechnic students in Nigeria.

RESEARCH QUESTIONS

The following research questions guided the study:

1. To what extent do entrepreneurship centers contribute to students' acquisition of vocational/technical skills in the Nigerian polytechnic system?
2. To what extent do entrepreneurship centers contribute to students' acquisition of entrepreneurship (business/management) skills in Nigerian polytechnic system?

HYPOTHESES

The following null hypotheses were tested with independent samples t-test at 0.05 level of significance:

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1. There is no significant difference between the mean ratings of students and teachers on the extent of entrepreneurship centers' influence on the acquisition of vocational and innovation skills in the Nigerian polytechnic system
2. There is no significant difference between the mean ratings of students and teachers on the extent of entrepreneurship centers' influence on the acquisition of business and management related entrepreneurship skills in the Nigerian polytechnic system

LITERATURE REVIEW

Entrepreneurship center in the Nigerian polytechnic system is a unit or directorate of the polytechnic saddled with the task of ensuring adequate acquisition of vocational and entrepreneurial skills by students, so that they can be self-reliant and possibly, self-employed after graduation (Agboola, 2010). In view of the fact that polytechnic education is career-oriented, entrepreneurship centers are established to develop in students the skills of identifying high-potential, technology-intensive, commercial opportunities, gathering resources such as talent and capital, and managing rapid growth and significant risk using principled decision-making skills (Audu, 2013).

Emmanuel, Dazala and Daniel (2016) observe that the concept of entrepreneurship centers in polytechnics drew from the experiences of governmental and non-governmental organizations who have entrepreneurship development centers across Nigeria. The centers appear to have facilitated effective acquisition of practical skills among youths in the communities where they are located. Many professionals attribute their entry into their disciplines to the early exposure to those trades gained from vocational centers located in their neighborhoods (Kufoniyi, 2010; Binuomote, Oyedele & Ademiluyi, 2017).

The ultimate purpose of entrepreneurship education in general, and entrepreneurship centers in particular, is to impart in students, knowledge, skills, attitudes and orientation needed for successful entrepreneurship (Ademiluyi, 2007). Mason and Gos (2014) define entrepreneurs as individuals who notice opportunities and take responsibility for mobilizing the resources necessary to produce new and improved goods and services. Nelson, Maxfield and Kolb (2009) opine that an entrepreneur is an innovator who undertakes the risk of a business, organizes and efficiently utilizes the factors of production to convert business ideas into wants, satisfying goods and services in exchange for a reward. They are individuals willing and able to seek out investment opportunities in an environment and are able to establish and run an enterprise successfully based on the identified opportunities (Onifade, 2010).

Entrepreneurship education seeks to build in the receiver requisite entrepreneurial characteristics. Such characteristics of entrepreneurs include: desire for responsibility, desire for self-discipline, strong work ethic, open minded, preference for moderate risk, confidence in personal success, desire for immediate feedback, high level of energy, future oriented, high organizational skill and belief in achievement (Lerner, 2009; Staufer, 2015)). A properly-trained and motivated entrepreneur is energetic, resourceful, and alert to new opportunities; is able to adjust to changing conditions and willing to assume the risks in change and expansion (Osuala, 2010). An entrepreneur introduces technological changes and continually improves the quality of his product or service. (Ademiluyi, 2007).

The National Board for Technical Education (NBTE), in 2010, mandated each polytechnic to establish an entrepreneurship development center for vocational and entrepreneurship skill development. The major objective of the centre is to encourage skill acquisition for job creation, economic growth, skill enhancement, employment generation, development of entrepreneurial culture, among others (Agboola, 2010). Oduma (2018) reports that the specific objectives of the entrepreneurship development centers at the polytechnic level are to enable the polytechnic undergraduates to acquire saleable skills and competencies in business and financial management, innovation and creativity, and to develop in the students, entrepreneurial mindsets and attitudes.

Vocational skills often acquired in Nigerian polytechnics' entrepreneurship centers include, but are not limited to farming (crop, fish and animal husbandry); bakery and confectionary production; fashion designing, printing, soap making, disinfectant and insecticide production, bead making, and dyeing among several others (Onele & Nwite, 2011). Skill acquisition is the process of acquiring a particular knowledge, ability or experience needed to turn ideas into action (Oduma 2018). It is a process whereby a person learns a particular skill or type of behavior needed for business through training or education (Amadi, 2012). Njoku and Nwosu (2011) state that entrepreneurial studies enable students to acquire certain personal characteristics and enabling qualities, attitudes and skills, including functional management and financial skills needed for successful entrepreneurial ventures.

Polytechnic students who are exposed to functional entrepreneurship centers are expected to be more innovative, have more analytical skills, be more capable of motivating others to gain support and assistance in realizing opportunities; they are supposed to have better networking skills and have greater ability to adapt to situations and handle different situations with ease. Entrepreneurship centers are expected to have salutary impact on the acquisition of these entrepreneurship qualities in addition to acquisition of saleable vocational competencies.
Technical and vocational skills are among skills needed for self employment (Olaleye, 2010). Technical and vocational skills refer to techniques for performing a task that a non-professional cannot do without specialized training (Obi, 2011). Basic business skills, like marketing, management, finance, accounting, and communication are indispensable to businesses at all levels

Marketing skill is very important in entrepreneurial pursuits. Marketing is the art and science of choosing target markets, getting, keeping and growing customers through creating, delivering and communicating superior customer value. Marketing function involves planning, pricing, promoting, selling, and distributing ideas, goods or services to create exchanges that satisfy customers (Farese, Kimbrell & Woloszyk, 2010). Ezeani (2008) highlights successful business marketing skills entrepreneurship students should possess as, knowledge of seasonal fluctuation of goods, ability to determine the extent to which products will sell, familiarity with various aspects of sales and salesmanship, ability to budget and forecast, ability to determine current trends in sale of products, ability to determine what customers need, knowledge of advertising, ability to determine and interpret factors which indicate extent and strength of competition; and ability to determine availability of goods/raw materials for production and shortage of finished goods. Ezeani further notes that skills in finance and accounting are important to the survival of any business venture. It is therefore imperative that polytechnic undergraduates are adequately equipped with such skills for take off and sustainability of their future .businesses.

Management has also been identified as an indispensable entrepreneurial process. Management involves utilizing human and material resources to accomplish designated organizational objectives. Uzo-Okonkwo (2014) views management as the integration and coordination of resources in order to move towards designed objectives. It is a process of pooling ideas, suggestions and activities of the various sub-groups, in a systematic ways by developing and directing them towards pre-determined goals. It is also the process of allocating an organizational input (human and material resources) by planning, organizing, directing, controlling, leading, communicating, among others, for the purpose of producing output (goods and services) desired by its customer so that organizational objectives are accomplished (Ojukwu, 2009).

Entrepreneurship Centers are also expected to promote acquisition of innovation skills. Innovation is the process of bringing the best ideas into reality. One cannot innovate without creativity. Innovation is the process that combines ideas and knowledge into new value. Without innovation an enterprise and what it provides quickly becomes obsolete. Entrepreneurs need to have the ability to create and build something from practically nothing, through creating value by pulling together a unique package of resources to exploit an opportunity (Singh & Sharma 2011; Uzo-Okonkwo, 2018).

Innovation is the basis of all competitive advantages, the means of anticipating and meeting customer's needs and the method of utilization of technology. Innovation is fostered by information gathered from new connections; from insights gained by journeys into other disciplines or places; from active, collegial networks and fluid open boundaries (Okoro & Ursula, 2012). Innovation arises from organizing circles of exchange, where information is not just accumulated or stored, but created. Knowledge is generated from a new ideas from connections that were not there before. The entrepreneurship program in Nigerian polytechnic system is expected to give students a comprehensive understanding of these concepts in addition to imparting in them, through the entrepreneurship centers, saleable skills for self reliance and prosperity.

METHODOLOGY

Research Design

The researchers employed mixed method design involving collection and integration of both quantitative and qualitative methods. Specifically, the researchers used explanatory sequential method in which the quantitative method unfolded first and was the main one; subsequently, the qualitative study was conducted for better understanding of the quantitative results (Creswell, 2013; Agboola, 2019). The quantitative aspect involved the use of descriptive survey instruments. For this aspect, structured interviews were used to augment the quantitative outcomes in order to bring out all the salient points and emphasis the study demanded.

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Population and Sample

The study was undertaken in two Nigerian states: Niger and Osun. The population consisted of final year (HND II) students and the Entrepreneurship Education teachers (lecturers, instructors and facilitators) in all five public polytechnics in the two states. At the time of the study, there were 4216 students and 322 Entrepreneurship Education teachers in the study institutions. The sample size of 680 (632 students and 48 teachers) for the study was obtained using the Taro Yamani formula for the determination of sample sizes (Cochran, 2007).

Instrumentation

The instrument used in gathering data for this study was a validated two-part research question, structured on the 4-point rating scale with response options of Great Extent (4 points), Moderate Extent, 3 points, Small Extent, 2points and Very Small Extent (1 point). The instrument was pilot tested while Cronbach Alpha method was used to determine the internal consistency of the instrument. This gave reliability co-efficient of 0.82. At the conclusion of the quantitative study, five students and two teachers were purposively selected from each of the five polytechnics under study for in-depth interviews to obtain further clarifications on the result of the quantitative study.

Method of Data Analysis

The data collected for the study were analyzed using mean rating to answer the research questions and standard deviation to determine the closeness or otherwise of the responses to the mean. Independent samples t-test statistic was used to test the null hypothesis of no significant difference at the probability level of 0.05**.**

RESULTS:

Table 1: Mean And Standard Deviation of Responses on the Extent of Entrepreneurship Centers' Influence on Acquisition of Vocational and Innovative Skills

SERIAL NUMBER	**ITEM STATEMENT** *Entrepreneurship Centers provide opportunities for::*	**MEAN**	**STANDARD DEVIATION**	**REMARKS**
1	Acquisition of vocational skills	3.78	0.78	Great extent
2	Mastery of vocational skill	3.76	0.82	Great extent
3	Using modern facilities for production and services	3.76	0.85	Great extent
4	Training under experienced facilitators	3.72	0.85	Great extent
5	Product and service incubation	3.68	0.91	Great extent
6	Innovation in existing product and service	3.66	1.01	Great extent
7	Converting ideas to new values	3.61	0.93	Great extent
8	Introducing/test running new ideas	3.58	1.12	Great extent
9	Sourcing for production/service raw material	3.55	1.08	Great extent
10	Mastering best practices in provision of product/service	3.48	1.10	Moderate extent
11	Identification of new business opportunities	3.45	1.04	Moderate extent
12	Introduction of new products/services	3.42	1.12	Moderate extent

Table 1 shows the influence of entrepreneurship centers on the acquisition of vocational and innovation skills among polytechnic students in two Nigerian states. The respondents rated entrepreneurship centers as influencing acquisition and mastery of vocational and technical skills to a great extent. The respondents also rated seven other constructs including using modern facilities for production, training under experienced teachers, product/service incubation, innovation in existing products and service, converting ideas to new values as having been influenced to a great extent by the use of entrepreneurship centers in entrepreneurship education. Only three items were influenced to a moderate extent. These are: Mastering best practices in provision of product/service; identification of new business opportunities and introduction of new products/services. The mean ratings ranged from 3.42 to 3.74, while

the standard deviation scores ranged from 0.78 to 1.12 which indicates a broad consensus in the respondents' ratings.

Table 2: Mean and Standard Deviation of Responses on Extent of Entrepreneurship Centers Influence Acquisition of Entrepreneurship (Business/Management) Skills

SERIAL NUMBER	ITEM STATEMENT *Entrepreneurship Centers provide opportunities for acquisition/mastery of:*	MEAN	STANDARD DEVIATION	REMARKS
1	Marketing skill	3.53	0.94	Great extent
2	Business Management skill	3.43	1.08	Moderate extent
3	Leadership skill	3.40	1.12	Moderate extent
4	Communication skill	3.36	1.10	Moderate extent
5	Human relations skill	3.36	1.13	Moderate extent
6	Business plan writing skill	3.34	1.10	Moderate extent
7	Human resource management skill	3.30	0.98	Moderate extent
8	Sourcing of business finance	3.18	1.08	Moderate extent
9	Financial management skill	2.87	1.15	Moderate extent
10	Accounting skill	2.48	1.04	Small extent
11	Office management skill	2.36	1.11	Small extent
12	Self management skill	2.31	1.18	Small extent

The result on Table 2 shows respondents ratings on the extent of influence of entrepreneurship centers on the acquisition of Business and Management skills among polytechnic students. Marketing skill was rated as having been influenced to a great extent. Skills in business management, leadership, communication and human relations were rated as having been influenced to a moderate extent. Skills in business plan writing, human resource management, business finance sourcing and financial management were similarly rated as having been influenced only to a moderate extent. In the respondents' ratings, accounting, office management and self management skills have been influenced only to a small extent. The mean ratings ranged from 2.31 and 3.53 while the standard deviation scores varied from 0.94 to 1.18. The low standard deviation scores indicate that the responses cluster around their means, which indicates a high degree of uniformity in the responses.

Table 3: T-Test Analysis of Students and Teachers' Ratings of the Extent of Influence of Entrepreneurship Centers on Students' Acquisition of Vocational Skills

Respondents	No	Mean	SD	Df	t-cal	t- crit	Sig	Decision
Students	620	3.56	0.967	696	0.118	1.96	0.05	Not significant
Teachers	78	3.64	0.986					

Table 3 shows the t-test analysis comparing the mean responses of students and teachers on the extent of influence of entrepreneurship centers on students' acquisition of vocational skills. The mean scores of students and teachers were 3.56 and 3.64, while the standard deviation scores were 0.967 and 0.986 respectively. The calculated t was 0.118 while the table value at 0.05 level of significance was 1.96. Since the calculated t value (0.118) was smaller than the critical (table) value at 1.96, the null hypothesis was not rejected. Hence the study upheld the null

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hypothesis that no significant difference exists between the responses of the students and their teachers on the influence of entrepreneurship centers on the acquisition of vocational skills.

Table 4: T-Test Analysis of students and Teachers' Ratings of the Extent of Influence of Entrepreneurship Centers on Students' Acquisition of Entrepreneurship Skills

Respondents	No	Mean	SD	Df	t-cal	t- crit	Sig	Decision
Students	620	2.99	0.988					
				696	5.201	1.96	0.05	Significant
Teachers	78	3.72	1.189					

Table 4 shows the t-test analysis comparing the mean responses of students and teachers on the extent of influence of entrepreneurship centers on students' acquisition of entrepreneurship skills. The mean scores of students and teachers were 2.99 and 3.72 respectively, while the standard deviation scores were 0.988 and 1.189 respectively. The calculated t was 5.201 while the table value at 0.05 level of significance was 1.96. Since the calculated t value (0.118) was greater than the critical (table) value at 1.96, the null hypothesis was rejected. Rather, the study concluded that significant difference exists between the responses of the students and their teachers on this question

RESULT OF THE QUALITATIVE STUDY

At the conclusion of the quantitative aspect of the study, thirty students and ten teachers were interviewed to obtain clarifications and deeper insight into the findings of the study. Almost unanimously, all interviewees agreed that entrepreneurship centers have been very effective in imparting and deepening vocational skills. More than half the students indicated that they had gone outside their institutional disciplines for alternative vocational opportunities. A female Food Technology student explained that for entrepreneurship vocational training, she had opted for Fashion Designing because that was her mother's trade and she had observed that tailoring provides opportunities for self sustenance. Another, a Mass Communication student, opted for food and confectionary production because, in her opinion, food is an indispensable human need and is certain to provide basic livelihood in case paid employment fails. Others opted for vocational skills more related to their disciplines. A male Electrical Engineering student who chose Solar Panel installation as vocational skill explained that energy was the most important need of his home community, and with the abundance of sunshine in his state (Niger), he could leverage on his two skills for self sustenance and community development.

The respondents were at one in submitting that entrepreneurship centers have, to a great extent, promoted acquisition and mastery of vocational skills. Thus, the result of the qualitative study validated the finding of the quantitative aspect in respect of the first research question and hypothesis, indicating broad satisfaction with the operations of the entrepreneurship centers for vocational skill acquisition.

On the second research question and hypothesis, the response was less uniform. While the teachers (lecturers, instructors and facilitators) were of the view that entrepreneurship centers influence acquisition of business skills for entrepreneurship to a great extent, the students were not so sure. The student/teacher divide, so glaring in the result of the test of the second hypothesis, was reinforced by the different views strongly held by the interviewees. While all teachers interviewed were confident that the business/management aspects were being adequately addressed, an engineering student, whose view was largely shared by most other student interviewees, felt that the entrepreneurship curriculum, and entrepreneurship centers in particular, have not adequately prepared students for the business/management aspects of entrepreneurship. "I have learnt to make the products; I have even learnt to add new elements to old products. But how do I get them to the market? How do I get industries to accept the product and support me? It is not as if our teachers do not touch those subjects, but I think I may need an MBA before I can confidently venture into business."

Another student, an Urban and Regional Planning undergraduate with Business Management background said: "In the theoretical aspect of entrepreneurship education, we learn basic business skills like marketing, accounting and business management. We also learn other relevant competencies like communication from some of the courses we take as part of our diploma programs. But our entrepreneurship centers focus almost exclusively on vocational skill acquisition. The facilitators do not show sufficient interest in marketing, accounting and management as integral parts of vocational training. They teach us to produce, not to sell or balance our accounts. I think the

entrepreneurship education program should be so designed that business skills will be embedded with the vocational skills in training."

DISCUSSION

The results of the first research question and test of the first null hypothesis show that entrepreneurship centers, as part of the entrepreneurship education program, have been very effective in imparting vocational skills. In the centers, students learn new vocation, acquire creativity and innovation skills; are opportune to train under the best professionals, use state of the art facilities and equipment, incubate new products and services and master best practices in their chosen vocations. Students and teachers are in broad agreement on the effectiveness of the centers for vocational skill acquisition. This is in accord with the findings of Binuomote, Oyedele and Ademiluyi (2017) that entrepreneurship incubation centers are very effective in imparting vocational skills and attracting youths into productive new vocations and professions.

The results of the second research question and the second hypothesis show that entrepreneurship centers have been moderately effective in imparting business and management-related entrepreneurship skills. However, students and teachers differed significantly in their assessment of the effectiveness of entrepreneurship centers as instruments for management-related entrepreneurship skill acquisition. The difference may be attributable to differences in perceptions as some teachers may not have adequate understanding of the depth of entrepreneurship students' thirst for functional management skills. It may also be, as suggested by Emmanuel, Dazala and Daniels (2016), that vocational skill facilitators who direct skill acquisition in vocational centers often concern themselves almost exclusively with vocational skills, leaving acquisition of other skills to regular classroom entrepreneurship teachers.

Njoku and Nwosu (2011) report that entrepreneurial education has effectively enabled students to acquire certain personal characteristics and functional management skills needed for successful entrepreneurial ventures within or outside one's area of specialization. This may however be in theoretical context. Theory teachers have little responsibility for vocational skill acquisition while skill facilitators avoid basic theories. This may have created a gap which needs to be urgently bridged. In teaching vocational skills, teachers and skill facilitators may need to come together so that vocational and management competencies may be imparted as one package. This is likely to have salutary effect on the acquisition and mastery of both vocational and business skills.

CONCLUSION

The study shows that entrepreneurship centers are very effective in imparting vocational skills among polytechnic students in Nigeria. The centers are also moderately effective in helping students to acquire and master the business/management skills needed for entrepreneurship. However, teachers and students differ significantly on the extent of entrepreneurship centers' influence on the acquisition of business/management skills. While entrepreneurship centers have indeed been effective in imparting functional business and life skills, they can be made even more effective if vocational skill instructors marry vocational skill impartation with the teaching of relevant business skills like finance, accounting, marketing and communication, among others. For this to be possible however, vocational skill teachers and facilitators must not only be able to teach vocational skills, they must also have the knowledge and business experiences to be able to impart those functional business management and life skills, without which vocational skills cannot be entrepreneurially optimized. It is not as though these skills are not learnt at all. They are; however, vocational skill teachers rarely concern themselves with business skills, while theory teachers leave practical skill training to skill acquisition facilitators. This is the Achilles' heel of the current entrepreneurship education regime, which must be addressed if the program is to achieve optimal results.

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A New Course in Practical Accounting: Skills for Use in Daily Life

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ABSTRACT

Accounting is central to everyday life. In this paper, we propose a new course that introduces undergraduate students to different areas of accounting and highlights the importance of accounting to their day-to-day lives. We present a modular structure that can be taught on-ground or online and that can easily be adapted for use in full-semester courses, half-semester courses, or even shorter intensive courses. The course design is guided by the demands of the ever-evolving business environment, best practices for pedagogy, and accreditation standards for curriculum content. We expect that the course will not only show students how accounting knowledge can benefit them in their daily lives but also pique student interest in the field of accounting and serve as a magnet to attract students to the accounting major.

Keywords: Applied Accounting, Accounting Enrollments, Course Design, Course Materials, AACSB Assessment

INTRODUCTION

After graduation, individuals in all career fields will encounter accounting across various aspects of their lives. Unfortunately, many students are never trained in accounting and must navigate these challenges with little to no preparation. While some students may have the opportunity to take a course in personal finance, we are not aware of any analogous course in accounting. Though the disciplines overlap, accounting has applications extending far beyond personal finance. Accounting has both personal and professional applications. It provides insight into both microeconomic and macroeconomic analyses, and it informs social and policy issues. Accounting skills help people make wiser personal financial decisions and become better consumers and users of information. Throughout their personal and professional lives, individuals plan budgets, file tax returns, take on and pay off debt, run small businesses, see accounting in news headlines, form opinions on public policy, and live through all stages of the economic cycle. Training in applied accounting can help them rise to these challenges.

Accounting is often regarded as dry, and students may not be familiar with its importance in daily life. They may avoid accounting courses as a result of this perception. This course is designed to change students' negative view of accounting by exposing them to the practical relevance of the discipline and allowing them to engage with the course content through active learning. Accounting programs must strive to remain relevant and attract students in an increasingly competitive higher education market. In 2008 with the onset of the Great Recession, the average birth rate in the United States fell significantly, and it has continued to decline steadily since (World Bank, 2019). As such, the population of college-age students can be expected to decline in coming years, exacerbating the existing trend of shrinking college enrollments (Nadworny, 2019). In such an environment, accounting programs will need to deliver engaging, high-quality content to mitigate declining enrollments. This course may help attract students to the accounting major by demonstrating the importance of accounting in everyday life and introducing several topics covered in more depth in subsequent financial accounting, managerial accounting, taxation, auditing, government and nonprofit accounting, and forensic accounting courses. In addition, accounting firms are increasingly hiring non-accounting majors, primarily due to a gap in accounting students' technology skills (American Institute of Certified Public Accountants (AICPA), 2019). This course exposes students to a variety of technology platforms and is intended to help close this gap.

LITERATURE REVIEW

Students' negative perception of accounting affects their success in accounting courses and steers them away from accounting programs (Brown, Danvers, and Doran, 2016). A key factor influencing students' interest in courses is the degree of training in practical, applicable skills they receive in the course (Mason and Weller, 2000). Business

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students are attracted to practical courses offering a wide variety of job options and training in technology (Durndell, Siann and Glissov, 1990). Existing accounting curricula can be updated to better meet this demand by offering courses that emphasize the practical applications of accounting, with which students may not be familiar (Pleis, 2014).

Pedagogy can also greatly influence students' interest and success in courses. Prior research has documented many benefits of active learning techniques such as discussion, hands-on problem-solving, and case analysis (Prince, 2004; Barkley, 2010). Active learning is both engaging and effective in improving student learning outcomes (Ruhl, Hughes and Schloss, 1987; Vernon and Blake, 1993; Hake, 1997; Redish, Saul and Steinberg, 1997; Laws, Sokoloff and Thornton, 1999; Prince, 2004; Michael, 2006; Freeman, Eddy, McDonough, Smith, Okoroafor, Jordt and Wenderoth, 2014; Brown et al., 2016; Cavanagh, Aragón, Chen, Couch, Durham, Bobrownicki, Hanauer and Graham, 2016; Lento, 2016; Lubbe, 2016). Both students and faculty tend to prefer active learning methods, and problem-based learning is associated with positive student attitudes (Albanese and Mitchell, 1993; Vernon and Blake, 1993). Active learning provides a more motivating and enjoyable approach to education by improving students' attitudes, retention of course content, and motivation to think critically about the material (McKeachie, 1990; Vernon and Blake, 1993; Norman and Schmidt, 2000). Courses that emphasize problem-solving, case work, discussion, and other hands-on exercises allow students to apply what they have learned, developing their analytical, critical thinking, and communication skills in the process (Camp and Gilliard, 2014). We have designed this course to help students and instructors utilize active learning methods and problem-based learning techniques to achieve the course learning objectives.

Taken together, these streams of literature suggest that programs offering practical, active learning most appeal to students. With this research in mind, we have designed the proposed course to offer practical skills and hands-on experiences. By aligning the course's content and pedagogy with students' preferences and best practices from the literature, we anticipate the course will help attract students to accounting majors.

THE COURSE

Course Learning Objectives

Upon successful completion of the course, students will:

1. Understand how accounting is relevant across different facets of life.
2. Become smarter consumers of financial information who can think critically about the information presented by news media and other sources.
3. Be comfortable using software packages such as Excel and Tableau to aid in personal financial tasks and decision-making.

Course Format and Materials

There is no textbook currently available from any major publisher that cohesively covers the practical applications of the various sub-disciplines of accounting (e.g. auditing, financial accounting, managerial and cost accounting, personal finance, and tax). As such, we have compiled a list of recommended instructional materials from a wide variety of sources. Where possible, we recommend materials that are free of charge. Each topic includes a short lecture portion, but the course emphasizes active learning techniques. Lecture materials can be collected from textbook publishers, the AICPA, Khan Academy, and any other reputable source. Audio and video recordings may be useful in lieu of or in addition to lectures. Guest speakers and discussion of the instructor's own experiences should be included when appropriate, especially in the final module on careers in accounting. If the course is taught online, short lectures may be pre-recorded (using visual aids accompanied by a voice-over), allowing instructors the flexibility to use such lecture videos in both asynchronous and synchronous online classes. Because most of the course's assignments are technology-based, they can easily be offered in an online format. In addition, the specific software platforms used in the course may be adapted to meet the needs of the modern business environment. A summary of recommended materials for each topic appears below.

We acknowledge that covering all the recommended materials in each module may not be possible. The large amount of materials we have offered is meant to serve as a pool; instructors should not feel compelled to use all of the materials or to cover every activity. The set of suggested resources we have provided is intentionally broad, allowing instructors the flexibility to choose the materials they find most appropriate and useful. The course modules also permit easy adaptation to different course lengths, such as full-semester courses, half-semester courses, and even shorter intensive courses. Instructors may choose to cover only a subset of the modules listed below or to

focus on one or two of the bulleted activities per module. For example, if the course is taught over a seven-week period, instructors may find it appropriate to cover six modules of their choosing, allowing one week for assessments.

Module 1: Introduction to Accounting and Current Topics in Accounting

- Introduce students to the Certified Public Accountant (CPA) and Certified Management Accountant (CMA) professional qualifications. The AICPA has created a website (available at https://www.startheregoplaces.com/students) that contains a variety of resources that can be used to introduce students to the accounting profession. Information about the CMA designation is available from the Institute of Management Accountants (IMA) at https://www.imanet.org/.
- Provide an overview of various types of accounting (e.g. financial, managerial, tax, audit, bookkeeping). Short, free videos on various types of accounting are available online at "The Accounting Student" channel on YouTube at https://www.youtube.com/channel/UCLeYz0rDJnrq9mse2mI_K6g.
- Each student chooses a current news article related to accounting (broadly defined). Students discuss these articles in class or via an online discussion board.

Module 2: Accounting for Aspiring Entrepreneurs

- Provide an overview of financial accounting and the business environment, including the financial statements, accrual accounting, and transaction analysis. Videos, practice questions, and other resources are available for free from Khan Academy and at Dr. Michael McLaughlin's website, Edspira (available at https://www.khanacademy.org/economics-finance-domain/core-finance/accounting-and-financial-stateme and https://www.edspira.com/index-financial-accounting, respectively).
- Use the U.S. Small Business Administration's Learning Center (available at https://www.sba.gov/learning-center) to guide students in creating a business plan for a business of their choice.
- Demonstrate the use of common accounting software such as QuickBooks or Sage 50 (formerly Peachtree), both of which offer free online trial versions (available at https://quickbooks.intuit.com/au/free-accounting-software/ and https://www.sage.com/us/sage-50-accountingb/try, respectively).

Module 3: Budgeting

- Introduce students to budgeting concepts. Free resources and templates are available at the Federal Trade Commission's (FTC) website at https://www.consumer.gov/ and from the Federal Reserve Bank of St. Louis at https://www.stlouisfed.org/education/personal-budget/.
- Each student creates a personal budget using Excel.
- Introduce students to data visualization using Tableau. Tableau is available for free to faculty and students at https://www.tableau.com/academic.
- Students import their personal budgets from Excel into Tableau to easily visualize different budget categories.
- Provide an overview of budgeting from a managerial accounting perspective. Many videos are available for free at Dr. Michael McLaughlin's website at https://www.edspira.com/index-managerial-accounting/.

Module 4: Personal Finance

- Provide an overview of types of investments, debt, and credit. Resources are available from the FTC's at https://www.consumer.gov/ and the Federal Reserve at https://www.federalreserveeducation.org/.
- Students use Excel and/or a free online calculator to calculate interest earned on an investment (see, for example, https://www.calculator.net/retirement-calculator.html) and interest accrued on student loans (see for example, https://www.calculator.net/student-loan-calculator.html). Students may input data from their own personal investments/loans if they are comfortable doing so or use simulated data provided by the instructor.
- Students use one of the three major credit reporting bureaus to check their own credit score and report. Students may choose not to share this personal data with the instructor but may reflect on any factors positively or negatively influencing their credit.

Module 5: Taxation

- Introduce the framework for individual taxation. Various resources are available from Khan Academy (available at https://www.khanacademy.org/economics-finance-domain/core-finance/taxes-topic).
- Students print out and complete Federal Individual Income Tax Form 1040 (available at the Internal Revenue Service's website at https://www.irs.gov/). Students may use their own personal data (if they are comfortable doing so) or simulated data provided by the instructor.

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- Demonstrate the use of common income tax preparation software such as TurboTax or H&R Block, both of which offer free online versions (available at https://turbotax.intuit.com/personal-taxes/online/ and https://www.hrblock.com/ respectively).
- Provide a brief introduction to corporate taxation. Resources are available at Dr. Michael McLaughlin's website at https://www.edspira.com/corporate-taxation-index. Instructors may also wish to cover recent headlines related to corporate taxation. See Cerullo (2019) for an example.

Module 6: Decision-Making and Quantitative Analysis

- Introduce accounting for decision-making. See, for example, the Relevant Costs section of Dr. Michael McLaughlin's website at https://www.edspira.com/index-managerial-accounting/ for many useful resources.
- Students use Excel to make a business decision. For example, a template for the decision to accept or reject a special order is available at https://templates.office.com/en-us/special-order-pricing-tm10072362. Students can use this template to analyze a decision using simulated data provided by the instructor.
- Introduce students to regression analysis. A straightforward overview is available from the Harvard Business Review at https://hbr.org/2015/11/a-refresher-on-regression-analysis.
- Students use Excel to perform regression analysis. See https://www.excel-easy.com/examples/regression.html for a simple example on the relation between advertising expenditures and sales.

Module 7: Auditing

- Introduce students to the role of auditors in the accounting profession. Many videos about auditing are available for free at Dr. Michael McLaughlin's website at https://www.edspira.com/auditing-index/.
- Students work through portions of the "Sky Scientific, Inc." case (BeMiller, Wirtz, and Lindberg 2009) and/or the "Wiki Art Gallery, Inc." case (Phillips and Mackintosh, 2011).
- Introduce students to ethics in general (see, for example the University of Texas's Ethics Unwrapped website at https://ethicsunwrapped.utexas.edu/glossary/ethics for resources) and to the role of professional ethics in accounting (see https://www.aicpa.org/interestareas/professionalethics.html for resources).
- Students work through one or more of the short ethics cases available at the Ethics Unwrapped website at https://ethicsunwrapped.utexas.edu/.

Module 8: Accounting Scandals

- Introduce students to the fraud triangle. Free videos are available on YouTube. See, for example, "How People Rationalize Fraud" by Dr. Kelly Richmond Pope (available at https://www.youtube.com/watch?v=Tb6QX9Yy1GM).
- Students work through the "Tesco Cooks the Books" case (available at https://ethicsunwrapped.utexas.edu/video/tesco-cooks-the-books).
- Introduce students to the recent fraud at Theranos and/or other historical frauds. Free videos are available on YouTube. See, for example, "Theranos – Silicon Valley's Greatest Disaster" (available at https://www.youtube.com/watch?v=3CccfnRpPtM&t=16s) and "In His Own Words: The Theranos Whistleblower" (available at https://www.youtube.com/watch?v=9wf_2KYRPWQ).

Module 9: Accounting and Public Policy

- Introduce students to how accounting informs public policy decisions (see the United States Government Accountability Office (GAO) website at https://www.gao.gov/ for numerous reports that use accounting to analyze the fiscal impact of various issues).
- Provide students with a brief overview of governmental accounting. Resources are available from the Governmental Accounting Standards Board (see https://www.gasb.org/) and the Accounting Tools website (see https://www.accountingtools.com).
- Students choose a news article about a currently relevant public policy debate and discuss how accounting can lend insight to such a debate.

Module 10: Careers in Accounting

- Introduce students to the variety of job opportunities available to students who earn an undergraduate degree with a major in accounting. A variety of resources, including descriptions of the multitude of industries in which accountants work and profiles of real-life CPAs, are available from the AICPA at https://www.startheregoplaces.com. Resources specific to students interested in auditing are available at the

Discover Audit website at https://www.discoveraudit.org/college-students/. Resources for students interested in managerial accounting are available from the IMA at https://imanet.org/.

- Instructors discuss their own experiences working in accounting and seek guest speakers when available. In addition, videos are available on YouTube. See, for example, "Different Accounting Routes | CPA?? | 3 Months as an Auditor" (available at https://www.youtube.com/watch?v=CyeQ28uOqLA).
- Students interview alumni to learn more about the different career paths.

ALIGNMENT TO AACSB BUSINESS AND ACCOUNTING ACCREDITATION STANDARDS

We have developed this course in the spirit of the AACSB International's Guiding Principles and Standards for Business Accreditation (AACSB, 2020) and its Accounting Accreditation Standards (AACSB, 2018).

AACSB Business Accreditation Standards

The AACSB published new standards for business education in 2020 that are expected to be ratified in 2021. As of this writing, the AACSB business standard for learner success in business states that schools should deliver content that is "current, relevant, forward-looking," "cultivates agility with current and emerging technologies," and "promotes and fosters innovation, experiential learning, and a lifelong learning mindset" (AACSB 2020, 36). Consistent with this standard, the proposed course was borne out of a desire to deliver content that is both relevant and forward-looking. This course seeks to educate students on current technologies and is adaptable to new technologies that may emerge. The software platforms recommended in the suggested exercises are flexible and can be changed as the demands of the job market evolve. The course uses hands-on learning to help students develop knowledge, skills, and attitudes to succeed in both their professions and their larger communities. It teaches students to think critically and develop an inquisitive and analytical mindset, which allows them to be more effective learners not only during the course, but also for their lifetimes. In addition to professionally relevant accounting skills, the course teaches a broader skillset meant to help students become better consumers of information and more competent, positive contributors to society.

AACSB Accounting Accreditation Standards

AACSB's standards for accounting accreditation list nine areas that a program's curriculum content should address, including content related to financial and managerial accounting, taxation, auditing and assurance, and professional ethics (Standard A4, AACSB, 2018, 24). As this course emphasizes the practical applications of many different types of accounting, it addresses nearly all nine areas specified in the standards. Further, the overarching theme of the course fulfils the standards' directive for curriculum to teach "critical thinking and analytical skills" and "the ability to identify issues and develop questions, apply appropriate analyses, interpret results, and communicate conclusions." Throughout the course, students use critical thinking and applied problem-solving skills to identify, analyze, and interpret information related to accounting problems across a variety of settings.

CONCLUSION

Accounting can be extremely valuable and useful in daily life for most people. Yet, we are not aware of a course that introduces students to how accounting can be applied in their daily lives. We propose such an applied accounting course for undergraduate students. We provide a framework for a course with ten modules that can be covered in a semester-long course. This modular structure can easily be modified for courses that are shorter in duration or offered in an online setting. Since no textbook currently exists for such a course, we provide suggested resources and assignments for use in the course. The course introduces areas in which further coursework is typically offered in undergraduate accounting programs (e.g. auditing, cost and managerial accounting, financial accounting, taxation) as well as areas that are typically not covered until students reach a graduate program in accounting (e.g. fraud and forensic accounting, the intersection of accounting and public policy, accounting for entrepreneurs and small businesses). Our intention is that the course will not only show students how accounting knowledge can benefit them in their daily lives but also inspire them to pursue accounting majors and careers in accounting.

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NOTE: Instructors may contact the authors for a sample syllabus

An Exploratory Examination of Positive Distractions as a Method for Improving Students' Quiz Performance

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ABSTRACT

The purpose of this study is to examine the impact of positive distractions introduced by faculty to improve student performance in classroom test-taking settings. Specifically, this study explores whether positive distractions in the form of non-discipline specific puzzles embedded at the end of in-class quizzes impact the number of changes that students make while taking quizzes, and the overall quiz performance in introductory and upper-level undergraduate accounting courses. We also investigate students' perceptions of this practice. The results from this study suggest that faculty in introductory undergraduate business classes should consider using positive distractions in classroom test-taking settings to potentially create a more positive test-taking environment, and to improve student performance. This activity entails little effort from faculty and does not use additional class-time.

Keywords: positive distractions, testing, student performance, higher education in business

INTRODUCTION

Distractions are common in the classroom, can arise from numerous sources, and oftentimes affect student performance. Current students commonly multitask (Frand, 2000) and are used to distractions as they perform tasks (Olszewski, 2016). Most of the research on distractions in the classroom focuses on technology as distractors (Bugeja, 2007; Drozdenko, Tesch, & Coelho, 2012; Schmid et al., 2014). Tesch, Coelho, and Drozdenko (2011) extend the research on distractions to investigate the potency of both technological and non-technological distracting events and find that students' perceptions of distractors differ based on academic level and type of distractor. Much of the research on distractions in the classroom find that distractions adversely influence student performance. For example, prior research finds that distractions can impair concentration (Gilroy, 2003; Campbell, 2006), cognitive performance (Shelton, Elliott, Eaves, & Exner, 2009), learning and memory (Yamamoto, 2007; Fried, 2008), and learning environments (Seidman, 2005). While technology does introduce distractions and may negatively impact students, it can also benefit students. In a meta-analysis, Schmid et al. (2014, p. 284) determine that technology in the classroom can help students develop "higher levels of meaningful learning." Also, with the advancement of communication software, students can learn more efficiently (Cobb, 1997). Most studies have focused on how negative distractions (e.g. ringing cell phone, a student viewing something other than course material on their laptop, disruptive student behavior) impacts student behavior and performance but few studies focus on how positive distractions effect student performance. This study extends the research on classroom distractions to investigate the impact of positive distractions that are intentionally introduced by faculty to help students in a classroom test-taking setting.

A positive distraction is defined as an element "that elicits positive feelings, holds attention and interest without taxing or stressing the individual, and therefore may block or reduce worrisome thoughts" (Ulrich, 1991, p. 102). We examine how positive distractions, in the form of non-discipline specific puzzles included at the end of in-class quizzes, influence students' likelihood of making changes to their answers, performance, and perceptions. More specifically, we compare the self-reported changes and quiz performance of undergraduate accounting students enrolled in lower- and upper-level accounting courses across two consecutive semesters.[1] We collected additional survey data from students to gain a better understanding of students' perceptions of this practice. This study presents an activity that can easily be incorporated into introductory business courses that may improve student quiz performance and be appreciated by students.

[1] We refer to undergraduate students enrolled in the Introduction to Managerial Accounting Courses as lower-level students and students enrolled in Cost Accounting as upper-level students.

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LITERATURE REVIEW

A study at the Beckman Institute for Advanced Science and Technology at the University of Illinois at Urbana-Champaign was one of the first to investigate how positive distractions influence individuals' abilities to complete a task. Using a mixture of positive, neutral and negative images Iordan and Dolcos (2017) find that positive distractions result in increased task focus and performance, compared with negative distractions. One of the main takeaways from their study is that positive distractions help rather than interfere with working memory performance as they have minimal impact on the areas of the brain involved in the ability to stay focused on the task at hand, and increase activity in the area of the brain that helps to cope with distraction. Based on these findings we were curious to investigate whether this also applied in the classroom as an increase in task performance may potentially impact test-taking behavior. If including a positive distraction in an in-class quiz results in students being more focused on the task at hand (i.e., the quiz), they may be less likely to make changes due to errors or mistakes after finishing the quiz because their first attempt was more focused. Thus, our first research question investigates the influence of positive distractions included in in-class quizzes on testing behavior, specifically the number times students changed their answers and is as follows:

Research Question 1: Will students change their answers less frequently when positive distractions are included at the end of in-class quizzes relative to when positive distractions are not included at the end of in-class quizzes?

Most prior research suggests that when students change their responses on a test, their overall performance increases. The seminal study conducted by Mallinson and Miller (1956) examines eraser marks on scantrons and finds that students are more likely to change their response from an incorrect response to a correct response. More recent studies estimate that approximately 20% of students change the right answer to the wrong answer (Benjamin et al 1984; Kruger, Wirtz, & Miller, 2005). Education literature supports the notion that when students change their response, they are more likely to change their answers from an incorrect response to a correct response and improve their test scores (Benjamin, Cavell, & Shallenberger III, 1984).

While the predominant research suggests that changing answers results in improved performance, the prior studies investigating answer changes and test performance typically focus on courses within liberal arts, in particular courses in psychology (e.g., Sitton, Adams, & Anderson, 1980; Range, Anderson, & Wesley, 1982; Skinner, 1983) and education (e.g., Archer & Pippert, 1962; Lynch & Smith, 1975; Mueller & Schwedel, 1975). Few studies that examine the effects of changing responses on test performance are in college courses that are more mathematics-based, such as accounting and other business courses. Mathematical and analytical courses require different thought processes than courses that require higher-level thought, such as typical introductory education and psychology courses. Biologically, the functions required to succeed in these different types of courses are located in different parts of the brain. Mathematical and analytical skills are located in the temporal lobe of the brain, while higher level thought is located in the cerebral cortex of the brain (Moawad, 2017). Therefore, it is possible that students' examination thought processes and behavior would differ during an accounting course.

Given that the predominant literature suggests that changing answers results in improved performance, we would expect a greater number of changes to result in higher quiz performance. However, the prior literature also does not take into account the impact of positive distractions. If positive distractions included in quizzes increase student focus and task performance, it stands to reason that there will be fewer changes, but this does not necessarily mean that performance will be lower. If students are more focused on the task at hand (e.g. quiz) when there is a positive distraction, we expect that their quiz performance will be higher. To further explore this issue, we investigate the following research question:

Research Question 2: Will student quiz performance be higher when positive distractions are included at the end of in-class quizzes relative to when positive distractions are not included at the end of in-class quizzes?

Subject knowledge is an important factor when taking an examination or quiz. Subject knowledge differs between lower-level and upper-level undergraduate students. Students in introductory courses do not have the same foundation, or schema, for building on new concepts as more advanced students. Schema theory contends that when a person is subjected to an event, such as reading text or learning new information, that person will relate that topic to an area in which they are familiar. This allows individuals to gain a better understanding of the new information they encounter. The more schemata that a person has in a particular area, the better the comprehension (Bransford, 1985; Alvarez & Risko, 1989).

When the content covered in a course is novel and students have not had prior exposure to the subject matter, such as learning accounting for the first time in introductory accounting, students likely will not have a solid schema to build upon. This may result in decreased comprehension of new topics for lower-level students. Conversely, upper-level students have developed subject knowledge from the introductory courses which builds a more solid schema and aids with comprehension of new materials in the upper-level courses. Subsequently, students who have prior knowledge of a subject, such as practical knowledge or prior coursework in the area, are more likely to identify incorrect answer choices (Bliss, 1980).

Given the learning and test-taking differences exhibited by students in lower- and upper-level courses, we suggest that positive distractions included in quizzes may differentially influence students' quiz performance in lower- and higher-level courses. As previously discussed, positive distractions should result in improved task focus and performance. If students are more focused when taking a quiz, they are less likely to make careless mistakes and select the wrong answer choice. Previous research contends that upper-level students are more likely to select the correct responses on a quiz compared to introductory students. Thus, introductory students may benefit more from the increased task performance that results from positive distractions included in quizzes than more advanced students. The third research question we examine is as follows:

Research Question 3: Do positive distractions included at the end of in-class quizzes differentially affect lower- and higher-level undergraduate students' performance?

METHODOLOGY & DESIGN

The participants of this study consist of 162 undergraduate students enrolled in five sections of accounting courses (three Lower-Level and two Upper-Level courses) from an AACSB accredited university in the United States. Positive distractions were intentionally embedded at the end of in-class quizzes in three classes (n = 114), and two classes (n = 48) were used as a control group where the quizzes did not include the embedded distractions. Table 1 provides descriptive statistics comparing the demographic information of the treatment and control groups. None of the differences between the two groups are statistically significant.

Table 1: Descriptive Statistics and Mean Comparison by Group

Variable	**Positive Distraction (Treatment Group; *N* = 114)**		**No Positive Distraction (Control Group; *N* = 48)**	
	Mean	*Standard Deviation*	*Mean*	*Standard Deviation*
Age	20.7	3.09	20.7	2.00
GPA[a]	3.43	0.50	3.50	0.42
		Count (%)		*Count (%)*
Gender	Female:	55 (48.2%)	Female:	25 (52.1%)
	Male:	58 (50.8%)	Male:	23 (47.9%)
Major	Accounting:	86 (53.4%)	Accounting:	20 (41.7%)
	Finance:	25 (15.5%)	Finance:	9 (18.8%)
	Marketing:	12 (7.5%)	Marketing:	4 (8.3%)
	Management:	21(13.0%)	Management:	10 (20.8%)
	IT:	10 (6.2%)	IT:	4 (8.3%)
	Non-Business / Undecided:	7 (4.4%)	Non-Business / Undecided:	1 (2.1%)

[a] Calculated on a four-point scale.

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Quizzes were administered at the beginning of class and the lecture resumed after the allotted time for the quiz. All quizzes were hard copies taken in-class. There were ten quizzes in the lower-level course and nine quizzes in the upper-level course during the semester. All quizzes were worth 10 points each. The only difference between the control group and the treatment group was the positive distraction, one Sudoku and one-word search puzzle included at the end of each quiz. These puzzles are free and available from several different websites online. These free sources include "The Word Search" (https://thewordsearch.com/), "The Daily SuDoku" (http://www.dailysudoku.com/sudoku/), as well as other sources. The courses were taught by the same instructor. Lectures and other assignments were consistent between the control and treatment groups. The control group for each course received identical quizzes in terms of content and questions throughout the semester, but with no positive distractions (i.e., non-discipline related puzzles) at the end of the quizzes. Students were required to stay in their seats if they completed the quiz early. Thus, if a student finished the quiz early, the positive distraction gave them something to occupy their time while waiting for the lecture to recommence. Students were informed that there were no points associated with completing the puzzles and that the puzzles were only for entertainment purposes.

At the end of the semester, a brief survey was administered to the students. Students were informed that completing the survey was voluntary and anonymous. No points or extra credit were associated with the completion of the survey. The survey captured participants' demographic information and self-reported number of changes. The survey for the treatment group included additional questions that were not included in the control group survey to access student perceptions of the use of positive distractions included at the end of the quizzes. An additional survey was administered to students who received positive distractions in quizzes in a subsequent semester to further investigate their perceptions of this practice.

RESULTS

The first research question investigates the impact of positive distractions at the end of in-class quizzes on the number of changes students make while taking quizzes. We calculated *t*-tests to investigate whether positive distractions influence the number of changes made during the quizzes. The dependent variable was self-reported number of changes made. We asked participants "how often did you change your answers on quizzes after you completed the quiz and were waiting for the quiz to end?" We used a 7-point Likert scale with 1 being "never" and 7 being "all of the quizzes". The number of changes made decreased when positive distractions were included at the end of the quiz for both the Lower-Level and Upper-Level classes. Panel A of Table 2 reports the results of a *t*-Test and indicates a significant difference ($p < 0.001$) between the treatment and control groups. Students were less likely to make changes after completing the quiz when positive distractions were included at the end of the quizzes ($\bar{x}$ = 2.606) than when positive distractions were not included at the end of quizzes ($\bar{x}$ = 3.458). This provides support for the contention that positive distractions result in students making fewer changes to their answers.

The second research question explores differences in quiz performance between the treatment and control groups. We compared the mean quiz scores between the treatment and control groups. The quiz averages were higher in the treatment groups for both courses. As indicated in Panel B in Table 2, the overall comparison of quiz scores did not reveal a significant difference ($p = 0.318$). This suggests that even though students make fewer changes when positive distractions are present in quizzes, the inclusion of positive distractions does not appear to negatively impact student performance.

Our final research question investigates the differential impact of including positive distractions at the end of in-class quizzes on lower- and upper-level students. When we compared the quiz scores of the treatment and control groups by class (Introductory Managerial Accounting versus Cost Accounting) results suggest in Panel B in Table 2 that positive distractions included at the end of the quizzes did result in higher quiz performance in the lower-level classes ($p = 0.079$), but did not improve quiz performance in the upper-level classes ($p = 0.854$). This is most likely due to schema theory in that introductory students are still building their cognitive network for accounting topics. Upper-level students, on the other hand, have already been introduced to the material in introductory courses and therefore have a stronger foundation for new material. Thus, upper-level students are likely to have developed better test-taking skills in accounting and benefit less from the positive distraction.

Table 2: *t*-Test for Difference of Means[1]

Panel A: Change Answers

Pair	*N*	Mean	Std. Dev.	Two-tailed *t*-statistic	*p*-value
Treatment	114	2.606	.111	4.180	<0.001
Control	48	3.458	.171		

Panel B: Quiz Performance[a]

Pair	*N*[b]	Mean	Std. Dev.	Two-tailed *t*-statistic	*p*-value
Total					
Treatment	887	6.97	2.23	-1.00	0.318
Control	541	6.85	2.27		
Lower-Level Course					
Treatment	654	6.86	2.30	-1.76	0.079
Control	325	6.58	2.39		
Upper-Level Course					
Treatment	233	7.29	2.02	-0.18	0.854
Control	216	7.25	2.01		

[1] All *t*-tests are two-tailed.
[a] All quizzes were worth 10 points
[b] *N* represents the number of the total number of quizzes throughout the semester.

Perceptions of Positive Distractions

We asked students in the treatment groups to provide anonymous feedback to an open-ended question soliciting them to provide any additional thoughts or comments they would like to share about the non-accounting puzzles at the end of the quizzes. Sixty-nine students voluntarily provided comments. Fifty-two percent (n =36) provided positive feedback about the quizzes. These comments suggest that students found the puzzles to be "fun" and a "nice distraction" that helped them from second guessing and overthinking their answers. Further, it gave them something to do while they waited for other students to complete the quiz. Students also mentioned that the puzzles helped them to relax after taking the quiz and the novelty of the concept made them feel like the professor cared. Twenty-eight percent (n = 19) of the comments were indifferent about the puzzles, indicating that they never completed or utilized the puzzles. Thirteen percent (n = 9) of the comments were negative. In four of the negative comments, students indicated that the puzzles distracted them from focusing on the quizzes whereby they focused too much on the puzzles and rushed through the quiz. The remaining negative comments criticized the types of puzzles used or indicated that students found the puzzles to be pointless. The remaining seven percent (n = 5) of the comments were unrelated to the puzzles. A word cloud visually representing the relative ranking of the words provided in the relevant students' open-ended responses was created (see Figure 1). Overall, the comments suggest that the majority of students were either indifferent or they liked the positive distractions.

In a subsequent semester, we further investigated these comments. A total of 104 introductory accounting students received positive distractions and were asked to complete a survey regarding their thoughts on the puzzles that were embedded at the end of quizzes. A summary of the student responses to this survey is provided in Table 3. Sixty-nine percent (n = 72) of the students reported using the puzzles at some point during the semester. Mean responses indicate that students perceive many positive benefits from positive distractions including lowering test anxiety, helping with relaxation, having a positive impact on quiz performance, and minimizing second guessing. Further, the majority of students think that more faculty should use these types of positive distractions at the end of quizzes.

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Table 3: Mean (Standard Deviation) Student Perceptions of Positive Distractions[a]

Scale Item	Total n = 104	Used puzzle n = 72	Did not use puzzle n = 32
I found the puzzles at the end of the quizzes to be distracting in a negative way.	1.77 (1.16)	1.54 (1.01)	2.28 (1.33)
I think that the puzzles help lower test anxiety.	4.35 (1.51)	4.58 (1.53)	3.81 (1.35)
I feel as though the puzzles were helpful.	3.95 (1.29)	4.15 (1.32)	3.50 (1.14)
I think that more faculty should use the puzzles at the end of their quizzes.	4.51 (1.43)	4.72 (1.46)	4.03 (1.26)
I feel as though the puzzles had a positive impact on my performance on the quiz.	4.40 (1.43)	4.39 (1.39)	4.41 (1.36)
I was less likely to second guess my original answers when the puzzles where included at the end of quizzes.	4.24 (1.59)	4.14 (1.58)	4.47 (1.61)
I think that the puzzles helped me relax.	4.28 (1.58)	4.53 (1.62)	3.72 (1.35)

[a] Students were asked to rate their agreement on each statement above using a 5-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

We also investigated whether including positive distractions impacted student evaluations of the instructor. We compared the end of semester student evaluations between the class sections that had positive distractions included at the end of quizzes (treatment group) with class sections that did not (control group). On the College mandated evaluation, we examined responses to the question, "*Overall, I would rate my instructor as*," with a 1 indicating *Very Poor* and a 5 indicating *Very Good.* The section that received the positive distractions had a slightly higher average (4.93) than the control group that did not receive positive distractions (4.89). However, these differences are not statistically significant (untabluated).

CONCLUSION

The findings of this study suggest that not all distractions are negative. We designed this study to determine if embedding positive distractions at the end of in-class quizzes would improve performance on the quizzes, by providing a mechanism to increase task performance. Overall, students reported that they were less likely to change their answers when positive distractions were included at the end of the quizzes. The positive distractions were effective in improving quiz performance for lower-level students, but not for upper-level students. Survey results indicate that overall students have positive perceptions of positive distractions in test-taking environments. Further, the majority of students feel that this is a practice that other instructors should consider. This activity entails little effort from faculty to include the free puzzles in quizzes and does not use additional class-time. Thus, we suggest that instructors of introductory level business courses consider incorporating non-discipline specific puzzles at the end of in-class quizzes as a tool to minimize erroneous second guessing, improve quiz performance and generate a more positive and lower stress testing environment. Future research could seek to further investigate the impact and benefits of other types of positive distractions to better define how positive distractions can add value in the classroom and how to best leverage their benefits in the training of future business professionals.

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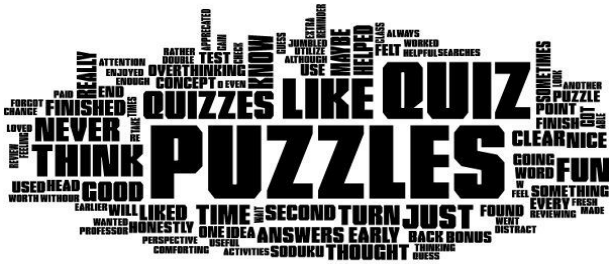
Figure 1: Word Cloud Image of Students' Open Ended Responses



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Germane Factors of the Financial Risk-Tolerance of Undergraduate Business Students

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ABSTRACT

Very few research papers, if there is any, in the education literature have included a discussion about how to estimate a business student's financial risk-tolerance, let alone any discussion of how the topic can be incorporated into various finance courses. Against this background, a method of estimating the financial risk-tolerance of business students and how the results can be used in finance teaching is introduced. A business student's part-time employment, as a factor, is a new attempt of this study to investigate its impact on the student's financial risk-tolerance. This factor appears to be significantly correlated with the level of risk-tolerance, and it is a significant predictor variable of a student's financial risk-tolerance as well. Like many studies in the personal finance literature, we also find that gender appears to be correlated with a student's risk-tolerance. Furthermore, gender appears to be a significant predictor of a student's financial risk-tolerance. The method introduced in and empirical results of this study can be used in the process of selecting students into the investment committee of a student-managed investment fund (SMIF) and various industries/sectors assigned thereafter. In addition, the discussion of the topic of financial risk-tolerance can be incorporated into at least two upper-level finance courses, e.g., Business Finance and Advanced Financial Management. Either a student's GPA or a student's decision of choosing finance as the business major does not have a significant association with his/her financial risk-tolerance.

Keywords: financial risk-tolerance, part-time employment, gender, SMIF

INTRODUCTION

Financial risk-tolerance is an important concept that is taught in the finance curriculum of a business school, due in part to the fact that it is a fundamental issue underlying a number of financial decisions such as how to set up a sound investment policy statement of an individual investor. According to the International Organization for Standardization (2006), the definition of financial risk-tolerance is the extent to which someone is willing to experience a less favorable outcome in the pursuit of an outcome with more favorable attributes. This is the identical definition used in most of the literature, such as Cordell (2001) and Grable (2017).

Notwithstanding the importance of the concept of financial risk-tolerance being taught, very few research papers, if there is any, in the education literature have included a discussion about how to estimate business students' financial risk-tolerance in the teaching and learning process, let alone any discussion about investigating germane factors impacting students' financial risk-tolerance. Therefore, the aims of this paper are twofold: (1) The author presents how to estimate students' financial risk-tolerance. In turn, the author provides suggestions of how the results may be incorporated into teaching finance as well as how it may improve students' learning experiences and their learning outcomes. (2) The author analyzes possible factors that may determine undergraduate business students' financial risk-tolerance.

THE GRABLE AND LYTTON FINANCIAL RISK-TOLERANCE SCALE

The 13-item financial risk-tolerance scale originally developed by Grable and Lytton (1999) has been used by over 200,000 consumers, educators, and researchers (Kuzniak *et al*. 2015). Both the validity and the reliability of the scale have been tested to be satisfactory, e.g., Grable and Lytton (2003), Gilliam, Chatterjee, and Grable (2010), Grable and Schumm (2010), and Kuzniak *et al*. (2015). Furthermore, it was stated in Kuzniak *et al*. (2015) that "The G&L scale is one of the only peer-reviewed public-no cost-assessment tools available to consumers, practitioners, and researchers." In this paper, the G&L 13-item scale is used to estimate a student's financial risk-tolerance. By using the 13-item scale, the total score obtained is used to represent a student's financial risk-tolerance level. Table 1 contains the interpretation of different ranges of possible scores of the G&L scale, and the information therein is obtained from the same website listed in Kuzniak *et al*. (2015) at: njaes.rutgers.edu/money/riskquiz/.

Table 1 The interpretation of scores obtained from the G&L 13-item scale

Total Score	Level
33-47	You have a high tolerance for risk.
29-32	You have an above-average tolerance for risk.
23-28	You have an average/moderate tolerance for risk.
19-22	You have a below-average tolerance for risk.
0-18	You have a low tolerance for risk.

METHODOLOGY

The Data Sample

The data was collected through an online survey. The survey was administered through *Blackboard* to students enrolled in either *Business Finance* or *Advanced Financial Management* in the spring semester of 2018. *Business Finance*, a junior level introductory finance course required in the core business curriculum, was the only finance course required of each business student, whereas *Advanced Financial Management*, a senior level finance course, was required of finance students. *Business Finance* was the prerequisite of the latter course. Students majored in other business disciplines may take *Advanced Financial Management* as an elective.

The author was the instructor of both courses. The course delivery mode of these two courses was web-enhanced. (Peng (2011) contains detailed discussions of finance courses delivered through the web-enhanced instructional mode.) The concept of financial risk-tolerance was introduced in both courses in different contexts. In *Business Finance*, it was introduced along with the rudimentary concepts of risk and return. In *Advanced Financial Management*, it was introduced as an extension of the discussion about the portfolio theory of Markowitz (1952), e.g., Faff, Mulino, and Chai (2008). It took students about 15 minutes in class to complete the survey. They were undergraduate business students at the college of business at a regional state university in the southern United States. Business students at the university can choose to major in one or more of the following fields of study: Accounting (Acct), Business Administration (BA), Finance (Fin), International Business (IB), and Marketing (Mkt). The college's business programs were AACSB-Accredited. Each participant's response was submitted anonymously.

The author was teaching two sections of Business Finance in the spring semester of 2018, and the combined enrollment of these two sections was 58. Out of these 58 students, 38 students completed the survey. The author was also teaching one section of Advanced Financial Management in the same semester, and the enrollment of this class was 43. Out of these 43 students, 38 students completed the survey. Thus, the students' response rate of the Business Finance course was about 66%, whereas the response rate of the Advanced Financial Management class was about 88%.

The Additional Questions Contained in the Survey

The G&L financial risk-tolerance scale contains 13 multiple-choice questions. Accompanying these 13 questions, there was a set of seven demographic questions requesting the following information. Each of these additional questions contained in the survey was open-ended in nature.

a. What is your major?
b. What is your GPA?
c. How many credit hours have you attempted?
d. What is your age?
e. What is your gender?
f. What is your marital status?
g. Do you work? If yes, how many hours on average do you work each week?

The Rationale of the Selection of These Additional Questions

Education attainment is a factor considered in the personal finance literature that it may increase an individual's risk capacity to evaluate uncertainties inherent to the investment process and therefore endow him/her with a higher financial risk tolerance. For example, see Sung and Hanna (1996). Note that education attainment is held constant in this study due to the fact that participants of the survey are all undergraduate business students taking upper-level finance courses. A business student's GPA, or Grade Point Average, has been used in the education literature as an important indicator of the student's academic success, e.g., Allen and Carter (2007). In addition, a college student's

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GPA is a number with the indication of how well on average the student has scored in the courses that he/she has taken. To the student, his/her GPA is often part of the determinants of the student's eligibility of financial aids, scholarships, membership of certain clubs, associations, or participation in certain extra-curricular activities. The GPA is also important if an undergraduate student is to apply for graduate school admissions. Thus, by holding education level constant, in this paper the author would like to check if there is any statistically significant relationship between a business student's financial risk-tolerance and the student's GPA. Meanwhile, in the education literature, both the major and the number of credit hours attempted have been used as predictor variables of a student's academic success in studying finance, e.g., Chan, Shum, and Wright (1997). Since in this study the author would like to estimate business students' financial risk-tolerance and these were finance courses, it seemed to be straightforward to investigate whether there was any significant difference between the risk tolerance of finance students and that of students of other majors as well as the impact of the number of credit hours attempted.

Among the other variables included in the additional questions, Age, Gender, Marital Status, and Part-time Employment, the first three variables have been explored in the literature for their predicative values in the determination of an individual's financial risk-tolerance; however, the conclusions are mixed at best. The last variable, Part-time Employment, is a new attempt of this study to investigate whether a student working part-time while attending college to get a business degree may affect his/her financial risk-tolerance.

Summary Statistics of the Data

Due to the grant of anonymity to respondents, it appears that any testing for nonresponse bias of the survey may not be doable. However, a formal test of any nonresponse bias would have been critical if the response rates were low, e.g., less than 10%. Given that both response rates were greater than 50%, let alone the fact that there was not any incentive for students to participate in the survey, it alleviates concerns that conclusions drawn from the survey results might be due to any nonresponse bias.

All statistics are obtained from running SAS. Each SAS variable which appeared in the paper is defined as follows:

Score = A student's total score of the G&L 13-item scale
GPA = A student's self-reported grade point average
C_Hrs = A student's self-reported number of credit hours attempted
Age = A student's self-reported age
W_Hrs = A student's self-reported number of working hours per week on average
Gender = A student's self-reported gender
M_Status = A student's self-reported marital status
AF = *Advanced Financial Management* course
BF = *Business Finance* course

Table 2 Summary statistics of the quantitative variables contained in the survey

	N	Mean	Median	Std Dev	Maximum	Minimum
Score	76	26.72	27.00	4.01	38.00	18.00
GPA	76	3.30	3.26	0.42	4.00	2.50
C_Hrs	76	92.50	84.50	28.16	193.00	46.00
Age	76	21.61	21.00	1.97	28.00	19.00
W_Hrs	54	24.39	25.00	8.25	40.00	5.00

With a much larger sample size of a total of 160,279 respondents, Kuzniak *et al.* (2015) reported the average financial risk-tolerance of 27.53 with the standard deviation of 5.48. In this study, the average financial risk-tolerance of business undergraduate students is estimated as 26.72 with the standard deviation estimated as 4.01. The median value of the risk tolerance of the students is very close to its mean. Hence, the shape of the distribution of students' risk-tolerance scores appears to be symmetrical. As per the information listed in Table 1, we may conclude that an undergraduate business student has a moderate financial risk-tolerance on average. The reliability of the finance risk-tolerance scores obtained by the G&L 13-item scale, as measured by Cronbach's α, was 0.73, which is comparable with that reported in Kuzniak *et al.* (2015) of $\alpha = 0.77$. Note that Nunnally and Bernstein

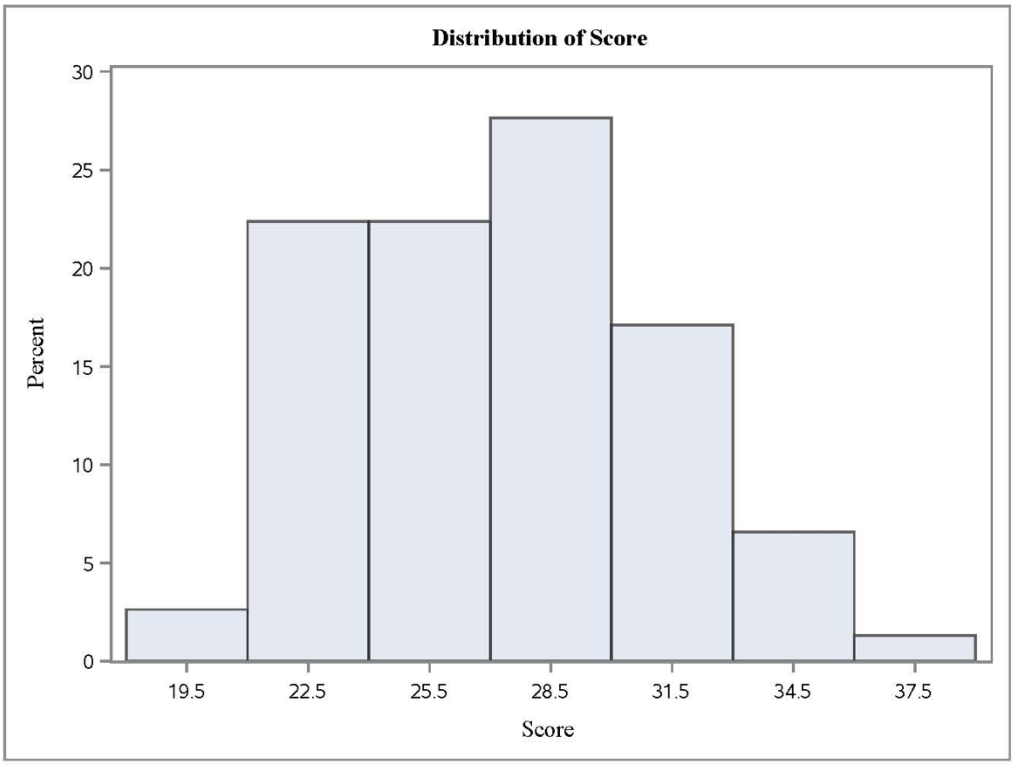
(1994) suggested 0.70 as an acceptable reliability coefficient; smaller reliability coefficients are seen as inadequate. A percentage histogram is depicted in Figure 1 for the reported scores from all 76 respondents.

Table 3 Tabularizing qualitative data: cross-classification tables

The qualitative data collected in the survey are summarized below.

Gender	M_Status		
	Married	Single	Total
Female	4	26	30
Male	6	40	46
Total	10	66	76

Figure 1. Percentage Histogram of Financial Risk-tolerance Scores



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Testing that the Sample of Financial Risk-tolerance Scores Came from a Normal Distribution

One of the assumptions of any *t*-test or an OLS regression model is that the underlying distribution of the response variable we are sampling from follows a normal distribution. As shown in Table 4 below, the normality assumption of the sampling distribution of the financial risk-tolerance scores is not rejected. Notice that normality is indicated by failing to reject the null hypothesis which is indicated by a large *p*-value. Since normality is indicated by failing to reject, the Type II error is more important than the Type I error. This motivates the use of a Type I error of 0.15 ($\alpha = 0.15$.)

Table 4 Tests for normality of the financial risk-tolerance scores

Test	Statistic		*p*-Value	
Shapiro-Wilk	**W**	0.981511	**Pr < W**	0.3340
Kolmogorov-Smirnov	**D**	0.080521	**Pr > D**	>0.1500
Cramer-von Mises	**W-Sq**	0.07445	**Pr > W-Sq**	0.2445
Anderson-Darling	**A-Sq**	0.491953	**Pr > A-Sq**	0.2203

Results of the *t*-tests

Among the qualitative (categorical) variables included in the survey, there is a statistically significant difference between the mean value of financial risk-tolerance scores of male students and those of female students as well as between the mean scores of students who have a part-time employment and those who do not. The mean score of male students' risk tolerance is estimated as 27.43, whereas it is 25.63 for female students. The mean score of the risk tolerance of students having a part-time job is 27.30, whereas it is 25.32 for students who do not work. There is not any statistically significant difference between the mean value of the risk-tolerance scores of students who are married and those who are single. In the personal finance literature, certain studies find married couples have more risk-tolerance, e.g., Grable (2000) and Grable and Lytton (1998). One paper finds that married couples are less risk-tolerant, e.g., Hallahan *et al*. (2004). However, the finding of Grable *et al*. (2004) is that there is not any significant relation between marital status and financial risk-tolerance.

As mentioned previously, the question pertaining to a student's marital status in the survey is open-ended. Either "Married" or "Single" was recorded as the two answers available. The mean estimate of the risk-tolerance of students who are married is 26.80, and that of students who are single is 26.71. The difference between the two estimates is not significant. Hence, we may conclude that there may not be any significant relation between a student's marital status and his/her financial risk-tolerance among undergraduate business students. The mean score of financial risk-tolerance of finance students does not seem to be significantly different from that of non-finance business students. In other words, a student's decision of choosing finance as his/her business major might not be a determinant of his/her risk-tolerance level.

Table 5 Statistical results of the *t*-tests

Variable: Score

Gender	N	Mean	Std Dev	Std Err	Minimum	Maximum
Female	30	25.63	3.93	0.7184	18	34
Male	46	27.43	3.94	0.5804	21	38

Method	Variances	DF	*t* Value	Pr > |t|
Pooled	Equal	74	-1.95	0.0549
Satterthwaite	Unequal	62.151	-1.95	0.0556

Equality of Variances				
Method	**Num DF**	**Den DF**	***F* Value**	**Pr > F**
Folded F	45	29	1.00	1.0000

Variable: Score

Work	N	Mean	Std Dev	Std Err	Minimum	Maximum
No	22	25.32	3.30	0.7037	21	33
Yes	54	27.30	4.16	0.5655	18	38

Method	Variances	DF	*t* Value	Pr > |t|
Pooled	Equal	74	-1.99	0.0504
Satterthwaite	Unequal	48.816	-2.19	0.0332

Equality of Variances				
Method	**Num DF**	**Den DF**	***F* Value**	**Pr > F**
Folded F	53	21	1.59	0.2472

Variable: Score

M_Status	N	Mean	Std Dev	Std Err	Minimum	Maximum
Married	10	26.80	4.57	1.4438	21	35
Single	66	26.71	3.96	0.4870	18	38

Correlation Analysis

Correlation analysis is used to measure the strength of the association between quantitative variables. The objective of the analysis is not to use one variable to predict another, but rather to measure the strength of the association or "covariation" that exists between two quantitative variables.

It is obviously indicated by the information presented in Table 6 that a student's financial risk-tolerance has a strong association with his/her part-time employment; however, the strength of a possible association of financial risk-tolerance with other variables is weak at best.

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Table 6 The correlation estimates between Score and GPA, Credit Hours, Age, Work Hours, Respectively

With Four Variables:	GPA, C_Hrs, Age, W_Hrs
One Variable:	Score

Pearson Correlation Coefficients, N = 76 **Prob > |r| under H_0: $\rho = 0$**	
	Score
GPA	0.0519 *0.6559*
C_Hrs	-0.0108 *0.9262*
Age	0.0181 *0.8770*
W_Hrs	0.2411 *0.0359*

Table 7 The pairwise correlation estimates among the five respective variables

Five Variables:	Score, GPA, C_Hrs, Age, W_Hrs

Pearson Correlation Coefficients, N = 76 **Prob > |r| under H_0: $\rho = 0$**					
	Score	**GPA**	**C_Hrs**	**Age**	**W_Hrs**
Score	1				
GPA	0.0519 *0.6559*	1			
C_Hrs	-0.0108 *0.9262*	-0.2014 *0.0810*	1		
Age	0.0181 *0.8770*	-0.2485 *0.0305*	0.5057 <.0001	1	
W_Hrs	0.2411 *0.0359*	0.0305 *0.7937*	0.0354 *0.7615*	0.1385 *0.2329*	1

In Table 7, the significant association between students' financial risk-tolerance and their part-time employments is verified. Meanwhile, it also reveals a couple of interesting associations such as the one between Age and Number of Credit Hours Attempted and the one between Age and GPA.

Regression Analysis

Regression analysis is used for the purpose of prediction. The goal in regression analysis is the development of a statistical model that can be used to predict the values of a response variable based upon the values of at least one explanatory or independent variable.

The STEPWISE OLS regression methods in SAS are chosen to fit the model of all the predictor variables included. Stepwise regression methods are algorithms which result in a single chosen model. A categorical variable is treated as an indicator (dummy) variable. In particular, for the variable of Gender, females are coded 1, otherwise 0. The selected regression equation with $R^2 = 10.58\%$ is given as follows:

$$Score = 26.16 - 1.78Gender1 + 0.07W_Hrs \qquad \text{Equation (1)}$$

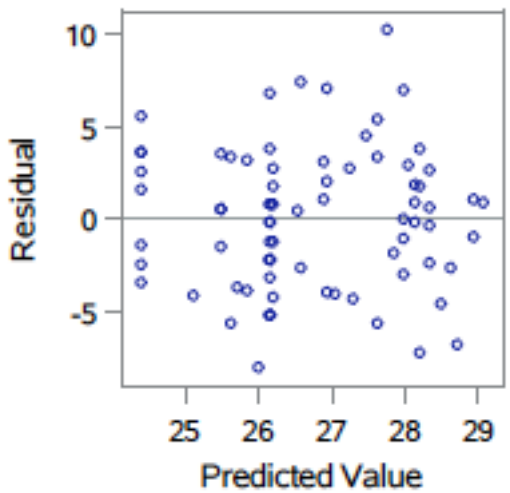
The pertinent SAS outputs along with the residual plot are given in Exhibit 1 below.

Exhibit 1: Pertinent SAS Outputs of the Regression and the Residual Plot

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	2	127.46681	63.73341	4.32	0.0169
Error	73	1077.73055	14.76343		
Corrected Total	75	1205.19737			

Root MSE	3.84232	**R-Square**	0.1058
Dependent Mean	26.72368	**Adj R-Sq**	0.0813
Coeff Var	14.37796		

Parameter Estimates							
Variable	**Label**	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**	**Variance Inflation**
Intercept	Intercept	1	26.16239	0.81833	31.97	<.0001	0
gender1		1	-1.77789	0.90176	-1.97	0.0524	1.00015
W_Hrs	W_Hrs	1	0.07289	0.03383	2.15	0.0345	1.00015



The interpretations of the regression model are as follows:

The Intercept: The average risk-tolerance score of a male student who does not have a part-time employment is 26.16.

Gender1: If a student is female, her risk-tolerance score will decrease by 1.78 on average in comparison with the score of a male student, holding part-time employment constant.

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W_Hrs: If a student's average working hours per week increases by one hour, the student's risk-tolerance score will increase by 0.07, holding gender constant.

CONCLUSION

A method of estimating business students' financial risk-tolerance is introduced. It is an interesting finding that either a student's GPA or a student's choice of majoring in finance does not have a significant association with his/her financial risk-tolerance. These two variables are not significant predictors of the risk-tolerance either. As many studies appeared in the personal finance literature, we find in this paper that gender appears to be correlated with a student's risk-tolerance. Furthermore, gender appears to be a significant predictor. Part-time employment, as a factor, is a new attempt of this study to investigate its impact on a business student's financial risk-tolerance, and this factor appears to be significant.

In order for graduates being thoroughly 'business-ready', many universities offer a Student-managed Investment Fund (SMIF) that is managed by their business student cohorts. In a SMIF course, during the semester a student will perform the functions of a security analyst and be a member of an investment committee, which has the responsibility to select securities and manage a portfolio. The investment committee usually is responsible for the securities selected and their industries/sectors. The security/industry/sector selected is usually monitored by separate groups of the investment committee. The method introduced in and empirical results of this study can be used in the process of selecting students into the investment committee of a SMIF and various industries/sectors assigned thereafter. In addition, as the author has mentioned previously in the paper, the discussion about the topic of financial risk-tolerance has been incorporated into at least two upper-level finance courses.

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Changing Business Student Perceptions of Program Factors in Online versus Face-to-Face Education

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ABSTRACT

In 2012 at an AACSB Jesuit, Catholic University with a strong focus on teaching, business student survey results indicated that they generally preferred face-to-face classes over online classes. Past research indicates that student perceptions may change over time. This study evaluates whether for this population, student perceptions changed. This paper reports on program factors of difficulty, student-to-student interaction, student-to-instructor interaction, cheating and program preference. This research has implications for instructors and administrators.

Keywords: Student Perceptual Changes, Online, Face-to-Face

INTRODUCTION

Given administrators believe online education to be equivalent to face-to-face (FTF) (Allen & Seamen, 2013), then students should be indifferent to all educational factors. However, prior research on student perceptions are mixed. Results from eight years ago at a teaching university found that students preferred FTF education over online education for most factors (Fish & Snodgrass, 2014), and other researchers at the time noted similar results (Platt, Raile & Yu, 2014). As technology continues to change, several researchers found that student perceptions to online education may change over time (e.g. Allen & Seaman, 2013; Benbunan-Fich & Hiltz, 2003; Perreault, Waldman, Alexander & Zhao, 2008; Tanner, Noser, and Langford, 2003; Tanner, Noser, Fuselier & Totaro, 2004-1; 2004-2; Tanner, Noser, Totaro & Birch, 2006; Tanner, Noser & Totaro, 2009).

Literature streams appear to concentrate on students' characteristics or program characteristics (Fish & Snodgrass, 2014). The purpose of this research is to present the student perceptual changes with respect to program characteristics at the same University, 6 years later. Our original study revealed that students who had experienced at least one online course and students who had never experienced an online course felt that FTF education was more difficult online, preferred the interaction with students and the instructor in the FTF environment, felt it was easier to cheat online than FTF, and both groups of students preferred the FTF classroom (Fish & Snodgrass, 2014). Preliminary analysis demonstrated that as students acquired more online experience, their perceptions of online education became more positive (Fish & Snodgrass, 2014). With changes in technology available in online education delivery and an increase in the number of online courses at the University, *have the students' perceptions on the program factors changed?*

Since the fall of 2012 when we originally conducted our study, the number of online courses available to students at the University and the instructor methods and available technologies to teach online have changed. Changes since the original study for online technology include a change to Desire2Learn at the University, from FTF interaction through 'GoToMeeting' to Zoom, the increase in Youtube, Google, and other videos availability, and additional access to database management systems such as Python and 'R'.

An instructor's decisions to instruct online or FTF for a particular course impact the course design and technologies used. Instructors need to consider the barriers to distance education in their instructional design. These barriers include faculty, organization and course structure; physical distance; difficulties in dealing with media; time constraints; lack of background knowledge, distance education experience or technology skills; and low interactivity with the communication process (Olesova, Yang & Richardson, 2011). We continue with a review of available literature on each program characteristics studied in this paper.

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REVIEW OF THE LITERATURE: PROGRAM FACTORS

The program factors presented here include difficulty, preference for online or FTF, academic integrity (cheating), student-to-student (SSI), and student-to-instructor interaction (SII). Most research on these factors is older. Our review is not comprehensive, but rather, a demonstration of the current state for each factor and our hypotheses.

Difficulty. Student perceptions on academic difficulty vary, with some studies finding FTF courses easier than online (Dobbs et al, 2009; Asunka, 2008), while other finding online courses easier than FTF (Armstrong, 2011). In our original study, online students felt that online courses tended to be easier than FTF courses, while FTF students were relatively indifferent (Fish & Snodgrass, 2014). While mathematics students found it more challenging to learn mathematics online than qualitative material, general education students did not see a difference (Stankous & Buibas, 2018). Students noted that lack of communication, time delay in getting their questions answered, a lack of SSI, a need for a high level of computer literacy, and technical problems, all contributed to making online quantitative classes more challenging (Stankous & Buibas, 2018). Therefore, we pose research question #1: *Over the past 6 years, have students' perceptions on the difficulty of online education changed, or do they still feel online education is 'easier' than FTF?* We pose the following hypothesis:

H_{1oA} In the online environment, over the past 6 years, students' perceptions of online education difficulty versus FTF have remained the same.

H_{11A} In the online environment, over the past 6 years, students' perceptions of online education difficulty versus FTF have changed.

H_{1oB} In the FTF environment, over the past 6 years, students' perceptions of online education difficulty versus FTF have remained the same.

H_{11B} In the FTF environment, over the past 6 years, students' perceptions of online education difficulty versus FTF have changed.

Program Preference. While chief academic officers claim FTF and online learning are the same (Allen & Seamen, 2013), student perceptions are mixed as some favor online over FTF (Hannay & Newvine, 2006) and others indicate the opposite (Asunka, 2008). While first-time online students felt online quality was lower, students with prior experience felt online quality was comparable (Dobbs et al., 2009). In another study, upper-level math students preferred learning math online, while less than half of general education students preferred online learning (Stankous & Buibas, 2018). Another study from 29 Australian universities students preferred online learning for providing a clear, coherent structure for the material, supporting self-regulated learning and distributing information (Paechter & Maier, 2010). Students regard online learning as being more suitable when the learning flexibility, opportunities for exercises and monitoring one's learning processes are supported. They preferred FTF for transfer of content-based knowledge and skills, in scientific work routines, and for communication purposes when a shared understanding to draw conclusions was necessary (Paechter & Maier, 2010). In our original study, online students preferred to be in the FTF classroom or were indifferent, while FTF students overwhelmingly preferred the FTF classroom (Fish & Snodgrass, 2014). Therefore, we pose research question #2*: Over the past 6 years, have students' perceptions of preference for an educational medium changed?* We pose the following hypotheses:

H_{2oA} In the online environment, over the past 6 years, students' perceptions of their educational preference in a particular learning environment remain unchanged.

H_{21B} In the online environment, over the past 6 years, students' perceptions of their educational preference in a particular learning environment changed.

H_{2oB} In the FTF environment, over the past 6 years, students' perceptions of their educational preference in a particular learning environment remain unchanged.

H_{21B} In the FTF environment, over the past 6 years, students' perceptions of their educational preference in a particular learning environment changed.

Academic Integrity (Cheating). Rumors surrounding online cheating are rampant. Generally, most people feel that students are more inclined to cheat online than FTF. Our original study found that FTF and OL students perceived cheating was easier online than FTF (Fish & Snodgrass, 2014). Undergraduate business students felt that it was easier to cheat online (King, Guyette & Piotrowski, 2009), and criminal justice students perceived it be more common online (Lanier, 2006). Many good students felt compelled to cheat to compete with others whom they felt were cheating, and some online students (40%) admitted helping others with exams (Lanier, 2006). Students with

higher grade point averages, females, married and older students are reportedly less inclined to cheat (Lanier, 2006). While one study found online cheating to be more prevalent than FTF (Fontaine, 2012), another student found students tend to engage less in cheating online than FTF (Peled et al., 2019). Therefore, we pose research question #3*: Over the past 6 years, have students' perceptions of cheating changed? Do they still feel it's easier to cheat online than in the FTF classroom?* We pose the following hypotheses:

$H_{30}A$ In the online environment, over the past 6 years, students' perceptions of cheating remain unchanged.

H_{31A}In the online environment, over the past 6 years, students' perceptions of cheating changed.

H_{30B} In the FTF environment, over the past 6 years, students' perceptions of cheating remain unchanged.

H_{31B} In the FTF environment, over the past 6 years, students' perceptions of cheating changed.

Student-to-Student Interaction (SSI). Student-to-Content interaction (SCI), Student-to-Instructor interaction (SII) and SSIs impact upon the student perceptions and effectiveness in the FTF and online classroom. Research results are mixed on these constructs. Empirical research indicates that SIIs followed by SSIs were equally or more important relative to SCI as they mitigated the sense of isolation of online courses (Campbell et al., 2008; Lou et al., 2006; Means et al., 2009). However, other studies indicate that when SII and SSI were low, increasing SCI, increased course effectiveness (Bernard et al., 2009). Another study demonstrates that SCI are the most preferred interaction, followed by SII and SSIs (Mann & Henneberry, 2014).

While results on SSI and communication are mixed, communication speed and consistency can shape students' perceptions and approaches to learning (Armstrong, 2011). Online courses may enhance learner participation and interactivity (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000; Maeroff, 2004; Wang & Morgan, 2008). Other studies highlight student distress (Hara & Kling, 2003) or general feeling of 'disconnect' due to the lack of FTF interactions (Stodel, Thompson & MacDonald, 2006). The inability to interact influences student perceptions as to how well they perform in an online class (Picciano, 2002; Song, Singleton, Hill & Koh, 2004). Students report communication issues with other students (Horspool & Lange, 2012) along with a general unwillingness of other online learners to participate in group activities (Dirkx & Smith, 2004; Maeroff, 2004). Online students report meeting with their peers less often and form fewer study groups than FTF students (Horspool & Lange, 2012).

Communication issues, personal feelings about group members and student participation are important in developing students' perceptions about group work (Smith et al., 2011). Students in online sections were more negative to group work than students in FTF sections (Smith et al., 2011). Mutual support and the feeling of group cohesion are related to students' experience of social presence, their engagement in team work, motivation to participate in a learning environment, and course satisfaction (Concannon, Flynn, & Campbell, 2005; Garrison et al., 2000; Nagel & Kotze, 2010). The support for cooperative learning and group work has a positive impact on an online student's course satisfaction (Paechter & Maier, 2010). In Washington state, high school students perceived online education as offering positive benefits for active learning and autonomy, and FTF education as favoring student interaction, collaboration and happiness (Carver & Kosloski, 2015). In our original study, FTF students liked the FTF student interaction more compared to online classes (Fish & Snodgrass, 2014). Therefore, we pose research question #4: *Over the past 6 years, have students' perceptions on SSI changed? Do they still feel it's easier to interact in the FTF classroom than online?* We pose the following hypotheses:

H_{40A}In the online environment, over the past 6 years, students' perceptions of SSI remain unchanged.

H_{4A1}In the online environment, over the past 6 years, students' perceptions of SSI changed.

H_{40B}In the FTF environment, over the past 6 years, students' perceptions of SSI remain unchanged.

H_{41B}In the FTF environment, over the past 6 years, students' perceptions of SSI change.

Student-to-Instructor Interaction (SII). With respect to the SII, results are again 'mixed'. When students perceive faculty as missing, students perceived the course quality as poor and vice versa (Armstrong, 2011). The degree of social presence, perceived learning and perceived instructor quality are positively correlated (Richardson & Swan, 2003). Some studies indicate that SII is equal or more positive online than FTF (Boyd, 2008; Mortagy & Boghikian-Whitby, 2010), indifferent (Horspool & Lange, 2012), while others indicate its weaker (Fish & Snodgrass, 2014; Wuensch, Aziz, Ozan, Kishore & Tabrizi, 2008; Wang & Morgan, 2008). How an instructor supports and counsels, develops course clarity and structure, factual and theoretical knowledge acquisition and an instructor's own expertise in online education can positively contribute to online course satisfaction (Paechter & Maier, 2010) and may influence SII. Social information and the potential to exchange socio-emotional information,

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along with the educational content, may influence students' engagement, motivation, satisfaction and the decision to continue a course (Johnson, Hornick & Salas, 2008; Richardson & Swan, 2003). Instructor characteristics, particularly in demonstrating expertise, positively contributes to the online learner satisfaction (Ellis, Ginns & Piggott, 2009; Lee et al., 2009).

Instructor service and support influences student perceptions (Despr es-Bedward, Avery & Phirangee, 2018). With respect to the SII, students preferred online when communication was fast, for example prompt feedback on assignments (Paechter & Maier, 2010), timely and consistent (Despr es-Bedward et al., 2018). However, students generally preferred FTF interaction for developing a positive interpersonal relationship with the instructor (Price, Richardson & Jelfs, 2007). In the original study, students perceived the SII to be better in the FTF environment than the online one (Fish & Snodgrass, 2014). Therefore, we pose research question #5: *Over the past 6 years, have students' perceptions on SII changed? Do they still prefer the interaction with the instructor in the FTF environment instead of online?* We pose the following hypotheses:

H_{50A} In the online environment, over the past 6 years, students' perceptions of SII remain unchanged.
H_{51A} In the online environment, over the past 6 years, students' perceptions of SII remain changed.

H_{50B} In the FTF environment, over the past 6 years, students' perceptions of SII remain unchanged.
H_{51B} In the FTF environment, over the past 6 years, students' perceptions of SII remain changed.

Salient Conclusions for Our Study. Our literature review demonstrates the ambiguity that exists in the debate between online and FTF education. As we have proposed previously (Fish & Snodgrass, 2014), the study's context may be an important factor to consider. Most business student perceptions research was published over 10 years ago (e.g. Perreault et al., 2008; Tanner et al., 2003; Tanner et al., 2004-1, 2004-2), and similar to other studies (Mortagy & Boghikian-Whitby, 2010; Perreault et al., 2008), perceptions may have changed.

RESEARCH METHODOLOGY

Our study focused on undergraduates and graduate business students at a mid-sized, northeastern, Jesuit, Catholic University with a focus on teaching. Traditionally, class sizes averaged 17 students. Online education is a growing educational method; however, at the time of the survey, not all students had experienced this medium (Allen & Seaman, 2013). Our research focus here lies in uncovering changes since our original study in business student perceptions of online versus FTF education for the program factors of difficulty, preference, cheating, SII, and SSI. Theoretically, students should perceive the environments equally.

During the month of November 2018, undergraduate and graduate business students voluntarily completed the online Qualtrics-administered survey. We sent the survey link to business students via a list serve twice over the month. In 2018, 74 undergraduates and 60 graduates responded to the survey. In fall of 2012, we administered a similar survey in FTF classes, and 64 undergraduate and 47 graduates participated (Fish & Snodgrass, 2014).

Based upon research, we previously designed a survey to test student perceptions based upon individual and program factors, preference for and happiness with online or FTF education, and appropriateness of online at the University (See 2012 Student Survey at: http://www.cambriainstitute.com/journals/j.brcacadjb.2015.04.01.wa04.pdf.) Students were also asked which activities increased or decreased their understanding. In the original 2012 study, background information gathered included class level, gender and online experience. In the 2018 study, background information included class level (undergraduate or graduate), age, gender, major (undergraduate) or concentration (graduate), self-described level of technological understanding, and whether the student was a transfer student.

Students who experienced at least 1 online course completed Section A ("OL"), while students who had never taken an OL course completed Section B ("FTF"). Sections A and B had corresponding questions, but Section A statements were specific to "I found" versus Section B statements were "I perceive". For students with online experience, the last question inquired why they chose to take an online course, and for students without online experience, the survey included an open-ended question inquiring 'why not'. Information from the surveys was codified as Significantly Less (1), Less (2), The Same (3), More (4) and Significantly More (5), and the data was entered into an SPSS for analysis.

As shown in Table 1, the number of students who have taken at least one OL course virtually doubled by 2018 (82) from 2012 (44). The number of students who reported never taking an OL course in 2012 (67) decreased slightly by 2018 (52).

Table 1. Number of Students Online and FTF in 2012 & 2018 Surveys

# of Students	Online	FTF	Total
2012	44	67	111
2018	82	52	134
Total	126	119	245

Average responses and response for each program factor from the prior study (Fish & Snodgrass, 2014) are shown in Table 2. Given the survey setup, responses positively viewed the environment that a student participated in. For example, if an OL student felt that OL was more difficult than FTF, the student indicated a significant 'positive' for the OL environment. The scale for the FTF students was similar for their environment. Therefore, if the two groups perceived the learning environment differently than their own environment, a significant difference between the two groups existed. As shown in Table 3, in 2012 students' perceptions of OL and FTF were significantly different for preference (p=.000), cheating (p=.000), SSI (p=.000), and SII (p=.000). A slightly significant difference existed with respect to course difficulty (p=.062).

Table 2. 2012 Student Results (Fish & Snodgrass, 2014)

Metric	Average Response		Online Response					Face-To-Face Response				
	OL	FTF	1	2	3	4	5	1	2	3	4	5
Difficulty	2.43	2.69	7	17	14	6	0	5	32	10	19	1
Preference	1.64	2.47	21	18	5	0	0	6	23	37	0	0
Cheat	2.45	3.93	6	19	13	5	1	1	1	15	35	15
Interact between students	2.64	4.22	2	21	13	7	1	1	1	6	33	26
Interact instructor-student	2.61	4.40	4	20	10	9	1	1	0	3	30	33

Table 3. Chi-Square Analysis FTF Program Factors 2012: OL vs. FTF (Fish & Snodgrass, 2014)

Metric	Pearson Chi-Square Value	Df	Asymptotic Significance (2-sided)	Pearson's R	Spearman Correlation
Difficulty	8.971	4	.062 **	.127	.105
Preference	30.129	4	.000 *	.523	.522
Cheat	52.137	4	.000 *	.643	.649
Interact between students	59.906	4	.000 *	.685	.688
Interact instructor-student	65.020	4	.000 *	.725	.722

* $p \leq .05$, ** $p \leq .10$

Average responses and response for each program factor for the 2018 study are in Table 4. As shown in Table 5, significant differences in student preferences exist for every program factor – difficulty (p=.018), preference (p=.026), cheating (p=.000), SSI (p=.000), and SII (p=.000).

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Table 4. 2018 Student Results (Fish & Snodgrass, 2019)

Metric	Average Response		Online Response					Face-To-Face Response				
	OL	FTF	1	2	3	4	5	1	2	3	4	5
Difficulty	2.57	2.94	8	29	35	10	0	2	18	14	17	1
Preference	1.74	2.08	35	33	14	0	0	15	16	19	0	0
Cheat	2.34	3.87	15	27	37	3	0	1	3	10	26	12
Interact between students	2.59	3.92	13	29	22	15	3	2	2	11	20	17
Interact instructor-student	2.62	3.96	5	33	34	8	2	2	0	13	20	17

Table 5. Chi-Square Analysis FTF Program Factors 2018: OL vs. FTF (Fish & Snodgrass, 2014)

Metric	Pearson Chi-Square Value	Df	Asymptotic Significance (2-sided)	Pearson's R	Spearman Correlation
Difficulty	11.868	4	.018 *	.201	.182
Preference	7.329	2	.026 *	.208	.202
Cheat	74.205	4	.000 *	.659	.673
Interact between students	41.108	4	.000 *	.528	.535
Interact instructor-student	56.783	4	.000 *	.593	.610

* $p \leq .05$, ** $p \leq .10$

The 2012 and 2018 OL students did not significantly differ for the program factors studied, as shown in Table 6. Since students were from the same treatment, their perspectives should be the same and a significant difference indicates a shift in that perspective. However, as shown in Table 7, 2012 and 2018 FTF students significantly differed on preference (p=.012) and SII (p=.007). 2012 FTF students preferred the FTF environment more, while 2018 FTF students were more indifferent to the environments. Similarly, in 2012 FTF students were extremely positive with regard to the SII, however, they were not as positive about SII in 2018.

Table 6. Chi-Square Analysis Online Program Factors 2012 vs. 2018

Metric	Pearson Chi-Square Value	Df	Asymptotic Significance (2-sided)	Pearson's R	Spearman Correlation
Difficulty	1.911	3	.591	.078	.082
Preference	.786	2	.675	.072	.067
Cheat	7.489	4	.112	-.063	-.026
Interact between students	4.521	4	.340	-.024	-.027
Interact instructor-student	5.855	4	.210	.003	.024

* $p \leq .05$, ** $p \leq .10$

Table 7. Chi-Square Analysis FTF Program Factors 2012 vs. 2018

Metric	Pearson Chi-Square Value	Df	Asymptotic Significance (2-sided)	Pearson's R	Spearman Correlation
Difficulty	4.159	4	.385	.128	.134
Preference	8.861	2	.012 *	-.255	-.239
Cheat	1.799	4	.773	-.035	-.017
Interact between students	5.405	4	.248	-.164	-.146
Interact instructor-student	12.003	3	.007 *	-.255	-.252

* $p \leq .05$, ** $p \leq .10$

DISCUSSION

Students tend to view FTF education as being more difficult, more difficult to cheat in, and offer more interaction for SSI than OL. OL student perspectives have not significantly changed over the 6 years; however, FTF student perspectives have changed on preference and SII. While OL students' preferences tend to be indifferent to the two environments; over the 6 years, FTF students appear to be 'shifting' towards indifference to the two environments – particularly on SII. Our results demonstrate that student perspectives did not change for the OL group for this factor, keeping with some prior research (Chew & Yee, 2015). However, our results confirm other research that demonstrated significant changes in FTF student perspectives for preference and SII (Benbunan-Fich & Hiltz, 2003; Perreault, Waldman, Alexander & Zhao, 2008; Tanner, Noser, and Langford, 2003; Tanner, Noser, Fuselier & Totaro, 2004-1; 2004-2; Tanner, Noser, Totaro & Birch, 2006; Tanner et al., 2009). As education continues to be proliferated with OL components within FTF courses, FTF students may become more indifferent to the two environments. Perhaps, as FTF students attempt OL or hybrid courses, their perspectives on other factors may change as well.

Difficulty. Originally, students viewed the difficulty between the educational environments as only slightly significantly different and tended to view FTF as more difficult (Fish & Snodgrass, 2014); however, six years later students perceive difficulty differently. While FTF students in 2018 were more indifferent to the difficulty differences between the environments, OL students felt that OL was easier than FTF. A significant shift in student perceptions between the two survey populations did not occur, and results favored the null hypotheses ($H_{1oA}$and H_{1oB}). While a shift may be occurring, students at this University still perceive FTF as being more difficult than OL courses in support of some prior research (Dobbs et al, 2009; Asunka, 2008) but not others (Armstrong,2011).

Program Preference. In general, for both studies, students – OL and FTF – prefer to be in the FTF environment, supporting some prior research (Asunka, 2008; Fish & Snodgrass, 2014) but not others (Hannay & Newvine, 2006). Significant differences for student preference between 2012 and 2018 FTF students may indicate a shift, and favor the null hypothesis for OL students (H_{2oA}) but the alternative for FTF students (H_{21B}). 2012 FTF students overwhelmingly favored FTF, but 2018 FTF students were more indifferent to the learning environments. Perhaps as the number of OL courses increases – and with student communication, FTF students are more amenable to OL education. Six years later, OL students at this private teaching University do not view OL and FTF educational experiences equally, a claim made by academic officers (Allen & Seaman, 2013). While business tends to be quantitative, the survey did not separate qualitative and quantitative OL courses as in the Australian study (Paechter & Maier, 2010). Perhaps structuring the survey to address quantitative and qualitative OL courses separately may reveal different perspectives.

Cheating. Student perceptions on cheating have not changed as the null hypotheses are still favored ($H_{30}A$and H_{30B}). As in the original study (Fish & Snodgrass, 2014) and other studies (King, Guyette & Piotrowski, 2009; Lanier, 2006), FTF and OL students still perceived cheating to be easier OL than FTF.

Student-to-Student Interaction. While prior studies indicated 'mixed' results with respect to SSI (Campbell et al., 2008; Fredericksen, Pickett, Shea, Pelz, & Swan, 2000; Hara & Kling, 2003; Lou et al., 2006; Mann & Henneberry, 2014; Means et al., 2009; Maeroff, 2004; Stodel, Thompson & MacDonald, 2006; Wang & Morgan, 2008), for this population, OL and FTF students still prefer FTF interaction with other students, supporting the null hypotheses ($H_{40A}$and H_{40B}). These results support our prior results (Fish & Snodgrass, 2014) and other research (Smith et al., 2011). FTF students appear to prefer the SSI in the FTF environment, similar to the high school students (Carver & Kosloski, 2015). Even with changes in OL delivery over the six years, this population still prefers to interact with other students FTF.

Student-to-Instructor Interaction. Other studies demonstrated mixed results on SII (Boyd, 2008; Horspool & Lange, 2012; Mortagy & Boghikian-Whitby, 2010; Richardson & Swan, 2003; Wang & Morgan, 2008; Wuensch, Aziz, Ozan, Kishore & Tabrizi, 2008). In the original study, the population overwhelmingly perceived SII more positively FTF (Fish & Snodgrass, 2014); however, by 2018, FTF students' views on SII changed. The alternative hypothesis (H_{51B}) was favored for 2018 FTF students as they 'favor' but not 'strongly favor' the FTF interaction. However, OL students still perceived the interaction to be better in the FTF environment, supporting the null hypothesis (H_{50A}).

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CONCLUSIONS

Twenty years ago, an Australian study attempted to find common student perspectives on OL vs FTF regardless of context of study (Paechter & Maier, 2010). This study provides one data point and favors some – but not all - prior research. The context of the study may be a critical factor to consider in understanding student activity preferences. For the program factors surveyed at this teaching University, both OL and FTF students find FTF classes to be more difficult, perceive cheating to be more difficult FTF, prefer FTF for SSI and SII, and prefer FTF than online. OL students did not change their perceptions on any of the program factors studied; however, the FTF students' perceptions on preference and SII changed significantly. The FTF students did not favor the FTF classroom as strongly as they did in the prior study. While other studies noted changes over time (e.g. Allen & Seaman, 2013; Benbunan-Fich & Hiltz, 2003; Perreault, Waldman, Alexander & Zhao, 2008; Tanner, Noser, and Langford, 2003; Tanner, Noser, Fuselier & Totaro, 2004-1; 2004-2; Tanner, Noser, Totaro & Birch, 2006; Tanner et al., 2009), this study noted changes on two factors – preference and SII – but only for the FTF students and not the OL students. Perhaps a longer time is needed before other perceptions are changed for both groups.

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The Accounting Profession's Competency Framework: Course Design and Assessment for Professionalism

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ABSTRACT

Various members of the accounting profession have formulated frameworks which define the core competencies accountants should possess as they enter the workforce. The American Institute of Certified Public Accountants (AICPA), as well as the Institute of Management Accountants (IMA), and accounting academic researchers have published their own versions of the knowledge areas and skills desired by the profession. Accounting educators need to evaluate their curricula in light of the professional competencies, in order to determine where modifications to content or pedagogy need to be implemented.

Current curricula do an adequate job of delivering and assessing technical competencies, but spend less effort fostering and assessing "soft skills and behaviors". This paper presents suggestions for course design and course assessments in order to foster additional accounting competencies. The focus will be on fostering professional and ethical competencies through clear communication of behavioral expectations, and the subsequent measurement of the behaviors.

Keywords: Competency framework, soft-skills, professionalism

INTRODUCTION and MOTIVATION

As the environment of business changes, the FASB has continued to issue updated standards. These updated standards have trickled down to the CPA exam content, and to academic textbook content. Most academic institutions have done a fine job of updating the topical coverage of these standard in their curriculum. But, knowledge of the current accounting standards is not sufficient evidence of competence for the accounting profession. Accountants need not only to possess the technical knowledge, they need to use that knowledge to solve problems, communicate in an effective manner, and work in a team and in a professional way to accomplish organizational goals. Accounting curriculums need to be designed to develop and foster the competencies requested by the profession.

Several professional organizations have formulated competency frameworks for the accounting profession. All of these frameworks define both technical skills and soft skills. The AICPA, in their 2018 Pre-Certification Core Competency Framework, arranges the competencies under three pillars: Accounting Competencies, Business Competencies, and Professional Competencies. These competencies, as described by the AICPA, are described below.

- Accounting Competencies: technical competencies of the profession that add value to business and contribute to a prosperous society.
- Business Competencies: Broad business environment in which accounting professionals work.
- Professional Competencies: Professional competencies relate to the skills, attitudes and behaviors of accounting professionals.

The IMA's 2019 Management Accounting Competency Framework defines six domains of knowledge, skills, and abilities.

- Strategy, Planning and Performance: envision future, strategically plan, guide decisions, manage risk, monitor performance
- Reporting and Control: measure and report performance in compliance with standards.
- Technology and Analytics: manage technology and analyze data
- Business Acumen and Operations: transform companywide operations as a cross-functional business partner.
- Leadership: inspire teams to achieve goals, collaborate with others.
- Professional Ethics and Values: demonstrate professional values, ethical behavior and legal compliance.

Literature Review

Accounting education continues to be a critical area of research, as university professors strive to prepare graduates to enter the workforce. Common questions addressed in this vast research stream include how to design the curriculum, how to design the classroom activities, and how to assess the learning outcomes. Pleis (2019) mapped accounting curriculum to various professional certifications. Zhan, Her, Hu & Du (2018) discuss strategies for integrating data analytics into an undergraduate curriculum; while Christensen, Cote, Latham (2016) examine action oriented ethics instruction in the accounting curriculum. Flipped classroom pedagogy (Duxbury, Gainor & Trifts 2016) and online instruction (Dorff 2016) are two common options for content delivery. Recent research in assessment include, scaffolding assessments (Abraham and Jones 2016), and use of team assessments (Schmulian and Coetzee 2018).

Lawson, et al (2014, 2015, 2017) reported on curricular recommendations from the joint task force sponsored by the Management Accounting section of the American Accounting Association (AAA), and the IMA. The task force sought to provide competencies for all accounting students, not just those in public accounting, as well as competencies designed for the long term career success. The competencies fall into three broad categories.

- Accounting Competencies: internal and external reporting, taxation, information systems, internal control, professional values/ethics/attitudes
- Broad Management Competencies: leadership, social responsibility, process management, governance, additional
- Foundational Competencies: Communication, quantitative, analytical thinking, interpersonal, technological

In his 2013 research, Nishat Abbasi examined competency-based accounting education and proposed a systems-based model of curriculum management. He categorizes accounting competencies into three types; Technical, Skills, and Values.

- Technical: Functional and other knowledge and abilities, including financial reporting, managerial reporting, tax, audit, governance, strategy, organizational behavior, and corporate finance.
- Skills: includes communication, creative thinking and problem solving, teamwork, and change management.
- Values: attitudes, behaviors and abilities that provide foundations for moral and ethical performance of professional work and responsibilities.

For many accounting graduates, passing the CPA or the CMA exam is their entrance into the profession. An examination of both the CPA exam and the CMA exam show that while technical content is heavily covered on the exams, the more "soft skills" of professional competencies, ethics and values are not covered much. Because successful completion of the exams are paramount to so many accountants, accounting educators are motivated to cover content and stress the competencies that are evaluated on the certification exams. Also, because the magnitude of technical content within the accounting profession is expanding, university faculty argue that extra time does not exist in the semester to focus on any of the soft skills.

These exams are written by the candidate at a point in time, and are evaluated based on whether the candidate delivered the correct answer on the date the exam was taken. This author argues that some of these soft skills are behaviors, not just knowledge. To manifest competence in these behaviors they must be demonstrated continually over a long period of time, not just once at a point in time. To encourage these behavioral competencies, accounting faculty need to design their course structure and assessments to provide opportunities for the students to practice the desired behaviors.

Herring and Izard, 1992, define three types of learning outcomes; cognitive, behavioral, and affective. Cognitive outcomes measure whether a student knows something. Behavioral outcomes measure whether a student does something. Affective outcomes measures whether a student values something. Abbsi (2013) tied these measurable student outcomes to his competency framework. Abbsi (2013) suggested that cognitive measures are used to assess technical competence, behavioral measures are used to assess skill competence, and affective measure are used to assess values. Although affective outcomes are often hardest to measure, Shafel and Shaftel (2007) suggest using indirect measures such as surveys to measure student attitudes.

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Mapping Abbasi's (2013) and Herring and Izard's (1992) frameworks on the AICPA's framework shows that most of the accounting and business competencies are technical competencies, and are a measure of content knowledge and application, best assessed by course exams. Most professional competencies are skills or values.

Table 1: Competencies and Outcome Type

AICPA Core Competency Framework 2018	**Competency Type (Abbasi 2013)**	**Outcome type (Herring & Izard 1992)**	**Specific assessment (How)**
Accounting Competencies			
Risk Assessment, analysis and management	Technical	Cognitive	Exams
Measurement analysis and interpretation	Technical	Cognitive	Exams
Reporting	Technical	Cognitive	Exams
Research	Technical	Cognitive	Homework/Exams
System & Process Management	Technical	Cognitive	Exams
Technology and Tools	Skill	Behavioral	FASB codification research Excel projects
Business Competencies			
Strategic perspective	Technical	Cognitive	Exams
Global & Industry perspective	Technical	Cognitive	Exams
Process & research management	Technical	Cognitive	Exams
Governance perspective	Technical	Cognitive	Exams
Customer perspective	Technical Skill	Cognitive Behavioral	Exams
Professional Competencies			
Ethical conduct	Technical Values	Cognitive Affective Behavioral	Questions on Exam Survey Timeliness, participation
Professional behavior	Values	Affective Behavioral	Survey Attendance Participation Work for others Strive for excellence
Decision Making	Skill Values	Behavioral Affective	
Collaboration	Skill Values	Behavioral Affective	Group participation Survey
Leadership	Skill Values	Behavioral Affective	
Communication	Skill	Behavioral	Written memos Written FASB research Oral presents of HW E-mail correspondence
Project Management	Skill Values	Behavioral Affective	Number of late assignments Number of missing assignments Number of requests for extension

The following section of this paper will describe how professional competencies can be fostered in an accounting course, without detracting from the other competency areas.

METHODOLOGY

The delivery of the bulk of the technical content in the Financial Accounting course can be delivered in a traditional way; from textbook and instructor lecture. The competency of that material should be assessed via course exams. These activities will take up the majority of the course time and the course points.

The professional competencies that are mapped as skills will need to be defined or demonstrated by the instructor and practiced repeatedly by the student. An assessment of the student's mastery of the behavior will be needed in the course. Much of the repeated practice and assessment is done by the students, outside of the regular class time. Those competencies that are mapped as values will need to be assessed via a survey of students. Each professional competency, its implementation and assessment will be described.

Ethical Conduct, is described by the AICPA as "behave in a manner bound by ethical principles for the protection of society, including upholding the AICPA Code of Professional Conduct." The textbook will present and the instructor will discuss the AICPA code of professional conduct in class and the students will be asked questions regarding the code on exams. Each student will also be responsible for answering questions and demonstrating problem solutions to other students. This activity is referred to as Peer Led Instruction, and is completed at the end of each chapter. Students are put into groups of 4 -5 members. The instructor defines the topics, questions, and computational problems that each group must complete. Groups must determine how to assign specific questions and problems to individual group members. Each student is responsible for posting accurate, timely, and audience appropriate information for his/her group mates. The quality of each student's participation is evaluated by the instructor and by group members. This activity is intended to mimic a team project environment in the business work force, where each member must take initiative to provide excellent input in order to produce a quality group project. This is meant to foster the skill of responsibility for providing services to others, and promoting the welfare of others.

Professional behavior, is described by the AICPA as "practice in a manner that is consistent with the character of high standards set by the AICPA and the accounting profession. Demonstrate a work ethic and respect for diversity, as well as a commitment to continuously acquire new personal and professional skills and knowledge." Any answers and solutions provided via Peer Led Instruction that is deemed unacceptable by the professor will be sent back to the student to re-work until it is acceptable. This is meant to foster the skill and value of excellent work, and desire for continued learning.

Decision making, is described by the AICPA as "objectively identify and critically assess issues and use professional judgment to develop appropriate decision models, identify and analyze the costs and benefits of alternative courses of action and recommend optimal solutions." Comprehensive problems will be demonstrated by the instructor in class. Several "what if" scenarios are presented as the problem is worked. Students are given the opportunity to solve these types of problems both in weekly individual homework, and in in class group work.

Collaboration, is described by the AICPA as "work productively with diverse individuals in a variety of roles, with multiple interests in outcomes to achieve acceptable and optimal results." Students are put into groups. The Peer Led Instruction requires collaboration. Exam questions based on the students presented solutions will be asked on the course exams. Students also will work in groups several times during the semester. Each of these group work times utilize an entire class period and occur at the end of studying a textbook chapter. The student groups do not know the specific problem or project until the beginning of class time. Within the 75 minute class period, students must work collaboratively within their teams to understand the problem, define work duties based on member skills, search for technical guidance from textbook, notes and each other, analyze the data and come to a solution. The group as a whole must present their solution in a professional report, using word, excel, or powerpoint.

Leadership is described by the AICPA as "know and apply models of leadership to influence, inspire and motivate diverse individuals and groups. Develop attitudes and behaviors that recognize diversity and promote inclusion, and optimize individual and organizational performance." Students are placed into groups of 4-5 persons. These groups will work on several small projects throughout the semester. A different student will be assigned as team leader for each project. The leader will be expected to call team meetings, organize work flow, negotiate or assign responsibilities to team members. Teammates will complete a survey to assess leaders communication skills, leader's ability to encourage team members, and leader's ability to complete project.

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Table 2: Delivery, Practice, and Assessment of Professional Competencies

Professional Competency	Delivery of Expectation/ Content	Opportunities for student practice	How to Assess
Ethical Conduct	Text defines and instructor discusses AICPA code of conduct. Instructor discusses course requirements and student behavioral expectations.	Group discussion boards requiring students to provide answers for other classmates.	Qs on Exam Survey (Likert) of timeliness & participation
Professional Behavior	Instructor discusses course requirements and student behavioral expectations.	Group discussion boards require student to re-do submissions for classmates, until acceptable (work ethic, work for others, strive for excellence) Attendance and participation (work ethic, continual learning).	Survey (Likert) of classmates behavior. Survey (Likert) of own behavior. Attendance Participation Number of re-submits
Decision Making	Instructor demonstrates comprehensive problem in class	Students work on comprehensive problems, individual & group	Likert scale to measure: Appropriate process Justifiable solution Correct answer Complete answer Timely answer
Collaboration	Instructor discusses course requirements and student behavioral expectations.	Discussion boards and some class participation is in small groups.	DB grade Group participation grade Survey (Likert)
Leadership	Instructor discusses course requirements and student behavioral expectations.	Students work in groups on projects; with leadership rotating for each project.	Likert scale to measure leaders ability to: communicate encourage teammates complete project
Communication	Instructor discusses course requirements and student behavioral expectations.	Discussion boards will require written communication, with varying audience roles defined by instructor. Students will need to present group work to class.	DB grades Oral presentations of group work Written report of group projects E-mail correspondence
Project Management	Instructor discusses course requirements and deadlines. Syllabus provides detailed schedule.	Student has multiple weekly assignments, occasional reminders by instructor in class.	Number of late assignments Number of missing assignments Number of requests for exception

Communication is described by the AICPA as "actively listen and effectively deliver information in multiple formats tailored to the intended audience." The Peer Led Instruction requires written communication as well as Video communication. The instructor will vary the defined audience for each Peer Led Instruction. This is meant to foster the skill of delivering information in multiple formats to varied audiences.

Project management is described by the AICPA as "plan and manage individual and team work flow through effective utilization of time and other resources to accomplish objectives." The schedule of assignment deadlines is clearly communicated to the students via instructor lecture and the syllabus. Students will have many opportunities to practice meeting the course deadlines.

CONCLUSION

This paper demonstrates the need for fostering professional and ethical skills in our accounting students. In addition to accounting and business competencies, the AICPA defines professional skills in its core competency framework. The author describes potential strategies, course structure, and assignments. These are designed to help faculty deliver, students to practice, and faculty and students to assess mastery of the professional behavioral expectations. This framework serves as a springboard for faculty as they design or modify their courses to best serve the needs of their students. Future research includes testing the efficacy of the framework by analyzing the change in students attitudes and behavior throughout the duration of the course.

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Consumer Behavior and COVID-19

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ABSTRACT

Within weeks of the COVID19 shutdown, hair scissors, hair coloring, beans, and yeast are in short supply. The on-going shortage of toilet paper continues. While experts can tell consumers there is a sufficient supply for everyone if consumers bought only what was needed, consumers are compelled to hoard products. The psychology behind hoarding, companies' marketing messages during this pandemic, and the near-term and immediate-term impact of the stay-at-home behavioral changes will be discussed.

Keywords: Consumer Behavior, COVID-19, Coronavirus

INTRODUCTION

Lots of people purchase in bulk to get a price break or panic buy certain items during a crisis or disaster, like a hurricane or blizzard. The panic-buy situations normally have geographic limitations so product shortages are not widespread and supply chains can adjust to the demand. But these are not normal times. This uncertainly has led consumers to go beyond the bulk or panic buying and brought about wide-spread hoarding.

The tendency to hoard appears to be innate. Grohol (2020) stated "Hoarding is a natural human response — sometimes rational, sometimes emotional — to scarcity or *perceived* scarcity" (para. 4). The consumer is attempting to gain control, or at least the perception of control over the situation (Grohol, 2020; Novemsky, 2020). Consumers can also be trying to minimize risk (Grohol, 2020), physical or emotional suffering (Grohol, 2020), influenced by other people's behavior (Grohol, 2020), and/or simply just feeling a sense of relief having secured the scarce product (Grohol, 2020; Novemsky, 2020). Novemsky (2020) added "There is tremendous uncertainty, and people worry about regretting not buying something, so this anticipation of possible regret leads them to buy, as regretting buying too much is not something they are concerned about, compared to the regret of buying too little" (para. 1). Emotionally, it gives the person of sense of caring, control, and providing for their family in a time of need.

People have also been impacted by stay-at-home and social distancing orders. Stores, restaurants, schools, doctor's offices, and churches closed. Restaurants' needed to make the switch to takeout or delivery, schools and churches had to navigate from in-person to virtual. Sporting events, both local and international, were postponed or cancelled. It changed our definition of "essential". It caused us to rethink how we eat, shop, learn, work, and consume entertainment.

This paper will provide an overview of the economic impact of COVID-19, insight into the products and services most impacted by COVID-19, the behaviors of different generations, and how marketing messages by specific companies changed during the pandemic. Lastly, how consumer behavior has been impacted by stay-at-home mandates will be discussed.

ECONOMIC IMPACT OF COVID-19

In an earnings conference call reported by CNBC (Li, 2020), Discover CEO broke down the impact of stay-at-home advisories on consumer spending. The travel industry, for example, which consists of hotels, airlines, and travel agencies, is down 99% with air travel alone down 95%. In addition, March retail sales were down 8.7% and petroleum fell by 60%. This is the biggest drop in retail sales since 1992 and "demand for gas is at its lowest level since 1968 (para. 10). Siegel and Heath (2020) noted the decline in car sales between February and March with a steeper drop expected in April and "Sales at clothing stores fell by 50.7 percent compared to last year" (para. 11).

The US Stock market has plunged, unemployment has skyrocketed, and earnings have declined. "American consumers", Siegel and Heath (2020) noted, "drive 70 percent of the country's economy" (para. 8) and have settled into a new normal. Economists are struggling to predict the short-term impact, let alone the long-term impact, of the

pandemic due to the uncertainty surrounding the length of the stay-at-home expectations, an expected slow restart of the economy, a potential second wave of the virus, and the unknown timeline for a vaccine.

CONSUMER BEHAVIOR: BUYING OR NOT BUYING

So, what are consumer buying and not buying? Patterns have emerged based on time and circumstances. Nielson (2020) identified six thresholds of consumer concern. Each of these thresholds details the shift in consumer behavior as well as the common COVID-19 event markers. The first threshold is Proactive Health Minded Buying. This is spurred by localized cases of the virus and caused consumers to purchase products related to maintaining health and wellness. Threshold two is Reactive Health Management. Due to the government campaign to slow the virus transmission, consumers started purchasing items such as face masks and hand sanitizer. Third, is Pantry Preparation. As cases accelerated and the quarantines began, store visits spiked and consumer began to stock up on shelf-stable foods. The fourth threshold, Quarantined-Living Expectations, including restrictions on large gatherings and public places closing down, resulted in consumers buying more online and items being out-of-stock. This started to put a strain on the supply chain. As states locked down and restaurants closed, Threshold five – Restricted Living, kicked in. Consumers in this threshold began to restrict their shopping trips, saw delays when ordering online, and experienced limited stock availability. The sixth and final threshold, Living a New Normal, is on the horizon as states begin to ease stay-at-home orders. It is expected that when consumers get to this threshold, they will have a renewed attention towards safety and health as well as a permanent shift online purchasing and the use of precautionary hygiene products. As of the paper submission, state by state stay at home orders are being gradually lifted.

A slightly different perspective was shared by Carufel (2020, March 26) from the consumer insights platform Suzy. Suzy's CEO and founder, Matt Britton's identified two tiers of consumable products. In Tier 1, Survival Products, consumers bought more Food and Beverages, Personal Care Items, Household Cleaning Items, and OTC Medicine. In Tier 2, deemed the Sanity Products, Alcoholic Beverages, Entertainment, Beauty Products, and Electronics saw increased buying patterns.

As White (2020) noted "As the coronavirus pandemic continues to evolve, so does what people are purchasing" (para. 2). Closely aligning with the first three thresholds and the Tiers described above, consumers panic-bought items like toilet paper and hand sanitizers in preparation for the quarantine. In their 3/13 COVID-19 update, Numerator Intelligence reported that retailers were seeing some products like cleaning wipes and hand sanitizers being purchased at a higher rate with customers buying multiple items per trip. In five days, Walmart sold enough toilet paper for every American, all 328 million of us, to have our own roll! Stockouts were becoming more common and stores started to limit purchases.

After the initial panic buying and the quarantines were starting to become more commonplace, another wave of purchasing took place. According to Nielson (2020), sales of dried beans went up 37%, canned meant rose 32%, and rice saw an increase of 25% during the last week of February. Alcohol, ham, yeast, flour, baking mixes, and baked goods were suddenly flying off the shelves. Sales of beard trimmers, hair clippers, and hair dye increased. Without access to hair salons, do-it-yourselfers, with the help of celebrity stylists, who posted hair cutting and coloring tutorials on social media, took to cutting and dyeing their own hair.

According to CNBC's Matt Rattner (2020), Rakuten Intelligence reported the top ten categories experiencing year-over-year growth in online shopping dollars are: books (295%), cleaning (235%), sports and outdoors (122%), toys and games (119%), grocery (113%), warranties/Svcs (96%), electronics (86%), pet supplies (74%), tools and home improvement (60%, and health and beauty (52%). They did note that Amazon sales were not included in this data. On the other hand, according to Carufel (2020, March 26), big-ticket items are no longer being considered. Fifty four percent of consumers were pulling back on purchasing homes, cars, trips, and luxury goods.

As people settled into staying at home, media consumption took off. Research from GlobalWebIndex on US and UK consumers revealed "… 38% of respondents say they have been watching more broadcast TV since the outbreak, 38% say they have been watching more online video, and 37% say they have been watching more streaming TV shows and video" (Nanji, 2020, para. 3). In addition, "Non-traditional services like movie studios are releasing media streaming, on-demand, sometimes earlier than projected release" (Meyer, 2020, p. 14).

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Numerator (2020, April 9) expects "… a temporary period of normalcy – consistent, essentials-only purchasing – is likely to settle in until stay-at-home orders are lifted" (para. 12).

Buying Behaviors and attitudes of different demographic segments

There were some interesting insights related to behavior and purchase decisions by gender, generation, and income. According to research by GlobalWebIndex, men started consuming or consumed more of all media types than women, with Broadcast TV seeing the largest increase (Nanji, 2020). First Insight found men were more likely to say the coronavirus impacted purchase decisions, where and how they shop, how much they spend on products, and the likelihood of taking advantage of BOPIS (buy online and pick-up in store) services to get products. Women, however, cut back on spending in preparation for the coronavirus, shop less frequently in-store, and autoship products versus going into the store.

GlobalWebIndex reported that Boomers and Gen Xers started consuming or are consuming more Broadcast TV than Millennials and Gen Z. Gen Z watched more Online TV (for example, YouTube/TikTok) and Millenials tuned into more Online TV/Streaming films (Nanji, 2020). The generation seeing the greatest impact from the coronavirus on their purchase decisions, as well as where and how they shop, were Millennials, Baby Boomers were the least concerned about how much they spend on products, and Gen Z was the most likely to BOPIS (Carufel, 2020, March 10).

Numerator Intelligence (4/9 Update) provided information on income and shopping behavior. High income shoppers, showed "… a more pronounced shift to online shopping, participating in stock-up behavior or purchases of products they don't typically buy, and putting off non-essential purchases or eating out" (para. 5). Low income shoppers were not as likely to stock-up on products or buy atypical products, however, "… they're more likely to be shopping in stores they don't usually shop, either because their preferred stores are closed or because their typical stores are too expensive" (para. 5).

Consumers are not the only ones struggling. As the shutdowns began, companies needed to be agile and provide products and services in a different way. And, marketing pivoted between selling and being empathetic. The next section provides marketing tips during the pandemic as well as examples of companies who were able to successfully navigate this situation.

MARKETING DURING COVID-19

Marketing during a crisis can be tricky and may cause some companies to just pull back. Maheshwari (2020) shared some suggestions from Village Marketing, an influencer agency. The founder of Village Marketing suggested crafting message of optimism, self-care, and "…aim for positivity and calmness rather than stress or anxiety" (para. 13). In his article, 'Walmart is Setting a Smart Example for the Rest of the Grocery Industry to Follow', Walton (2020) stated "Walmart has waived April rent for its in-store tenants, it has rushed contactless payment systems into operation, installed plexiglass barriers to protect employees and customers, and this week also began metering traffic flow in stores" (para. 1). In an email message to customers, instead of pushing discounts, the subject line for the email read: Grocery Delivery: all you need to know. A how-to digitally shop instructional video was included in the email. This simple message captured "… the essence of the American spirit in a time of crisis – helping those that need help the most" (para. 7).

Brennen (2020) reiterated this mentality. She suggested brands focus on two qualities – helpfulness and empathy. Several examples she provided included Lexus, IKEA, Double Tree, and VISA. Lexus focused on their service team, creating the tagline "Service is not just a department". IKEA and Double Tree shared their coveted recipes for Swedish meatballs and chocolate chip cookies. "Few things drive an emotional connection more than food" Brennan noted, and "… by sharing these recipes, these brands are able to cross the threshold into people's homes at a time when their physical places of business are closed or not as accessible" (para. 3). Lastly, Visa, using Olympian and Paralympian athletes, encouraged people to stay healthy and safe by staying at home and washing their hands.

Other businesses naturally boomed as shutdowns accelerated. Khadem (2020) reported that the demand for videoconferencing grew exponentially as people downloaded apps to use for everything from board meeting to birthday parties. Zoom was the industry leader in this space and reported a big uptick in the weeks following the shutdown. Australia has seen an increased demand for videoconferencing in the education and health areas with

educators connecting to students and health professionals using the technology to deliver e-health services. Service companies, like UberEats and Deliveroo, are now being used by restaurants as customers order food to have delivered.

This has not been easy, Brennen (2020) noted, and rarely are companies prepared on how to market during a pandemic. Sometimes, you start with what not to do. Avoid scaring tactics, aggressive messages, especially ones slamming your competitors, and lastly, do not imply any message that relates to status differences.
Will companies who do the right thing benefit in the long run?. The final section of the paper focuses on the uncertain impact of COVID-19 on consumer behavior.

IMMEDIATE AND LONG-TERM IMPACT ON CONSUMER BEHAVIOR: A PREDICTION

What does all of this mean for brands? Will consumers go back to their pre-COVID-19 habits? Most consumers have made lifestyle changes, some more drastic than others, due to being out of work. Experts have made some predictions on the lasting effects of the pandemic on consumer behavior. Schiff (2020) commented, "…COVID-19 has the potential to create more permanent behavior changes in the way people shop, consume media and how they regard the brands they do business with" (para. 3).

One example of this is media. Schiff (2020) found that movie studios, facing the threat of theaters being closed faced tough decisions – delay the release of the movie or make the first-run available for home release. On the same day that it would have been released to theatres, Universal Studios decided to make "Trolls World Tour" available to watch on demand. This tactic appears to have been successful as Universal "…earned nearly $100 million in rental fees since its digital release April 10" (Pallotta, 2020, para. 4). This move, however, did not come without consequences as AMC Theatres has stated they will no longer play movies for Universal Pictures in the United States, Europe, or the Middle East. While consumers embraced this change during the pandemic, it is difficult to determine if this is something preferred once it is safe to be among large crowds.

Do-It-Yourself (DIY) has increased. Pasquarelli (2020) found "Consumers are using their time at home to learn new skills, like baking, cooking and sewing, and those abilities are not expected to disappear when the virus does" (para. 9). Cooking and baking sites are seeing increased traffic as families have started to prepare more meals at home. This saves money and provides an activity for the family to do together.

Blue (2020) interviewed Family and Consumer Science Associate Professor Sabrina Helm. Helm provided several key insights into post COVID-19 consumer behavior. The first insight revolved around how quickly consumers may return to pre-COVID-19 spending. Helm stated "…we may have to wait for several more months, if not longer, before routines can go back to normal, and many households expect their income to be negatively impacted for a long time" (para. 3). Secondly, "Other habit changes may include taking advantage of options that limit in-store interactions, like BOPIS – buy online, pick up in store, curbside pickup and subscription services" (para. 14). Lastly, with regard to a shift from in-store shopping to online, this is a wildcard. She stated "Most of us have missed the social experience of shopping for many weeks now, and the convenience of the online channel may not make up for this" (para. 4).

If consumers are going to seek in-store retail, Numerator (2020, April 23) reported some important safety and healthy practices that retails must consider. 76% of consumer want retailers to increase sanitation, 50% want plastic dividers at the register, and 44% want employees to wear protective gear. Other practices that may provide a level of comfort included contactless payment, modified hours for seniors/at risk customers, and 6' floor markings.

While other countries and some states have begun to open, it only provides a glimpse into what may happen locally. Have our habits been permanently altered? Paul Marsden proposed in AdAge that, "Typically, it takes about 60 days for someone to acquire a new habit and continue doing it when not coerced" (Pasquarelli, 2020, para. 1). While some areas have been or were on lockdown for less than 60 days, new habits can start to form. And, Duhigg (2014) found in his research, that habits cannot be eradicated, they must, instead, be replaced and "…we know that habits are most malleable when the Golden Rule of habit change is applied: If we keep the same cue and the same reward, a new routine can be inserted" (p. 92). Will people proceed with caution once lockdown is lifted? This, according to Duhigg (2014), is a blend of sociology and psychology and is a three-part process. It begins with social habits of friendship and ties to acquaintances (looking out for our family and friends), then gradually grows with a sense of community (we are in this together), and culminates with a fresh sense of identity, feelings of ownership,

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and new habits (a better work/life balance). It is too soon to tell if people will revert back to their pre-COVID19 routines.

I have a renewed appreciation for family and friends, front-line workers, and good health. And, my hedonic treadmill has slowed down. How about you?

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Teaching Business Strategies and Game Theory Using Student Group Presentations

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ABSTRACT

This article presents an effective method for improving student comprehension of the Nash equilibrium in game theory classes. Having students present in small groups increased the students' ability to understand and retain concepts related to the foundation of game theory. The main purpose of the group presentation was to enable students to construct, study, and solve games, particularly games that could arise in real-world business and economics situations. Students in game theory classes acknowledged that an in-class group presentation is an effective and interesting way to deeply learn about game theory. This article could serve as a how-to-guide for instructors seeking to create a more active student environment in their game theory classes.

Keywords: game theory; Nash equilibrium; interactive learning; group presentation; peer evaluation

INTRODUCTION

The author presents a practical how-to-guide on creating group presentation assignments to improve students' comprehension of the fundamental concepts of game theory. Game theory is widely used in business and policy, and knowledge of its principles belongs in the toolbox of every strategist. However, students often consider game theory to be esoteric and complex. Trials in the author's game theory classes indicated that the use of in-class group presentations enhances game theory instruction and increases students' ability to understand and retain the concepts. The group presentation assignments described in this article enabled students to identify an example of strategic interaction in real-world business and economics situations and then set up, study, and solve the games that they modelled. The assignment particularly required students to contemplate the logic of payoffs in a much more in-depth and creative fashion than as required by homework assignments or exam questions.

The goal of the in-class group presentation was to help students understand the Nash equilibrium and other variants of solution concepts. Students were required to apply a game-theoretic approach to the analysis of business and political situations. Students selected real-world examples and applied game-theoretic analyses to predict and evaluate the outcome of the game they set up. Students provided feedback that they enjoyed the practice and learned a great deal through the process of interactive and engaged learning. In their games, students applied basic solution concepts such as the dominant strategy equilibrium, iterative dominance equilibrium, and Nash equilibrium in pure strategies and in mixed strategies. In addition, by comparing the setup in simultaneous move and sequential move games, they realized the importance of the timing of decisions and actions made by players for the outcome of the game.

Group presentations can create positive learning outcomes for multiple reasons. This applies to teaching game theory as well as other subjects (For example, Dziadula (2018) used group presentation as assignments for health economics). First, when students work in small groups, they tend to understand the related subject more thoroughly (Freeman, 1995; Bacon, Stewart, and Silver, 1999). Group work to prepare a presentation creates an environment in which students teach concepts to each other. Such activities reinforce the information provided by the instructor and generate the opportunity for students to learn the material from a peer. Second, group work helps students practice essential problem solving and communication skills, which are necessary for success in the workplace (Freeman, 1995; Kolb, 1999; Singh-Gupta and Troutt-Ervin, 1996). Working in groups also promotes a setting in which collaboration and cooperation are valued and produce better results, helping students to master valuable life-long skills. (Bruffee, 1993).

However, using a group presentation as a course assignment presents unique challenges. There is a lack of research on the best practices for group presentation design and assessment. Because of this, students are often assigned

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presentations with little or no guidance (Bolton, 1999; Etington and Camp, 2002). Presentations, or other types of team projects, often have unclear goals, hindering the intended learning outcome (Cox and Bobrowski, 2000; Cohen, 1994; Webb, 1989). To address these challenges and utilize group presentation to the greatest benefit, the author employed methods that adapt a common academic conference format and provided supporting materials for student presenters and audience.

METHODS

The author assigned group presentations in two game theory classes in fall 2018 and spring 2019. The author's undergraduate class for game theory (for Economics majors and others) had thirty participating undergraduate students in Fall 2018, and the graduate-level game theory class had fourteen students in Spring 2019. Each student was required to give two group presentations during the semester. Each presentation counted for 10 – 15% of a student's course grade.

Group Organization: Each group had three student members, except one group consisted of two students. Thirty group presentations were performed from Fall 2018 to Spring 2019. As each student prepared two group presentations, the first and second were assigned to cover different class materials as explained in Topic Choice.

Presentation Format: The format allowed a maximum of 15 minutes for each presentation and 5 minutes for questions and answers while the student audience and instructor wrote free format evaluations. Student presenters received 5-minute and 1-minute signals indicating the time remaining as they neared the end of 15 minutes.

Topic Choice: Students could choose any topic related to real-world business, politics, economics, or life choices as long as the situation could be modeled as a game in which players act strategically and their interactions affect the outcome. Each group agreed on the topic among its members and consulted with the instructor before finalizing the topic. To help students understand the presentation format, the author provided an example from Harvard Business Review Case Study (Oberholzer-Gee and Dennis, 2005) and explained the points students were expected to articulate in their presentations. The first group presentation was assigned to cover basic solution concepts such as dominant and dominated strategy, dominance solvability, Nash equilibrium in pure strategies, and backward induction. The topics for the second group presentations included Nash equilibrium in mixed strategies and dynamic games with asymmetric information or with threats and promises. The mixed strategy equilibrium was not allowed for the first group presentations because understanding an optimal mixed strategy is difficult for inexperienced undergraduate students (Garrett and Moore, 2008).

Slide Template: To encourage students to use visual aids and to guide preparation of the presentations, the author provided a slide template with the following structure.

Page 1. Title	Presentation Title and Presenter Names
Page 2. Motivation Page	What is the story you want to analyze? What is your question for this story? What is the objective of your analysis? How are you going to answer it?
Page 3. Model building	Who are the players? What are the actions available to players? What is the timing associated with those actions? What information is available to each player? What are the strategies? What are the payoffs? How did you come up with the payoffs?
Page 4. Simultaneous Moves	Provide 2x2 bimatrix example. Find a dominant/undominated strategy. Does your game have the dominant strategy equilibrium? Can you apply iterative elimination of weakly dominated strategies? Does your game have Nash equilibrium in pure strategies? If so, how do you explain the equilibrium? Does your game have multiple Nash equilibria? Which one would more likely occur than the other? Why do you think so?

Page 5. Sequential Moves	Provide a game tree that depicts a matching situation in the simultaneous move game. Apply backward induction and find a subgame perfect Nash equilibrium (SPNE). Does your game have multiple SPNE? Does your game have a Nash equilibrium that is not a SPNE? Which of a SPNE and a Nash would more likely happen?
Page 6. Conclusion	Summarize your game and compare the equilibrium analysis between simultaneous and sequential move games if you have done both. Explain the implication of your analysis. Explain a lesson you learned. What would you do if you were the player of the game? What would you recommend others do in the game?

Grade Rubric: As an assessment guideline, the author provided students with a presentation grade rubric. This showed students what their presentations should address and how they should deliver the content. Referring to the rubric, students in the audience were required to write in free-form paragraphs or bullet responses an assessment of what worked well and what needed improvement.

Criteria/Points	Exemplary	Proficient	Unsatisfactory
Presentation topic and content	Make a clear and relevant model to the course content/materials/game theory.	Demonstrate a conscious connection to the course content/materials.	Displays little or no connection to the course content/materials.
Points	4-5	2-3	0-1
Topic analysis	Provide accurate and convincing analysis of the project topic using specific game theory methods and tools. The presentation is informative.	Provide somewhat accurate analysis of the project topic using limited number of quantitative and/or qualitative methods and tools.	Provide little to no analysis of the project topic, little to no use of quantitative and/or qualitative methods and tools.
Points	4-5	2-3	0-1
Grammar, spelling, and citations.	The slides are free of grammatical, spelling or punctuation errors. All references are correctly cited.	Written responses are largely free of grammatical, spelling or punctuation errors, and references are mostly cited.	Written responses contain frequent grammatical, spelling or punctuation errors, and most/all references are not cited.
Points	4-5	2-3	0-1

Peer Evaluation: Students evaluated each presentation, and the evaluations constituted 3 – 5% of their course grade. Once each presentation was finished and the audience had submitted their written feedback, the instructor provided a few comments to add in-depth answers to topics raised during the group's question and answer session or to clarify any unclear or misunderstood concepts requiring immediate attention. After class, the instructor posted a summary of the instructor and student audience feedback on the course Blackboard. Peer evaluations were used to increase the level of student attention to presentations and the possible learning from listening. Peer evaluation has been shown to help students develop critiquing skills (Baranowski and Weir, 2011).

RESULTS

The students in the author's classes identified examples of strategic interactions in real-world business and economics situations and were able to set up, study, and solve the games that they modeled. Examples of the actual topic titles, the corresponding answers to "What is the story you want to analyze?", and game-theoretical concepts

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that student groups used are shown as follows (Appendix 1 lists examples from a total number of 30 presentations. Appendices are available upon request: jung.you@csueastbay.edu):

Topic Title	Question to answer	Game Theory Concepts
The Rogue Trader	If Petro-Diamond Singapore management knew about the illegal trades, would allowing them result in a better outcome in oil trades?	Risky market with nature's move, sequential move games, subgame perfect Nash equilibrium
Apple vs Samsung on headphone jack	Should Samsung remove the headphone jack on its new Galaxy Note, following Apple?	Sequential game, subgame perfect Nash equilibrium
Cheap flights to Hawaii? Yay!!!	What may a potential game theory analysis have looked like to investors and decision makers at Southwest Airlines?	Entry game and price competition, nature's move as risk, sequential move games
Pricing Strategy of Palazzo Hotel during Off-Season	Does 15% price drop during off-season increase the revenue for Palazzo Hotel?	Price competition, simultaneous move versus sequential move games, dominant strategy equilibrium, subgame perfect Nash equilibrium
Cola Wars	Why did Coke make much greater profit than Pepsi after the Great Recession?	Price competition, simultaneous move games, sequential games, subgame perfect Nash, trembling hand equilibrium
Farmers and Monsanto	Why does Monsanto sue farmers who save seeds?	Sequential move games, Subgame perfect Nash equilibrium
Uber & Lyft	Which rideshare app is the best during high-demand times?	Simultaneous move games, nature as risk in market, subgame perfect Nash equilibrium
Resale Market for Jordans	When will the market for lemons have authentic products?	Market for lemons, prior distribution, Bayesian Nash equilibrium
Theranos	What was the game between Theranos versus investors? Why does the game theory analysis differ from the actual event?	Asymmetric information, Cheap talk game, Babbling equilibrium, sequential move games, separating equilibrium

The author allotted 20-30 minutes in class for students to meet their group members and discuss their possible topics, several weeks before their presentation date. The instructor monitored the entire class about progression on determining topics and walked around to advise each group in class. If they finalized their topic during the allotted class time, the students reported it to the instructor. If they had to continue outside of the class and determined their topic later, they communicated this with the instructor. Any topic presentation changes were told to and approved by the instructor.

In both classes, after all the first presentations were finished, the author performed an anonymous survey of students' opinions about group presentation practices and suggestions for their second presentations, which they answered in a free-form paragraph (Appendix 2 presents the survey results from the graduate course. Appendices are available upon request: jung.you@csueastbay.edu). Among the 44 students who participated in the group presentations, only two undergraduate students responded that they did not like group presentations because they dislike public speaking. These two students still wrote that working with other students on the group presentation helped them to understand course materials, and that they enjoyed the group work.

Regarding student peer evaluations, the author found two points. First, the student audience displayed its critiquing skills that evaluate the clarity of analysis and the rationale of the model presented by other students. Two criteria in the grading rubric are "clarity and relevancy of topic" and "accuracy and convincing analysis." Peer evaluations on presentations reflected these criteria as shown in the following examples of student critiques:

Criteria	Student Comments
Clear and relevant topic	"Content was clear and they did a great job of relating the concepts we have been learning in class" "Great topic, good coverage of materials, Convincing analysis and relevant model" "Took a very complex problem and simplified the topic so their audience could understand it" "Excellent job at taking class topic to another level" "Incredible and driven research. The model was well thought out" "Good idea for introducing the background about two companies like stock market, big decision, company's situation" "Very good history and graphics to lead to an interesting economic question: why did Coke make much greater profit than Pepsi after Great Recession?"
Accurate and convincing analysis	"Very informational, a lot of extensive research. Quick, but a lot of sound reasoning for payoffs. I liked how they computed payoffs" "By presenting a sequential game whose equilibrium matches that of the simultaneous game, the group showed their research conclusion is robust!" "The method of game theory was very complex and came to compelling answers. Well-spoken group, that make the complex model much more approachable" "This was an incredibly creative model. Everyone was well-spoken and concise. Also, the game had a lot of rationality behind it, every payoff was reasonable and grounded in evidence" "Explained what they were going to talk about before they showed the model. Showed how they got their data and how it all came together for their model" "Good jobs on explaining the abstract concept of voting theory/4 different system were really attractive and content rich"

Second, the student audience paid significant attention to speakers' visual, vocal, and nonverbal communication skills. The utilized grading rubric did not include such public speaking skills since the course was not set as a public speaking class. Nevertheless, the criteria for exemplary public speaking could be incorporated into rubrics to enhance a better experience of group presentations. Comments about visual, vocal, and nonverbal speaking skills appeared frequently in peer evaluations. They were important factors for the student audience to appreciate the other teams' presentations. Examples of related comments are as follows:

Skills	Comments
Visual	"Slide fonts were too small" "Needs work on visuals" "Slides font color was hard to read" "Slides were very dull and too wordy"
Vocal	"Some speakers had good vocal projections and others did not" "The first speaker talked quickly in monotone voice. Hard to understand" "Lots of energy, loud volume, I liked their presentation"
Nonverbal	"Presenters were knowledgeable but not very engaging with the audience" "More eye contact and less reading off notes or slides" "One speaker looked at the instructor for the entire time, not engaging with the audience" "Need more coordination among members"

Most cases of incorrect game analysis could be prevented by the author reviewing students' slides and discussing contents with the presenters at least two days before their presentation days. In several cases, students did not send their slides to the author before their presentations days and made a mistake in their game analysis. As explained in "Peer Evaluation," the author made comments to correct the errors after all team presentations. In a few presentations, examples of asymmetric information, including nature as a player, were not persuasive (for example, setting an epidemic breakout as nature) since nature should not be observable to all players. In other cases, converting a sequential game to a bimatrix to find the Bayesian Nash equilibrium was incorrect. Such errors occurred due to the misunderstanding of strategy sets.

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CONCLUSION

Game theory classes can be improved upon through the use of in-class student group presentations. In undergraduate and graduate game theory courses, students are motivated to find and construct a game for themselves. When assigning a group presentation, the instructor should advise students to explain how to build and justify payoffs from each pair of strategies. In the author's classes, when students could justify their payoff construction, their games appeared more convincing and interesting to the audience.

In addition, instructors could use evaluation forms rather than free-form comments. Evaluation forms facilitate consistency in feedback and application of the full criteria to each speaker but can also inhibit creative listening by being standardized. Instructors could also include self-assessment on group presentation assignments. Self-assessment could help students to take charge of their own learning (Gopinath, 1999). However, designing a form of self-assessment poses a challenge to fair assessment from a game-theoretic view. Watching the video of their group presentation could be an effective method of feedback and could improve both group and individual performance (Barry, 2012).

For future research, the author is interested in comparing actual student learning outcomes to the initial learning objectives established for the group presentation. On a smaller scale, the author might construct a study examining whether the quality of a student's second presentation improves.

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Perspectives on Student Interaction of Online Teaching

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ABSTRACT

Online learning has becoming increasingly popular among traditional and non-traditional students around the globe. However, lack of student interaction is reportedly one of the major obstacles online teaching has to overcome. This paper focuses on student interaction and studies the relative effectiveness and cost efficiency of various online instructional methods used to facilitate interaction. We particularly develop the performance frontier of student-teacher interaction and teaching efficiency and share insights about making relevant improvement on both dimensions. We argue that online course instructional design should focus on improving student interaction while maintaining high teaching efficiency.

Keywords: Online teaching, student interaction, instructional design, teaching efficiency

INTRODUCTION

The entire higher education industry is facing a challenging time of uncertainty. Overall enrollments had been declining for years, but online students had been consistently growing and the number of online programs was even growing at a faster pace (Magda and Aslanian, 2018). More recently, during the COVID-19 crisis, the remote learning mode for online teaching literally became the only teaching format used by many colleges. Speaking of online teaching, we begin by focusing on the key characteristics of online students (prior to the COVID -19 pandemic) (Clinefelter and Aslanian, 2019).

- Student population is complex, including multiple generations and segments
- Students are cost sensitive, affordability is the top school-choice factor
- Distance from home to campus continues to shrink, 67% living within 50 miles from campus
- School services are desirable
- Most hold full time job (71%), the need for convenience is growing

It is evident that online students generally need effective, convenient, and low-cost online learning experience. However, transitions from face-to-face (f2f) to online teaching facilitates substantial changes on many frontlines including learning experience as well as resource usage and cost structure which deserve further investigations. One of the biggest drawbacks of online learning is the lack of physical presence and interaction. On the supply side, many physical resources used by traditional colleges including classrooms, dorms, library buildings, and staff become less relevant or even obsolete in the new online learning era. How can colleges deliver the needed online learning experience at an affordable cost?

Learning experience is considered as the design of a series of encounters and interactions that students make over time, between students and instructor, content carrier, peer students, and community (Anderson, 2003). One of the essential elements of online learning is student interaction that substantially influencing effective learning by exchanging ideas and intellectual stimulation (Wanstreet, 2009). The interaction is central to the cognitive processes of students which promote deep and meaningful learning. In that sense, student interaction more or less defines how student learning experience is formed. Quality business education cannot be achieved when engagement is absent (AACSB, 2020). Student engagement is actually developed through interaction (Anderson, 2003). In the literature, interaction and engagement are closely related and even used interchangeably (Martin and Bolliger, 2018). Practically, student interaction is a vulnerable area for online learning, where students often report being isolated and disconnected (Dixson, 2015).

In addition, we use teaching efficiency to describe how much teaching resource is used to achieve one unit of learning outcome. Student interaction essentially dictates the conversation of delivering teaching outcome. Therefore, it is imperative that we understand how student interaction works in the online environment in relation to

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learning outcomes and teaching resources in order to improve online teaching effectiveness and efficiency. Like other service providers, colleges must balance efficiency and effectiveness carefully to build marketplace competitiveness of their educational programs. Online instruction and assessment must particularly balance the requirements of technology, delivery, pedagogy, efficiency, student preferences, and learning outcomes, to provide quality learning experience at low cost. However, the current online learning literature is generally less concerned with teaching/learning efficiency, more focusing on applicable strategies for improving teaching effectiveness. There are still gaps in the research literature to guide instructional practice, including the complexities linked to online learning and strategies to support engagement (Redmond et al., 2018).

Given the importance of interaction in online learning, the objective of this paper is to share insights of student interaction design in consideration of learning effectiveness and teaching efficiency. We will investigate student interaction/engagement as one key determinant of learning effectiveness, and analyze how it can be facilitated by using various instructional methods. We show how different methods differ in terms of student interaction and faculty resource usage, specifically, how student-teacher interaction relates to the faculty resource usage as one key cost determinant in higher education which further depicts the teaching efficiency frontier. We then present action plans to facilitate performance improvement concerning interactions among students, teacher, and course content, and teaching efficiency. We also discuss how new technologies such as AI and gamification can reshape the future online education performance frontier.

The next section presents views on student interaction in the higher education sector, and the relevant instructional methods used to facilitate that. This is followed by discussions on interaction design and relevant teaching efficiency analysis. We then outline the study findings and implications for university online teaching. We also describe study limitations and ideas for future research at the end of the paper.

STUDENT INTERACTION

Student interaction basically includes student-content (SC) interaction, student-teacher (ST) interaction, and student-student (SS) interaction (Moore, 1989; Anderson, 2003; Bernard et al., 2009) and is considered a key variable in distance education (Wanstreet, 2006). SC interaction refers to students interacting with the subject matter content to construct meaning, develop personal knowledge and skills, and apply to problem solving. When students have access to course materials containing video, text, audio, and/or graphic images, SC interaction is "the process of intellectually interacting with the content that results in changes in the learner's understanding, the learner's perspective, or the cognitive structures of the learner's mind" (Moore 1989). SC interactions essentially include learning activities such as text reading, video watching, note taking, and information searching. This is like student "consuming" or "absorbing" educational content for learning purposes. SC interactions also include assessment activities such as writing discussion posts, finishing online quizzes, and completing homework assignments (including project) where students tend to "produce" intellectual content/outcome to demonstrate their proficiency levels.

It is clear that SC interaction is the major component as well as the foundation of learning processes as research shows that the combination of SS+ST was not significant in improving student learning outcomes (Bernard et al., 2009). On the other hand, putting aside the one-time content development/acquisition cost, the operating cost of offering adequate SC interaction is relatively low, due to the fact that students utilize back office process to work on their own. While all students receive, process, and digest educational information they need to develop the respective skills, the amount of information they receive and the understanding level they reach can vary greatly in individual cases (due to individual variability in motivation, capability, preparedness, effort, etc). These are the areas where other interactions can fill in to close the individual performance gaps.

Moreover, student-teacher (ST) interactions include synchronous (real-time) and asynchronous interactions. Synchronous ST interaction includes live lecturing, web conferencing, live chats, and phone calls where the instructor must be present in real time (either f2f or online). Asynchronous ST interactional methods include using email, text, discussion forum, voice message, assignment feedback, comments, and web announcements. With their own benefits and limitation, both types support different teaching purposes (Hrastinski, 2008). Teachers usually play significant roles in closing student understanding gaps and addressing issues arising from individual variability sources quite efficiently. As such, ST interaction is very important to motivating students, addressing student

questions, and promoting learning performance. However, ST interaction is generally expensive and the cost increases with the increasing numbers of interacting encounters, making it generally the least scalable mode of interaction (Anderson, 2003). Despite the fact that asynchronous interaction does not need immediate reaction, both types of interaction usually carry high cost since (1) faculty involvement is needed and (2) the interaction is often one-to-one which lacks economy of scale, this is particularly the case in online teaching environment. At the same time, faculty resource is limited which can constrain or delay student learning processes, e.g., students waiting for an email reply from the faculty.

Finally, student to student (SS) interaction refers to effective social connection for students, providing benefits of sharing perspectives, peer collaboration, motivation, pressure, and better learning outcomes (e.g., Zhang et al., 2017). Interactivity occurs when students refer to and use perspectives shared by peers, and elaborate, respond to, or propose alternative views to those shared by others. Peer-learning through SS interaction is also considered to carry high teaching efficiency as it occurs on the student side with no substantial teaching resource consumed.

Among all the resources used to facilitate student interactions, some represent significant fixed costs like infrastructure and course content development. Others represent significant variable cost like faculty and staff labor time. While most of the fixed cost can be diluted by increasing student enrollment, faculty represents one of the most significant variable cost contained in higher education teaching processes. This is particularly the case for online teaching as not much physical infrastructure is involved in online education. One common strategy is to increase class size so as to reduce the per-student faculty cost in teaching. However, one obvious downside of doing so is decreasing the degree of ST interaction when class size is increased, which is true in both online and face-to-face teaching environments.

Among all forms of interaction, only synchronous ST interaction requires real-time instructor involvement, therefore, similar to front-office processes in the service industry, it is the most expensive type of student interaction. On the other hand, asynchronous ST, SC, and SS interactions are more like back-office process where the immediate presence of teacher (service provider) is not required. But it should be noted that asynchronous ST interactions still use high-cost faculty time.

In the following table, we present typical instructional methods used for all three types of student interaction in the f2f and online teaching environments.

Table 1: Student Interactional Methods in the f2f and Online Teaching Environment

	Traditional f2f Format	**Online Format**
ST Interactions - Synchronous	Live lecture Live Q&A Live office hours Phone calls	Live video streaming lecture Video conferencing (e.g., Zoom) Phone calls
ST Interactions - Asynchronous	Email Text and voice messages Graded assignments Graded exams and quizzes	Email and LMS messages Text and voice messages Online chats Discussion forum posts Graded assignments with feedback Web announcements
SC Interactions	Reading text and class notes Competing assignments Writing case reports Finishing project	Reading text, articles, and cases Watching videos and presentations Completing online assignments Writing discussion posts
SS Interactions	Group discussions Chats with peer students Team collaboration Peer assessment	Online discussion posts Online chats Group collaboration Peer assessment

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In the traditional f2f teaching format, live lecture plays a central role for content delivery, and asynchronous ST, SC, and SS interactions play supportive role in student learning. On the other hand, in the online environment where asynchronous format is more prevalent, SC interaction often plays a dominant role in content delivery, while ST and SS interactions provide necessary support to enhance student learning outcomes. Videos, presentations and readings are great ways to deliver initial knowledge. Exercises or problem sets are excellent ways to begin to learn about the application of techniques. To develop further skills, one has to rely on other experiential learning activities including case analysis, discussion, and course projects, to learn analyzing and evaluating particular situations, and creating possible alternatives for resolving the issues. All three forms of interaction are often used for creating the learning experience.

Assuming everything else is the same, student interaction is significantly and positively correlated with student learning performance. It is clear that more interaction is usually beneficial to improving learning effectiveness (Rodgers 2008). How do we know if one course is more interactional than others? We suggest to consider the following elements for assessing the degree of student interactions:

- ST interactions: significance of the interactional topic, intensity of informational interaction, duration and frequency of the interaction, time and effort involvement of the student and the instructor, response time of instructor replies, rounds of interactional iterations, depth of interactional communication, synchronous or asynchronous ST interactional methods, interaction outcomes including improved assessment results such as discussion posts, quizzes, and other assignments.
- SC interactions: relative importance of content topics, quality of the content, time and effort spent by the student, student attention and focus, interaction frequency, rounds of interactional activities, improved higher-level critical thinking skills demonstrated by writing better quality paper, receiving better assignment grades, or asking insightful questions (to start another round of ST or SS interactions).
- SS interactions: relevance of the topics, background and preparedness of peer students, time duration and student effort of the involvement, depth of the conversation content, frequency of interaction, rounds of the interactions, interaction outcomes including improved student produced work and other assessment results.

Next, we shall discuss the topic of interaction design in online teaching.

INTERACTION DESIGN AND EFFICIENCY ANALYSIS

It is important to recognize two consecutive phases of online teaching: course design/development and course delivery. The result of the course development process includes teaching content and instructional process design (interactions). Course delivery refers to the act of actually teaching the course in a particular semester, which involves several facets that cannot be reused from semester to semester, such as office hours, interactions on the discussion forums, examinations, and the actual grading. It is clear that both phases must focus on developing and enhancing student interactions.

Specifically, interaction design of online courses refers to the design of three types of student interactions (SC, ST, and SS), which includes choosing the format, content, communication methods, and planning the interactional processes (Goodman et al., 2011). The goal of interaction design is to create a learning process/experience that enables students to achieve their learning objectives in the best way possible. This would require that instructors/designers fully understand the principles and complexities of educational interactions. To design interactions, it is essential to specify how students would be involved in each individual interaction, in terms of activities, information flows, communication methods, stakeholders, artifacts, and outcomes. Further, sequences of interactions need to be designed to facilitate the ongoing learning process. One of the challenges is, different personal preferences and learning outcomes/reactions from students might produce various interactional sequence or path, which complicates the design job.

According to Bloom's revised taxonomy, student interactions must be designed to facilitate the progressed student learning outcomes ranging from remember and understand to analyze, evaluate, and create. The key is to design the educational process so as to facilitate student learning and mastery of the subject matter. The course interaction process design should focus on the dominant components first, and then use the dominant component requirements as inputs to define other supportive interactional processes.

How should instructional design focus on student interaction? Here is a sample list of ideas used in practice, which are very much consistently with effective online teaching practices (Bailey and Card, 2009).

- Online instructors are suggested to prepare meaningful reading and interactive instructional materials and designing well-thought-out assessments for the purpose of encouraging SC engagement (Abrami et al., 2011; Banna et al., 2015).
- Designing the course (in terms of content and delivery methods) to promote student active learning, e.g., by using structured exercises, challenging assignments, team projects, and peer collaborations.
- Employing more synchronous ST interactions, such as web conferencing, to improve timeliness and instant gratification.
- Providing more interactional opportunities, such as making more announcements or posting more typical questions and answers online.
- Improve timeliness of asynchronous ST interaction by getting back to students more promptly, e.g., returning graded assignments and responding to questions quickly (via email or other methods).
- To improve interactivity, instructors can choose to produce visually engaging white-board "writing" videos instead of the conventional "talking" videos (Zhang, 2017).
- Reducing class size seems an effective way to improve involvement as the faculty have more opportunities to employ and deliver more ST and SS interactions.
- Adding more interaction quantity, e.g., adding student advising sessions.
- Increasing the interactional intensity, e.g., asking challenging questions and making cold calls on students.
- Experienced practitioners use sketches and storyboards but these might not be enough for exploring interactive behaviors (Myers et al., 2008). Planning tools like business process flowcharts can be used to help design student interaction flows.

Increasing the quantity of interaction may likely enhance student learning and satisfaction, but increasing the quality of such interactions, especially in terms of "cognitive engagement and meaningfulness", may have greater positive impact (Bernard et al., 2009). Students value content and inter-personal interactions for various reasons, and it is not helpful to favor one over another (Thorpe and Godwin, 2006). All forms of interactions are important to student success. Now we consider how they differ in terms of operating cost: (1) SC and SS interactions are more related to fixed cost spending or one time investment, such as IT, infrastructure, course structure design, content development; (2) ST interactions are more related to variable cost spending, e.g., faculty labor time.

While future research is still needed to estimate the exact impacts of ST, SC, and SS interactions on learning outcomes, we will single out ST interactions in this paper for further analysis based on three reasons: (1) Among three types of interactions (ST, SC, and SS), ST interactions seem to be most valued by students (Martin and Bolliger, 2018; Dixson, 2010). ST is often used to motivate students and help them understand complex content and resolve any learning issues students have during SC and SS interactions (Moore and Kearsley, 2005). Often times, student engagement actually refers to ST interaction; (2) ST interaction carries significant variable cost and the cost often increases with the number of student-faculty interactional activities. Thus, it is the least scalable mode of interaction (Anderson, 2003). Furthermore, the resources needed for ST interaction (faculty time) is often limited. The expectation of faculty being constantly online and interacting with students is unrealistic. In fact, faculty resource is often the single bottleneck for many colleges to offer courses as well as programs; (3) SC and SS interactions normally do not have much efficiency implication as they can be scaled up relatively easily (e.g., using fixed cost investment).

In the meantime, teaching effectiveness is determined by how much desired learning outcome a teaching process can deliver, e.g., in six learning levels of Bloom's taxonomy. But effectiveness does not tell much about efficiency – the amount of resources needed to obtain that output. Teaching efficiency is determined by the amount of teaching resources consumed that are necessary to obtain certain educational result. It should be noted that not all the interaction modes work in the same way to influence front-end teaching performance. For example, SC interactions in higher education can be scaled up very dramatically (larger class enrollment). On the other hand, as class size increases, effective ST interaction becomes more difficult (Madland and Richards, 2016). Therefore, more faculty resource might be needed/consumed to compensate for that and the teaching efficiency decreases accordingly.

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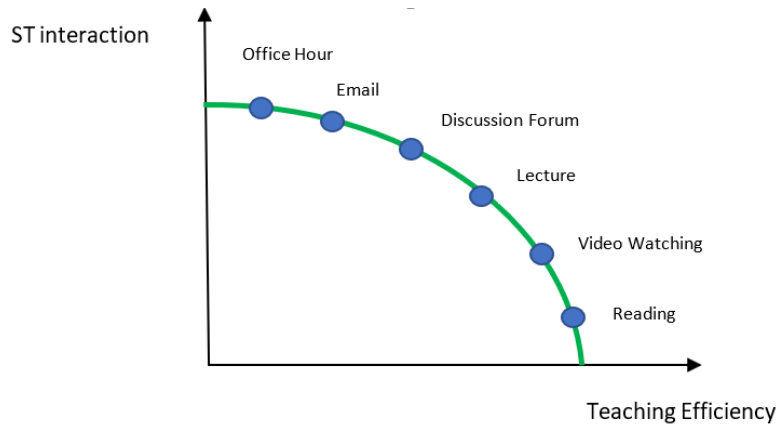
Therefore, one key issue in designing student interaction is to balance teaching efficiency and student ST interaction.

Since it is extremely complicated to accurately define the educational outcomes such as how much students learned, we choose to focus on resource consumption from the supply side, as well as the outputs being simplified into fixed quantitative units, such as a certain number of students completing the inventory management module. In this sense, for the same faculty, teaching a large class is said to be of higher teaching efficiency than teaching a small class. Of course, teaching a single student during office hours (synchronous ST interaction) is of very low teaching efficiency, and teaching a large class with pre-recorded online video would be considered to be highly efficient. As such, SC (e.g., reading) and SS interactions generally provide higher teaching efficiency as no faculty resource is used in the process. Therefore, approximately, we rank various online teaching instructional methods in decreasing order of teaching efficiency: Readings, pre-recorded video, live lecture (large class), live lecture (small class), discussion forum, email, phone call, office hour counselling, and private tutoring. As we can see, the ST interaction level approximately increases in the same order and so does the variable cost of teaching. Therefore, we formulate the performance frontier curve for these online instructional methods as follows.

Figure 1: Teaching performance frontier of various instructional methods



The above curve shows the tradeoff relationship between teaching efficiency and ST interaction for those commonly used teaching methods. Assuming everything else remains the same, high ST interaction is related to better learning performance and improved outcomes. However, with the current technological options, high ST interaction often employs costly one-to-one student-faculty communication and carries a high price tag. It appears impossible to achieve low cost (high efficiency) and high ST interaction at the same time. Choosing efficiency over ST interaction may result in poor learning outcomes and typical online course complaints such as isolation, and choosing ST interaction over efficiency may cause faculty burnout and loss of research productivity. Efficiency and interaction tradeoffs are thus pervasive in influencing student learning experience and critical to different stakeholders including students and education providers.

The key difference between online and on-ground teaching is the f2f lecture (ST interaction) being replaced by specially designed SC interactions in terms of readings and videos. While lecturing a large f2f class is considered to be highly cost-efficient (with moderate to low ST interaction), using SC interactions to replace lecture would be considered to be even more efficient (however with very low ST interaction). On the other hand, asynchronous ST interactional methods such as email are often person-to-person based, thus the efficiency is lower if compared to person-to-group delivery methods like lecture. Choosing the inappropriate mix of instructional methods can cause one or more of the possible consequences: (1) Low touch (ST interaction) methods result in learning confusions, delays and too many student questions which may translate into low faculty resource efficiency. In fact, it is well-known that teaching online courses often requires more instructor time (Mulig and Rhame, 2012). (2) High touch methods tend to reduce teaching efficiency in increasing faculty resource usage and reducing student learning efficiency, i.e., the one-to-one interactions are time consuming not only to the faculty, but also to the students,

especially considering the delays and waiting time associated with the asynchronous instructional methods on the student side.

Today, many colleges face escalating cost challenges. With the increasing popularity of online programs, how to control cost of offering these programs wisely becomes a critical issue to the financial well-being of these institutions. It is interesting to note that the online programs do possess a unique cost structure. They do not necessarily use a lot of the fixed cost infrastructure facilities on campus. However, to some degree, they do increase the variable cost of offering similar courses, e.g., more faculty time to facilitate one-to-one ST interactions (writing emails, and homework feedback) than for the one-to-many ST interactions in f2f settings. If with the inappropriate mix of instructional methods being selected, it is possible to create low efficiency and low ST interaction at the same time which fails to satisfy multiple stakeholders. At the institutional level, this could result in serious financial problems.

How do we offer adequate student interaction to promote deep learning, while keeping operating cost low? There are mainly two approaches. One is attempting to increase the teaching efficiency of those high touch instructional methods (upper-left corner in the figure 1, interactive regime), e.g., asynchronous ST interactions often involve (one-to-one) low efficiency interactions and delays. Here are a few ideas:

- Convert one-to-one ST interactions into one-to-many interactions, for example, converting typical question and answer into Q&A to be posted online, or sending group emails and announcements (Martin and Bolliger, 2018).
- Instructors can design and employ efficient ST interactions including synchronous one-to-many lecture and virtual conferencing meetings, to improve efficiency as well as responsiveness. For instance, it is common to answer questions in Zoom sessions where several students with the same question can hear the answer right away.

The other approach is focusing on increasing the interactional level of traditional low touch teaching methods, particularly including SC and SS interactions (the lower-right corner of figure 1, efficient regime).

- Increase the interaction level of low touch methods, e.g., adding LMS-based online quizzes to allow for instant grading and feedback.
- Experiential learning activities can accelerate learning process as they enable students to practice and act in realistic or close-to-reality scenarios. Digital technologies can provide low cost alternatives for experiential learning activities, including online games, digital simulations, virtual tours, and relevant assignments.
- Use well-structured SS interaction instructional design to enhance learning, for example, study buddy activities (Madland and Richards, 2016), icebreaker introductions and collaborative work (Martin and Bolliger, 2018), group projects, and online discussions.
- Using new methods like flipped classroom to improve the interaction level of large lecture classes.
- Using peer-review or -grading to increase the interactional level of online discussions.

Deep and meaningful learning is supported as long as one of the three modes of interaction (SC, ST, SS) is at a high level. The other two may be offered at minimal levels, without degrading the overall educational experience (Anderson, 2003). This means using enhanced SC and SS interactions to replace part of the expensive ST interaction is theoretically a possible way to teach online students.

In fact, technological development has provided abundant opportunities to transform one-way SC interaction into enhanced forms of SC (similar to ST) interaction, meaning improving student interactions for low-touch methods without sacrificing teaching efficiencies. Furthermore, new technologies might help address many individual and behavioral factors of students that significantly influence online interaction which include self-efficacy, readiness of technology, age and health, learning styles, cultural diversity, and attitudes (Purarjomandlangrudi et al., 2016). Literature review shows that technology is clearly reshaping ST interactions in online teaching in almost all curricular areas (Harper, 2018). Next, we discuss the impacts of AI, gamification, and MOOC trends on instructional interaction design for online courses.

(1) Artificial intelligence (AI) and its potential

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AI algorithms can enhance learning by engaging intelligence in every student interaction, and helping address the specific pain points of each individual student. AI can simulate the insightful ST interactions and replicate them in SC and even SS interactions. Smart systems can also leverage huge data sets to assist teachers in finding both weaknesses in curriculum and struggling students with weak areas (Dickson, 2017). As such, AI can add effective individual student engagement which had never been achieved to traditional SC and ST interactions.

- Using AI to improve course content, allowing AI to customize curriculum based on students' understanding level. The personalized content can greatly improve student interactions.
- Using AI to improve the delivery process including teaching and assessment. SC interactions can employ AI to simulate ST question-answer interactions thus to greatly improve interaction. AI can also be used in course assessment to substantially improve student interactivity. For example, frequent interactive micro-exercises are employed (approximately one every eight minutes of video) in Goel and Joyner (2016). The majority of these interactive exercises are equipped with nanotutors which give students targeted, individualized, fast feedback on student exercise responses.
- Using AI and analytics to gain insights about student performance and weak areas which can be the most efficient ways to improve learning outcomes. The algorithm driving AI can be trained to detect when a learner is struggling and what caused them to struggle. These can be incorporated in both ST and SC interactions.
- More-advanced use of AI algorithms can analyze facial expressions of students via webcam, such as boredom and distractedness, and link those to the other data gathered on students in order to create a more complete solution to improve student learning process. Again, these can be used in online as well as f2f teaching contexts.

Overall, AI can not only replace some of the repetitive ST interactions, making the old-day low-touch SC interactions a lot more interactive and effective, but also make teachers even more productive and efficient in doing what they can do best: creating and delivering innovative content, and addressing the most pervasive pain points in educational processes.

(2) Gamification

Learning occurs effectively when a situation is experienced. Gamification in teaching can be defined as the use of game elements and game design techniques to offer course content and relevant learning experience. Games associate learning with fun and allow for trial and error (basically, the freedom to make mistakes). The benefits of gamifying teaching activities include better engagement, better motivation, increased effort, increased interest and enjoyment in the subject matter, and improved learning outcome (Buckley and Doyle, 2014; Dias, 2017; Klapztein and Cipolla, 2016; Liu and Peng, 2013). Game participants experience high levels of realism and involvement in games (Hunsaker, 2007) thus games are considered to be more efficient than other teaching methods like cases.

Game design is an activity that creates and defines game structures and rules, targeting the generation of meaningful interactional experiences (Salen and Zimmerman, 2004). The heart of the gamification trend is to use interactive gaming as a tool to transform training and education (Burrus, 2012), particularly, converting traditional SC interactions (with low interactions) into innovative SC interactions with very high-frequency high-quality student interactions.

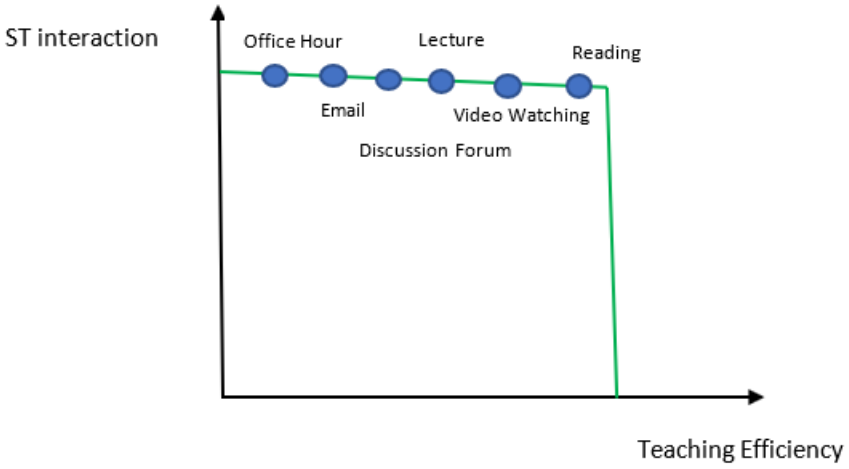
(3) MOOC and beyond

The MOOC (Massively Open Online Course) offers very low-cost online programs to a large number of participants with no admission requirement. Terwiesch and Ulrich (2014) define the technology embedded within the MOOC as SuperText which essentially uses short video clips to deliver modular content. Students interact with the content, peer students, and a course administrator or staff member, but not the faculty (content author). This type of ST interaction costs a lot less than the traditional one. The SuperText technology can potentially shift the efficiency frontier in higher education, which means colleges can now educate more students with the given resources, or reduce cost substantially with the same number of students.

As the new technologies can "simulate" and "elevate" ST interactions with artificial intelligence, we shall describe the new teaching performance frontier in the following figure. Specifically, with the aid of AI driven nanotutors and intelligent exercises, readings and videos can provide very high student interaction levels, to match other traditional

high touch methods. With similar interaction level, these highly efficient instruction methods are ideal choices of online course delivery. To some degree, those low-cost methods can shift a significant part of the ST interaction work to be completed automatically by computer systems. Further, traditional ST interactions can also be improved by using AI algorithms and other new technologies. As such, we expect the teaching efficiency and effectiveness of online education will be substantially enhanced by innovations and new technologies in the future. In the meantime, It should be noted that designing human-centered AI is difficult, and AI can enhance rather than substitute one important aspect of human life: creativity (Harper, 2019).

Figure 2: Enhanced performance frontier by new technologies



The exponential nature of technological development has shifted the online teaching substantially in recent years and further enhancements will continue to improve online instructional methods going forward. Considering the possible obstacles, one major constraint is resource. Particularly, the traditional model centers on the college professor designing and developing their own class with little outside assistance. While each faculty member brings knowledge and expertise of the subject, there may not be resources and skills needed for developing an engaging online course, especially concerning animation, gamification, artificial intelligence, and other new features and digital technologies. The standardization of development and delivery of online courses increasingly calls for teams of experts (e.g., faculty members, instructional designers, multimedia specialists, software developers, code writers, educational technologists, editors), and complex review processes. Outsourcing course and program development to third-party professional firms might be a good alternative. This might soon change the way how individual online courses are created and managed.

CONCLUSION

Research shows that engaging students in online learning requires mastery of both content and online teaching strategies (Buelow et al., 2018), and interaction/engagement is often cited as one of the key lacking or missing components in online teaching environment. In this paper we presented perspectives on how to improve student interaction in online teaching. To address the dilemma of increasing interaction and rising cost and resource usage, we formulated the efficiency frontier of traditional teaching methods and demonstrated action plans to increase the interaction level of low-touch methods, and the efficiency of high-touch activities, particularly with the help of new technologies such as AI and gamification. These new technologies have re-defined learning processes and focusing more on student interaction provides space for further discussions on instructional design (Agudo-Peregrina et al., 2014).

As all organizations face a fundamental trade-off between cost and effectiveness/quality, this tradeoff in the higher education industry is most visible in the student-to-faculty ratio, which roughly depicts how much time, on average, a teacher can spend with a student. We believe our discussions can offer useful insights to help design efficient and

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effective student interactions as well as learning processes for online courses. Our discussion adds to the online education literature where teaching efficiency is rarely part of the conversation.

So far, we have investigated the relationship between teaching efficiency and student interaction. But we did not consider student learning efficiency. Student learning efficiency describes how efficiently students convert their learning effort into desirable outcomes. When designing online courses, one typical tendency is not being particularly concerned about student learning efficiency. Similar to teaching efficiency, student learning efficiency has not been widely studied in the current online teaching literature. It is unclear that how different instructional methods differ in terms of learning effort and efficiency, e.g., assuming with the same learning outcome achieved, do students need to put in more effort when reading than watching video (on the same topic)? It is not clear how learning efficiency differs when using other methods, like case and field trip, and how learning efficiency, teaching efficiency, and teaching effectiveness interrelate to each other. Further research is definitely needed to help understand these relationships.

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Expense Report Accounting and Internal Control Issues

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ABSTRACT

This short case deals with information system, internal control, and accounting journal entries associated with expense reports, including the impact that a corporate credit card had on all three items above. Expense reports are a high-risk area, but rarely covered in undergraduate, or graduate, programs.

Keywords: Expense reports, Corporate credit cards, Internal control, Expense report accounting

Equipment Maker (EM) is a mid-size manufacturing company with multiple locations and a national sales force. Like most companies, EM processes expense reports for its managers, sales force, and, less frequently, other employees. Its expense reports typically represent—travel & entertainment costs, conferences and other training programs, and other less common items.

Some EM salespeople have company cars, and some use their own vehicles. Salespeople are busy and generally are not timely with filing their expense reports. EM has a policy that expense reports are due within ten days of incurring the expense items, which very few employees comply with. EM relatively recently adopted the very popular cloud-based expense reporting software, Concur. Concur allows for electronic filing of expense reports including attaching scanned supporting documentation/receipts for expenses incurred.

Recently, top management decided to adopt a corporate credit card that it provided to its managers and sales force. The credit card bank sends EM a daily list of charges incurred. EM pays for the week's charges each Friday.

Required:

1. List the key processes and controls EM should have in place for the filing of expense reports.
2. Should employees be required to submit the hard copy of supporting documents to supplement the scanned copy submitted via Concur?
3. List the accounting journal entries, and their timing, for expense reports.
4. How do you think corporate credit cards change the accounting (journal entries, etc.), processes, and controls compared with the old, non-corporate credit card reporting system?
5. What are the advantages of using a corporate card for EM? What are the potential disadvantages?
6. What motivates a bank to offer a corporate card to a company?

Expense Report Fraud

Internal audit does cycle audits of various processes. Important areas are audited frequently—some annually. Expense reports are not audited often, perhaps every five years. In the most recent audit, internal audit (IAD) asked management if it could purchase fraud detection software. Management approved the purchase.

1. Do you think any fraud was detected?
2. If so, how do you think it was perpetrated?
3. What would you do if you were in management? Would you fire someone for minor expense report fraud?
4. Do you think companies have an expense reporting policy in which they explicitly describe the list of legitimate charges, including dollar limits, or is this a judgment area?
5. Assume you are an internal auditor and you just obtained this special-purpose expense report software. How would you select your sample? What analytics would you perform?

The Teaching Note is available from the author at Robert.west@villanova.edu

Rethinking Student Assessment in Business Education: A Habits of Mind Perspective

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ABSTRACT

Numerous calls have been made in higher education for a paradigm shift from teaching to learning with the insistence that the primary purpose of higher education institutions is to serve as powerful learning environments, which do not merely transfer knowledge but rather exist to function as nurturing grounds for the acquisition of the types of skills and dispositions essential to the success of the 21st century student. Absent from these calls is a significant element-the focus on habits of mind, which is antithetical to the grade as a final arbiter of what students are learning and their inherent capacity to continue growing in a way that will allow them to achieve industry performance competencies. Existing challenges in managing the theory-practice gap in the business discipline further amplify the need for agility in how B-schools pivot to increasing complexities in a rapidly changing business and global economic environment. This paper overlays a Deweyian pedagogical perspective with a revised assessment system that incorporates a focus on habit of minds, which supports the enhanced preparation of B-school graduates who are entering a radically changing workforce.

Keyword: Habits of Mind, Dispositions, Business Students, Learning Environments, Assessments

This paper is dedicated to the memory of Professors Erskine Dottin and Uchenna Elike.

INTRODUCTION

A call for a paradigm shift from the focus on teaching (what the instructor does) to learning (what the student learns) in higher education institutions in America is embedded loud and clear in the quotation below by Saulnier, Landry, Longenecker & Wagner (2008):

> In the Learning Paradigm a college's purpose is not to transfer knowledge but to create environments and experiences that bring students to discover and construct knowledge for themselves, to make students members of communities of learners that make discoveries and solve problems. The college aims, in fact, to create a series of ever more powerful learning environments. (p. 170)

This early 21st century call for a paradigm shift enshrined a focus on what students should know and be able to do, and the corresponding means by and through which the foregoing may be assessed. In this call, attention was drawn to the need to recognize the primary purpose of higher education institutions as that of creating learning environments, which do not merely serve to transfer knowledge but nurture the type of skills and dispositions essential to the success of the 21st century student. The evolutionary role of Business schools (B-schools) in a new paradigm that prepares tomorrow's leaders is well expressed in the following commentary noted in *The Renaissance We Need in Business Education* (Roos, 2014):

> The business leaders who will succeed in the coming decade will be notable for their holistic thinking, global perspectives, international experience, multilingual capabilities, technological familiarity, entrepreneurial mindset, creativity, and ability to deal productively with complexity and chaos. Many corporations already say they cannot find the type of employees they need, so we must begin acting now to transform our business schools. It is our job as educators to produce graduates who can thrive in a radically changing world, and who can shape it in positive ways. We must educate a new generation of renaissance leaders. (p.1).

This new generation of tomorrow's business students described by Roos (2014) must cultivate essential dispositions that will allow them to deal effectively with the amplified complexities of a rapidly changing business and global economic ecosystem, which in turn has also placed a demand on the way that B-schools refine its content and redesign learning processes. Transformational changes in learning and knowledge structures require new learning goals, which will have implications for the interaction between instructional delivery and learner-centered assessment practices. The focus on the new learning paradigm in higher education precipitated a great deal of

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attention to the acquisition of subject content and process skills and this idea was reinforced clearly in many faculty members prodigious efforts to attend to the assessment of student learning using content knowledge and skills (Farmer, 1999) and to retain "the grade" as the final arbiter of student learning. However, very little attention was paid to students' dispositions as habits of mind for making their conduct more intelligent (Costa & Kallick, 2014; Dottin, 2010).

The literature is replete with analyses of paradigm shifts, that have occurred or are imperative, across varying disciplines (Christensen & Erying, 2011; Khurana, 2007; Vatterott, 2015). However, these paradigmatic shifts have a significant missing element – the focus on habits of mind (Dottin, 2010) and the antithetical nature of habits of mind and "the grade" as the final arbiter of learning and a student's continued capacity to grow. As a result, the purpose of this article is to

(a) underscore the notion of habit, and show the link between habit and habits of mind;
(b) explain why habits of mind are important to learning, and their operation in making conduct more intelligent;
(c) argue that a shift from the focus on grades as the measure of student learning is necessary if serious attention is to be paid to habits of mind, and
(d) suggest that the assessment of learning through written narratives that attend to habits of mind may be more efficacious than the total reliance on grades.

HABITS OF MIND

What are Habits?

One of the authors of this article asked a group of business students to look at a video on disruptive innovation (June 2013) by Clay Christensen. At the end of the video, the author enquired of the students as to whether there was an underlying message or idea that seemed embedded in the video, and how the attitudes of the two major firms contrasted. The central idea advanced by the students was the idea of "awareness" or "recognition" by the incumbent firm to its evolving business environment. The author then noted that "awareness" was never used or mentioned in the lecture video by Christensen, and thus inquired as to how the students had arrived at their insight. Some students stated that they had made this inference from the way the incumbent mentioned in the video functioned, and how it led to the new entrant being able to move upmarket, and therefore the incumbent's attitude could be regarded as a lack of awareness, which in turn influenced the actions of the incumbent to stop producing lower quality products. They felt the behavior they had identified in the video is similar to, what some in the literature today refer to as, a "growth mindset" (Kamenetz, 2015). The author, extended his inquiry, by asking the students whether the quality of "awareness" that they deduced from the incumbent firm's behavior likely stemmed from innate characteristics of employees or rather a function of the organizational culture. Responses from students varied along the continuum of individual to organizational attributes to which the author then inquired from the students as to whether "awareness" was a habit and if so, whether it was a good or bad habit. Students all agreed that it was a "good habit".

Habits, whether good or bad (dispositions or tendencies to behave a certain way, that is, potentiality), emerge from our acting on the world around us. Nelsen (2014) suggests that we view "… dispositions as clusters of habits that describe the tendencies to respond in specific ways to given stimuli in specific contexts (thus a single disposition can be usefully described through a set of interrelated habits)" (p. 4). Habits, therefore, may be construed of as active means, means (principles of action) that project themselves, energetic and dominating ways of acting (Dewey, 2012; Carlisle, 2014). Dewey (2012) suggested that we approach the idea of habits as we do physiological functions, like breathing, digesting, seeing, walking, speech, and so on. In each of the foregoing functions we need both internal organs and structures of the self, aspects of the environment, and dispositions. The lungs are inert by themselves, but in conjunction with air in the environment they help to facilitate the process of breathing for the individual. However, the same air in the environment that ruffles the water in the pool or wrecks buildings under other social conditions purifies the blood of the individual and helps him or her to convey thought (Dewey, 2012, p.18).

Like physiological functions, habits require the interaction of internal structures of the self and the social environment. Unlike involuntary physiological functions, habits are the link between human aims/ends and means. Dewey (2012) provides further clarification of the previous, this way. Nails and boards (materials), and a saw and a hammer (tools) all have the potential to facilitate the making of a box. They become, what Dewey (2012) calls "actual means" or means of action only when brought in conjunction with eye, arm and hand in some specific operation. And eye, arm and hand are correspondingly actual means proper only when they are in active operation. "And whenever they are in action they are cooperating with external materials and energies. Without support from

beyond themselves the eye stares blankly and the hand moves fumblingly. They are means only when they enter into organization with things which independently accomplish definite results" (Dewey, 2012, pp. 24-25). To Dewey (2012), "These organizations are habits" (p. 25). So, when the individual human brings to bear the aim to build a box, that is to act with meaning by having an end in view, the materials and tools become materials and tools of action toward that end. The individual, to achieve the result of building a box, must bring bodily and mental organs into organization with external materials and tools. Dewey (1922) refers to these organizations as habits. The aim, to build the box, arises out of the social experience and needs of the individual. The habit or tendency to build boxes a certain way, by the individual, thus emerges in a social context and may be shared with other individuals. The habit may then be repeated unconsciously, after time and under the requisite contexts, and it is this unconscious repetition that fosters the idea of habit as repeated acts that control us internally and inhibit change and growth.

Dewey (1916/1944) argued that to act on the world, undergo the consequences, and extract ideas and meaning from the experience through reflection which may be used as a means to achieve some new end, is the basis of learning and growth in habits. Dewey tended to frown upon any educational approach that failed to bridge theory and practice or lacked the incorporation of experiential learning within and outside of the classroom. What Dewey maintains is that to learn from experience, and not simply to experience, obliges a person to cultivate, among other things, personal attitudes toward thinking and acting in the world. To Dewey, these attitudes include straightforwardness, open-mindedness, breadth of outlook, integrity of purpose, and responsibility (Dewey, 1916/1944). So, if institutions of higher education and Business schools in particular have as a goal to help students extend and deepen their interest in learning from experience, what Hansen (2002) refers to as "the essential moral interest" then the attitudes to which Dewey referred may be interpreted as dispositions of potentiality that facilitate action or conduct through "habits of mind that render conduct more intelligent" (Dottin, 2010). In fact, a direct link can be made between the skills (dispositions) being seen as critically germane to 21st-century B-school graduates, and the habits of mind called for in teaching and learning in the work of Art Costa & Bena Kallick (2014):

Table 1: 21st Century Skills and Habits of Mind

21st Century Skills	*Habits of Mind*
Problem solving and critical thinking	Persisting, Questioning and posing problems, Applying past knowledge to new situations, Gathering data
Collaboration across networks and leading by influence	Thinking interdependently
Agility and adaptability	Thinking flexibly
Initiative and entrepreneurship	Taking responsible risks
Effective written and oral communication	Listening with understanding and empathy, Striving for accuracy, Thinking and communicating with clarity and precision
Accessing and analyzing information	Thinking about own thinking
Curiosity and imagination(Wagner, 2008)	Finding humor, Responding with wonderment and awe (Costa & Kallick, 2014)

Why Attention to Habits of Mind?

The importance of students thinking like a scientist, or like a mathematician, or like an historian, goes across all disciplines and necessitates attention being given to what Ritchhart (2002) refers to as "intellectual character," a quality of conduct, that is the use of dispositions, which distinguishes a person as being capable of clear, and effective thinking as well stimulates intellectual behavior. The dispositions to which Ritchhart (2002) refer may be construed of as mental qualities (or executive functions) of "Habits of Mind," that are necessary for thoughtful work and for making professional conduct more intelligent (Dottin, 2010). The Carnegie Foundation for the Advancement of Teaching in its call for the formation of 21st-century scholars, acknowledges the relevance of structural and procedural knowledge, while also noting that the formation of 21st-century scholars "… points not only to the development of intellectual expertise but to the growth of 'the personality, character, habits of heart and mind' and 'the role that the given discipline is capable of and meant to play in academe and society at large' (Elkana, 2006, pp. 66. 80 as cited in Walker, Golde, Jones, Bueschel, & Hutchings, 2008, p. 8). Costa and Kallick (2008) provide further clarity about the foregoing by noting:

> Educational outcomes in traditional settings focus on how many answers a student knows. When we teach for the Habits of Mind, we are interested also in how students behave when they *don't know* an answer. The Habits of Mind are performed in response to questions and problems, the answers to which are not immediately known. We are interested in enhancing the ways students *produce* knowledge rather than how they merely *reproduce* it. We want students to learn how to develop a critical stance with their work:

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> inquiring, editing, thinking flexibly, and learning from another person's perspective. The critical attribute of intelligent human beings is not only having information but also knowing how to act on it (p. 16).

Tough (2012), in his book *How Children Succeed: Grit, Curiosity, and the Hidden Power of Character*, has provided an empirical link between "habits of Mind" and the "executive functions" of the prefrontal cortext of the brain. Tough (2012) notes that "Executive functions, as we now understand them, are a collection of higher-order mental abilities…. Most broadly they refer to the ability to deal with confusion and unpredictable situations and information" (p. 18). In other words, executive functions may be construed, therefore, as a set of mental processes that help us connect past experience with present actions. They help us perform activities such as planning, organizing, strategizing, paying attention to and remembering details, and managing time and space (NCLD Editorial Staff, 2010, para. 1). Tough (2012) further argues that:

> The reason that researchers who care about the gap between rich and poor are so excited about executive functions is that these skills [habits of mind] are not only predictive of success; they are also quite malleable, much more so than other cognitive skills. The prefrontal cortex is more responsive to intervention than other parts of the brain, and it stays flexible well into adolescence and early adulthood. So if we can improve a child's environment in the specific ways that lead to better executive functioning, we can increase his prospects for success in a particularly efficient way. (p. 21)

Efforts to improve the instructional environment in a manner that supports Tough's thesis must also take into account the unique needs, behaviors, and learning styles of various generations of learners. The common learning dispositions of Generation Z, who formed the majority of students who participated in the case study, are highlighted and linked to habits of mind in the discussion and conclusion section of this paper. The work of Ann Graybiel (2008) in neuroscience and psychology about "the plastic mind" helps us to see the constancy of habit, on the one hand, and of change in habit, on the other. Graybiel goes on to detail the neuronal activity of learning patterns in various regions of the brain and concludes that "habits are an endpoint of the valuation process" (2008, p. 378).

PARADIGM CHANGE LINKED TO HABITS OF MIND

There have been calls for reforms importuning professionals to move beyond just what professionals do (whether doctors, teachers, etc.) and give increased attention to how professionals think about what they do (Khurana, 2010; Perkins, 2014). Khurana (2010) documents a history of the institutional rise of B-schools and paints the failed efforts to professionalize management education, which would have codified standards and ethical conduct of future business leaders in a way that would have encouraged a deeper practice of metacognition among students and graduates. In 1959, the Ford and Carnegie Foundation reports set the stage for swinging the pendulum of business education from a model considered, at that time, to be too much practice to its current topography that has lacked sufficient emphasis on practiced-based research. This observation is amplified in the following statement, "when we examine business education it has become an increasingly closed system, despite its professed connection to the practice of business and its obligation as a professional school for the effective training of business students" (Carlile, Davidson, Freeman, Thomas, & Venkatraman, 2018, p. 58). Carlile et.al., through their 10 discussion forums were successfully able to bring together a collection of stakeholder voices to peel back the layers of the business school enterprise and explore actionable solutions that could ignite a new paradigm of added value for business education. In 2011, the Association to Advance Collegiate Schools of Business International (AACSB) developed a framework comprising five pillars that altered the narrative discourse of the chief aims of business education and lay out a new vision. According to AACSB (2011), these five pillars (catalysts for innovation, co-creators of knowledge, hubs of lifelong learning, leaders on leadership, and enablers of global prosperity) reposition B-schools to thrive and better meet the needs of two main stakeholders, students and industry.

While this present article does not seek to advocate for a preferred model of business education, it instead highlights opportunities to bridge the theory-practice gap within existing models through spotlighting a narrative assessment system that incorporates habits of mind as the primary component. John Dewey (1916/1944) offers a social psychological theory that is more facilitative of the 21st century essential educational outcomes and skills. Dewey argues that children do not start with ends in view (aims), but they are constantly in motion as they experience the world through impulsive action. Ends in view (aims) arise from the child's experiences of the consequences of its impulsive activity. Impulses demand some outlet for their expression, but the ends they eventually seek depends on the environment, especially others' response to the child. In other words, through interaction with the environment

and significant others in that environment, one develops certain attitudes, values, beliefs [and habits] about what is important and worthwhile. To engender the dispositions and intelligent habits for the continued capacity to grow, such as, for example, being motivated to learn independently, to be a self-directed learner, to be inclined to seek out necessary resources, and to exhibit a willingness to persist, educational institutions must create cultures (that is, social environments) in which the habits of pedagogical mindfulness and thoughtfulness that facilitate intelligent action and judgment are seen by students are encouraged and orchestrated through student/student interaction, and are taught directly (Tishman, Jay & Perkins, n.d.). Hansen (2002) drawing on the work of John Dewey lays out the characteristics of the kind of educative environment needed to support the foregoing. The educative environment must be "simplified" in that it draws students into learning; it must be "purified" by calling out students' best thinking, feeling and conduct, their open-mindedness rather than their biases; it must be "balanced" in fostering individual development while also fueling a social and moral consciousness; and, it must be "steadying" by helping students to link their understandings and dispositions.

STUDENT ASSESSMENT

Students to Get a Grade or to Find Meaning

When considering assessment methods for ascertaining student learning and issues of subjectivity or bias related to these methods, it is important to understand the underlying premise of evaluating student performance. For institutions of higher education and in particular B-schools, to really focus on the habits of mind, it is necessary to attend to what Argyris and Schon (1974) calls the difference between "theory espoused," and "theory in use", which in part continues to reinforce the theory-practice gap. It is evident from the literature that schools, colleges and universities want to enhance students' thinking, problem-solving, team-work skills, etc. Not only the literature, but many of the school environments attest to the foregoing by displaying language about thinking and problem-solving in visible posters, bulletin boards, etc. Argyris and Schon (1974) would call this their espoused theory. This is what they profess about what they want to do or have happen. On the other hand, embedded in the culture of many of these schools, colleges and universities are practices, the theory in use, which are totally incongruent and inconsistent with their espoused theory. One example of this incongruence is seen in Bhandarker (2008)'s seminal work, *Shaping business leaders: What B-schools don't do, which* delineated the gap between what B-schools' alumni felt that they were adequately prepared to do and how their competencies failed to align well with the expectations of employers. Bhandarker documented that alumni felt that "their schools have failed in inculcating negotiating skills, ability to manage diversity, capability to work in a team, demonstrating flexibility and leadership skills along with taking risks, ability to prioritize and deal with ambiguity, and demonstrating a global mindset" (p.111).

A further example of this contradiction is the espoused theory of wanting more inquiry-oriented, critical thinking, problem solving, ethical driven learning environments, while reinforcing what Correa (2006) calls "the contemporary 'consumer-oriented' model of academic exchange," or to be more precise, the culture of "grades." Stephanie Yang (2014) provides an example of the "culture of grades" when she contends that grades are causing a culture of unhappiness among college students. Why? Because the arbitrary decisions by teachers, departments, and institutions about what percentage will equal an A, B, etc. leads students to unimaginable stress levels in the pursuit of "the A." When the tacit norm that more A's received by students equal lower quality and academic standards, then students prioritize their getting "the A" and pay less attention to their learning. Correa (2006) notes:

> The interpretation of grades has impacted and redefined both the educational learning environment and the practice of teaching for students and faculty alike. To foster a paradigm shift from grade entitlement towards learning, both educators and students will need to challenge embedded structural practices, and deconstruct current perspectives that are associated with contemporary economic realities. (para. 1)

Nelsen (2014) calls to our attention that social environments influence the kind of dispositions internalized. An environment in which the focus is on grades moves students to internalize a habit of mind that is incongruent with education as the continued capacity to grow, that is, to make their conduct more intelligent. Such an environment may even suppress students' creativity (Cole, Sugioka, & Yamagata-Lynch, 1999). Moreover, faculty teaching in environments that tend to promote grades are less likely to emphasize the types of dispositions that are intended to be typified in the 21st-century student.

> Dewey helps us see that if we want to develop specific types of dispositions, then we have to focus on how the entirety of a program---from what we teach, how we teach, to programmatic requirements like artifact reflections for portfolios and formal observations in student teaching---affects the creation of habits and

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> dispositions. This may be obvious, but it is worth stressing because how we envision dispositions themselves can affect how students then develop them. Presenting dispositions as unproblematic ends, as answers to be accepted, creates an environment that is anathema to fostering intelligent dispositions. (Nelsen, 2014, para. 29)

So, if we want to nurture dispositions as habits of mind that are congruent with the much regaled 21st-century skills then we must engage in a similar kind of "disruption" called for by Christensen, Horn and Johnson (2008). While the focus of these authors is on technological changes in the 21st-century, their call to rethink how we approach teaching and learning and the needed disruptive innovation required, is similar to our call for disruption with regard to learning and grades.

Emphasizing Narrative Feedback Over Grades

The traditional system of relying on a grade to evaluate and communicate student learning can be described as one of the least sophisticated or helpful mechanisms in providing feedback on student learning, and it runs counter to progressive views of learning. This system of measuring learning by letter or percentage grades reinforces the myths that grades motivate students, grades provide students, teachers, and parents with a sense of how students are doing, and grades are valid measures of student learning. These myths tend to reflect an attachment to or an obsession with grades, which is made even worst when one considers the unnecessary pressure the letter or percentage grading system places on students and that grades may possibly reflect "the least significant results of learning" (McNeil, 1986, p. xviii). Grades in most instances tend to act as a simple solution to catalyzing students into action. In reality, what grades indicate to students is that their efforts have either met or not met threshold standards of performance, without revealing to them how they can improve on these efforts or cultivate habits of mind that will augment their intellectual character to align with the demands of current labor market forces.

The type of feedback and the way in which it is given can influence students' response to the feedback. In one comparison of two groups of students that were grades oriented and non-grades oriented, Kohn (2011) drew three salient conclusions: (a) an inverse relationship exists between students' drive to obtain good grades and students' desire to learn; (b) grades lure students into opting to do what they may regard as the simplest task; and (c) students' quality of thinking is diminished when a focus on grades exists. Kohn (2006) argued:

> The more we want our children to be (1) lifelong learners, genuinely excited about words and numbers and ideas, (2) avoid sticking with what's easy and safe, and (3) become sophisticated thinkers, the more we should do everything possible to help them forget about grades. (p. 81).

In another comparison, students who were given feedback and were informed that the feedback was intended to assist them to learn ended up learning more than students who were given feedback and were informed that the feedback indicated the extent of their smartness and their likely future performance (Black, Harrison, Lee, Marshall, & William, 2004). Black et al., (2004) go on to make the point "in general, feedback given as rewards or grades enhances ego involvement rather than task involvement… feedback that focuses on what needs to be done can encourage all to believe that they can improve. Such feedback can enhance learning…" (p.18). It is this kind of feedback that has the opportunity to point graduates and their employers, with a greater degree of accuracy, about the true extent of competencies derived from students matriculating through B-schools and help to better manage the gap between theory and practice as described in Bhandarker's (2008) work, *Shaping Business Leaders: What B-schools Don't Do*.

Although it may be difficult to envisage a teaching-learning environment devoid of letter grades, there is evidence that some schools are moving from traditional letter grades to providing students and parents with narrative feedback about students' learning (Grinberg, 2014). Many college and university professors have become accustomed to the usual student refrain of "can you tell me how I am doing in your class?" This question usually circumvents attention to what the student is learning and the self-assessment of his or her learning. The focus on learning, according to Barnes (2013) is the "connection between where students are headed and how to get them there [and this] is where meaningful narrative feedback comes in --- feedback that is far more than a smiley face sticker, a check mark, or a note that simply says 'good job'" (p. 73). In fact, Barnes (2013) provides guidance in what these authors call formative written feedback that is more conducive to enhancing student learning. In his courses, one of the authors used both formative and summative written feedback built on a habits of mind rubric. Below is an example of summative written feedback, from one of the authors, to undergraduate students working collaboratively in small groups, where the focus was on problem solving through the analysis of a case study. The learning in the course was not only to acquire content knowledge, and demonstrate process skills, but also to be

aware of and internalize habits of mind for making their conduct more intelligent.

CASE ANALYSIS

Group 7's analysis of the Virgin America (VA) case study (Hill et. al., 2020) showed evidence of the problem being attended to. The group, comprising 4 undergraduate business students, was required to respond to three questions:

1. Reference being made to the Clay Christensen (2013) video on disruptive innovation, the airline industry, and the Virgin America case study, analyse the competitive environment in which Virgin America operated.
2. What was Virgin America's differentiation strategy and in what way did this strategy influence VA's quality, reliability, and cumulative net profit?
3. What would you have done differently were you a part of the key decision-making team at VA?

The group displayed an overall understanding of the case and the nature of the problem by being analytical in separating the problem from its symptoms and identifying issues related to achieving competitve advantage in the airline industry. The group expanded its knowledge base of the central issues VA faced, including the resulting loss of $440 million, by gathering relevant data and the use of additional supporting material. The group showed evidence of thinking about its own thinking through the use of reasoning skills to identify and analyze decisions taken by VA that were unsustainable. The group showed some evidence of deliberateness in being thoughtful about the use of theoretical principles such as value innovation and the application of Porter's Five Forces as well as the VRIO framework to interpret the problem in the case. Some solutions were generated for problems identified. The group's evidence of striving for accuracy by providing a [comprehensive] bibliography of relevant sources and exactness in APA citations in the narrative and reference section was generally good but incomplete. The group showed evidence of thinking and communicating with clarity and precision. At each stage of the case analysis and response to feedback questions, the group was able to dissect and distil competitive advantage in the airline industry by giving attention to the habits of mind outlined in Table 1.

Performance assessment: outstanding (2.8 out of rubric scale: 1 inadequate; 2 adequate; 3 outstanding)[2]

Group Performance

Monica worked to adopt a critical eye toward ideas and actions by inquiring into discrepancies in the case. She demonstrated open-mindedness by recognizing the wholeness and distinctiveness of other people's ways of experiencing and making meaning during group discussions. She was consistent in her focus on her work, and she worked to see the group project through to its conclusion by employing systematic methods to complete the case analysis. She wondered about why she was doing what she was doing by planning for, reflecting on, and evaluating the quality of her own thinking skills and strategies. She took time to check over work before submitting it to show that she was more interested in excellent work than in expedience. She must continue to work to avoid overgeneralizations and distortions, and to support statements with evidence in both written and oral communication. She was curious, and enthusiastic about learning, and inquiry, and mastering her work. She definitely worked to be comfortable in situations where the outcomes were not immediately known and which called for her acting on the basis of adventurous initiative and not just from needing a script. She thought in concert with others and was sensitive to the needs of others and cooperative and a team member. She showed evidence, when appropriate, of working to hold in abeyance her own values, judgments, opinions, and prejudices in order to listen to and entertain the thoughts of others by caring about others and listening well. She definitely abided by the rules established by the group.

Performance assessment: outstanding (3.0 out of rubric scale 1 inadequate; 2 adequate; 3 outstanding)

Class Participation

Monica participated in 100% of the formal class sessions for which she was never tardy. Her participation in class sessions revealed a sense of open-mindedness, interest in self-reflection, a strong intrinsic motivation to learn, being interested in exchanging ideas, as well as being a cooperative team member. She showed evidence of command of the primary language used, and evidence of experiencing intellectual "aha's." Although she may not have always had the 'right' answer, she was willing to pose deep questions. In doing so, she revealed an investigative manner and a sense of caring and responsibility in attending to requisite class tasks such as her providing relevant course feedback about her learning and group performance. She demonstrated mastery of the course content, to some degree, through the use of the literature to interpret the case. She showed evidence of being self-evaluative and of transferring knowledge in her work on her habits of mind and meeting standards in reflective entries.

[2] The three-point Likert scale used here is not a grade but rather represents an assessment of students' habits of mind performance based on an assigned case study.

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Performance assessment: outstanding (3.0 out of rubric scale 1 inadequate; 2 adequate; 3 outstanding)

DISCUSSION & CONCLUSION

The written narrative feedback in the preceding section provided an assessment of student performance that incorporated the habits of mind outlined in Table 1. First, as noted in the summary of the case analysis, the observable habits of mind included questioning, presenting problems, collecting relevant data, and the application of appropriate frameworks. There was evidence of effective written and oral communication supported by accuracy and clarity in the report produced. The importance of giving adequate emphasis to these particular set of habits of mind must be repeatedly underscored if B-schools and higher education in general are to produce adept critical thinkers and problem solvers. Second, feedback about student's individual performance within a group setting was intended to show the student's ability to think interdependently and flexibly as well as work collaboratively, which are habits of mind essential to successful teamwork and leadership. Third, class participation provided a window into the student's learning style and potential areas of improvement within the context of the habits of mind noted in Table 1. The ability of students to learn from this experience, and not merely being observers to the experience, compelled them to cultivate in addition to other things, positive attitudes toward thinking and purposeful action.

Dispositions and learning preferences of students must be understood in order to create the most optimal learning enviroments. Kohn's challenge is still relevant when considering that Generation Z forms a large majority of traditional learners currently enrolled in college and universities. Generation Z, also known as Gen Z or Ditigal Natives has experienced the greatest level of immersion in technology at an early age compared to prior generations. An emerging learning profile of Gen Z indicates the following characteristics: open-mindedness, suppressed creativity, a need for experiential learning opportunities that can be leveraged immediately, a need for guidance in synthesizing and assessing information, a preference for intrapersonal learning with some reservations about working in groups, greater emphasis on speed than accuracy, and a higher value placed on soft skills than hard skills (Nicholas, 2020; Seemiller & Grace, 2016). A study investigating the learning styles of business students further showed that 82.2 % of Gen Z students agreed that case analyses were valuable for learning compared to only 30.2% agreeing that long term papers offered the same level of learning (Nicholas, 2020). This present study confirms Nicholas' findings and brings into focus the habits of mind essential for Gen Z and other learner demographics to achieve even greater levels of success beyond the classroom. For example, striving for accuracy was an important habit of mind to underscore when engaging Gen Z students since they are more inclined to focus on speed over accuracy. Another habit of mind, thinking about thinking, was made a central focus throughout the case analyses so that students could be mindful of the way they collected and processed data as well as other facts related to the case study. Feedback question 3 was specifically aimed at stimulating creativity and wonderment ('aha') moments, which are essential habits of mind for Gen Z students to develop given their emerging learning profile.

If we are after the kind of learning that will shape Gen Z, and other learners from different generations, into more successful stories beyond the classroom, then we must redefine classroom practices and expectations to the extent that they reinforce the transformative process of knowledge, skills and dispositions (the mental qualities or habits of mind for thoughtful work) acquisition over grade assessment. In fact, the drumbeat for the move away from grades has been intensifying (Barnes, 2013; Dean, 2006; Kohn, 1999, Yang, 2014). The movement for a departure from the traditional system of assigning grades to show how students are doing has come under criticisms from proponents who consider grades to be the most acceptable form of evaluating student achievement and who believe that any alternative system will be stacked with subjectivity. If researchers and educators revisit the basic principles of teaching and learning as well as deeply consider the underlying motive and fundamental assumptions behind student evaluations, then letter grades will not be regarded as indispensable. In fact, the call to adopt a written narrative assessment system built upon the habits of mind principles instead of extending the lifesupport of the current letter grading system is likely to ameliorate learning conditions for intelligent dispositions and resonate more broadly in response to questions such as:

> Do we want students who can memorize and repeat or students who can analyze, synthesize, and problem solve?
>
> Do we want students who are excited and engaged and involved in their learning or students who obediently slog through whatever tasks they are given?
>
> Do we want students whose goal is to get the grade at any cost or to find meaning in what they do? (Vatterott, 2015, p. 25).

The answer is simple if the goal is the adequate preparation of students to face the increasing complex challenges in

the business and global economic environment and enhance students' acquisition and demonstration of dispositions as habits of mind for making their conduct in learning and life more intelligent.

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Assessing Experiential Learning Innovations With GenZ Undergraduate Business Students

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ABSTRACT

Business school assessment of experiential learning (EL) lags behind actual use of many experiential practices. Typically, EL assessment methods are written, such as cases, journals, and essays. These do not easily scale and are at odds with many digital GenZ students. We invented a short electronic survey, to gather students' retrospective perception of their knowledge and skills gained from four (EL) engagements. We analyzed self-reported gains in knowledge, ability to apply their knowledge, and essential skills in communication and teamwork. We used sentiment analysis on responses to reflective questions. Our high response rate (46%) reinforces the value of user-designed assessments with GenZ, for post-learning reflection and impact. Sentiment analyses of students' qualitative responses proved highly feasible. From this pilot study, we share future plans to expand digital EL assessments in combination with our traditional methods, for mixed-methods assurance of learning with higher validity, reliability and feasibility.

Keywords: assessment, experiential learning, GenZ, professionalism, sentiment analysis

INTRODUCTION

This paper describes a pilot study that assessed the perceived impact of four co-curricular, elective experiential learning (EL) innovations with undergraduate business students. This retrospective, self-reported electronic survey was created for students from 2018 to present--GenZ. GenZ are those born after 1997, our first "how am I doing" smartphone generation (Dimock, 2019; McBride, 2020; Merriman & Dooley, 2020). Our EL programs, individually and together, were designed as immersive, small-group initiatives to develop four persistent capabilities employers want in undergraduate business education: applied work-ready experience; professional development across disciplines, communication, and teamwork (Betta, 2013; Brink & Costigan, 2015; Brooks & Calkins, 2016; Crosby, 2014; Lucas & Rawlins, 2015; NACE, 2019; Pasquerella, 2019; Pool & Sewell, 2007;Watson & McConnell, 2018;Wresch & Pondell, 2014. We describe each of our innovations, followed by our EL assessment methodology, results, and conclude with our plans for improved EL assessment with GenZ in mind.

Business schools are challenged to teach what employers want in the context of our individual University mission and environment (Rhew, Black & Keels, 2019). Experiential learning is learning by doing ("Teaching and Learning" 2014). Doing high-impact learning practices requires substantial student participation, but not all students participate equally, such as first-generation and transfer students (Kinzie, 2012). Our faculty intentionally designed our innovations with mission, student mindsets, and means in mind. Benedictine University is a private, not-for-profit Catholic and Benedictine liberal arts institution in the Midwest, devoted to effective teaching. Over half of our 5,000 students are undergraduates, non-residential, reporting as other than Caucasian. One third are first generation college students. One third of undergraduate degrees awarded are in business. To advance student learning, in the last five years, extensive curricular innovations were created in the newly named Daniel L. Goodwin College of Business. Our four experiential learning innovations occur in our new Goodwin Hall. Designed for engaged learning, Goodwin includes a trading lab, three additional student computer labs, large meeting spaces and multi-functional classrooms with extensive technologies, a café, auditorium, faculty, executive offices and learning support services. Goodwin Hall has become the student "hub" on campus, connecting our three major academic buildings. Our Benedictine wisdom tradition of an inclusive community is widely embraced.

RESEARCH ON ASSESSMENT OF EXPERIENTIAL LEARNING IN UNDERGRADUATE BUSINESS

Employers and hiring managers value college candidates with experiential learning (EL) across individual

disciplines in real or very like real-world settings (Watson & McConnell, 2018). Over decades, research demonstrates the benefit of well-designed active learning practices for college students, especially for under-represented student populations (Finlay and Nair, 2013, Kosnik, Tingle & Blanton, 2013; Kuh & Kinzie, 2018, Kuh & Schneider, 2008). Purposeful, challenging engagement with frequent feedback from faculty and peers, in diverse groups and real-world settings, can provide life-changing, deep learning that increases degree persistence and success. Business schools have integrated a variety of high-impact activities in undergraduate curricula, but lag in formal evaluation of high-impact practices, especially their value to the student (Mitchell & Shavers, 2019). Assessment of experiential educational outcomes are unpredictable because learner creations and their process of learning varies; student-driven creations and individual learning processes often require different assessments and criteria (Gentry, 1990; Heinrich & Rivera, 2017; Schwartz, 2012). Compared to quantitative exams and tests, EL assessment strategies are predominantly qualitative, except for business simulations (Gollwitzer, Mack & Mack, 2017; Kulkharni, 2019; Miles & Huberman, 1994).

Post-Learning Reflective Assessment Our student group presentations and reports were successful in each of these innovations. Students and external evaluators provided very positive feedback during and directly after each of these major engagements. However, we lacked a holistic assessment about the students' perceived learning. Deeper review of experiential education assessment literature proved insightful. Our post-activity assessment strategies (presentations and reports) did not incorporate the post-learning reflective self-assessment element on which experiential education assessment is grounded (Carlston, 2018; Schwartz, 2012; Yates, Wilson & Purton, 2015). From GenZ students and recent alumni, as key stakeholders, we sought an aggregate, reflective, feasible post-learning assessment. We created an online retrospective self-evaluation survey for students to rate their knowledge, skills and learning experience, before and after these small-group experiential innovations (Moon, 2004;Wurdinger, 2005).

Experiential Learning Characteristics Research helped us clarify what is and what is not EL, in definitions, pedagogical principles and educational characteristics. We used these to self-evaluate our four innovations to claim them as high-impact and experiential. From Dewey and others, Kolb defined experiential learning as "the *process* whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience." (italics added, Kolb,1984:38, Miettinen, 2000). Experiential learning encompasses many high-impact practices as examined by Kuh and O'Donnell (2013). They list eight qualities of high-impact practices, paraphrased here: Appropriately high performance expectations; significant student time and effort over an extended period; faculty and peer interaction about substantive matters; student exposure and interactions with diverse people and circumstances; frequent, timely and constructive feedback; learning through real-world applications; public demonstration of competence, and periodic, structured opportunities to reflect and integrate learning. Structured opportunities to reflect was our weakest quality, spurring this pilot study.

Carver (2008) described four pedagogical principles of experiential education: authenticity (relevant, and meaningful experiences); active learning (physical and mental engagement in social, physical, emotional, and cognitive development); drawing on students' experience (guided opportunities to build understandings with reflection), with mechanisms to connect experience to future opportunities (from habits, memories, skills, useful knowledge and reflection). Our EL innovations match these four principles.

Chapman, McPhee & Proudman (1993:16-23) distinguished experiential education from other approaches by nine characteristics, italicized and paraphrased here: *Mixture of content and process* - disciplinary content balanced with active learning; *Absence of excessive judgment* - safe space for learning; *Engagement in purposeful endeavors* - personally relevant to the student; *Encouraging the big-picture* - see connections to the world in what they are doing; *The role of reflection* - gaining insight into themselves, their own learning to help theory come alive; *Creating emotional investment* - being fully immersed, not told what to do; *The re-examination of values*- reflecting and even altering their own values in safe, self-exploration; *The presence of meaningful relationships…learner to self, learner to teacher, and learner to learning environment*- perceiving and building active and tacit relationships; *Learning outside one's perceived comfort zones* - engaging in physical and social environments, with accountability for one's own actions and the consequence. We wanted to know if students perceived these qualities, as we did.

We added open-ended questions specifically to learn if students experienced these characteristics. For example, learning over an extended period of time ranges from a 16- hour weekend Hackathon to an 88-hour CFA Research Challenge during a semester. Students participate as leaders, workers and innovators, for professional development in a safe environment. This safe environment allows the student to fail or to experiment in an environment in which

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penalties are limited, such as not winning a pitch competition. That "failure is okay" in how students approach these challenges encourages them to step outside of their comfort zones and test their abilities.

EXPERIENTIAL LEARNING CURRICULAR INNOVATIONS

Investment Club (IC) Carlston (2018) demonstrated how student managed investment funds (SMIFs) are among the oldest and most prominent business school practices, exemplifying AACSB's goals of engagement, innovation and impact, among all stakeholders. Ours began in 1997 with $100,000 from our Board, where interested undergraduate students discussed various stocks with a faculty member and a local broker placed trades. Today, student members manage a portfolio that has grown to almost $300,000. It remains an Academic Club, not a class, which any undergraduate student can join. Since 2018, our Faculty Advisor and co-author, Larissa Adamiec, places trades, authorized by our University Finance office, and reports monthly to them. The groups of students are managed by a student Fund Manager and a student Risk Manager, like professional investment fund roles. These roles provide students the opportunity to learn skills in teamwork, all forms of communication, and leadership in project teams. Teams are designated by different equity sectors as defined by Morningstar. Weekly, each team must present an overview of how the entire sector has performed during the past week. In addition, each team is required to make one stock pitch which includes an industry overview, financial health analysis, risks and valuation of the stock in question.

Students spend approximately 35 hours a semester working for the Investment Club. The students meet in 10 formal one-hour meetings weekly throughout the semester, excluding weeks with holidays and final exams. The teams also meet for roughly two hours a week to discuss the stock pitch and the performance of the sector during the week. Students have up to 30 minutes a week of faculty interaction, for approximately 35 contact hours a semester doing Investment Club work, shown in Table 1.

Table 1: Investment Club Contact Hours

Investment Club Weekly Contact Hours	
Formal Meetings	1 hour
Team Meetings	2 hours
Faculty Interaction	0.5 hours
Semester Weeks	10 weeks
Total	35 Hours

Hackathon BenUHACK is a high-energy 20-hour hackathon, open to all students, with meals, snacks, industry leaders, faculty and fan fare (freebies). It was created in 2018 and continues to be organized, curated and run by Goodwin College of Business faculty and student volunteers. Hackathons are events where communities self-select to solve problems through collaboration, usually in an immersive, concentrated but semi-structured time period to allow flexibility and dynamic interactions (Rhoads, 2020). Our 2019 Hackathon was hosted by our Institute for Business Analytics and Visualization faculty. 42 undergraduate students from three local universities developed business analytics projects to reduce City of Chicago crime, using this public dataset. Our data analytics professional collaborative included industry professionals from IBM, Looker, Keebola, and Innovation DuPage, our regional business innovation accelerator. Over 16 hours, students worked in three and four person teams with IBM software, knowledge, data, data preparation and training. On Friday evening, IBM got the students to set up with the software. Then they demonstrated the IBM Cognos software by pulling in the project data for students to understand how to work with their major data set. On Saturday, students were trained to use IBM tools and Looker, then guided through a business analytics project by industry mentors. IBM professionals ran two optional educational seminars including an introduction into Machine Learning, which about 70% of the students attended, in addition to project analytic efforts. As one student said, "I didn't think we'd go this in-depth. This is wonderful!" IBM volunteers and Institute faculty members answered student questions all day. Eight student teams worked until Sunday noon, then submitted projects for our criterion-based prize competition. Each of the top three teams received $500. Projects were required to determine which crime was most prevalent, where most crimes occurred and when the crime was most likely to occur. Throughout Sunday lunch, five industry professionals from IBM and one from Innovation DuPage evaluated student presentations, assisted by a College of DuPage faculty member. Each of six

judges used a criterion-based rubric to assess each team on their project hypothesis, assumptions, models, analysis and conclusions. Competition was fierce—first and second, and third and fourth place teams were within one point of each other. First and Second place teams were from Benedictine University and Third Place was from College of DuPage, our esteemed partner community college. Winning team presentations were made, and the event concluded at 3 pm. (Evidence showed highest crime on Fridays in July). Students engaged approximately 16 total hours over one weekend. Friday night focused on training. Saturday focused on project development with mentoring. Sunday focused on presentation development and formal presentations. Table 2 demonstrates the contact hours for the Hackathon.

Table 2: Hackathon Contact Hours

Hackathon	Topic	Time
Friday Evening	Training	2 Hours
Saturday Day	Project Development	8 Hours
Sunday Day	Presentation	6 Hours
Total		16 Hours

Institute The Institute for Business Analytics and Visualization (IBAV) in our Goodwin College, is a place for businesses to find innovative resources for projects. IBAV projects can help develop, confirm or explore business insights that will optimize organizational decision-making. IBAV brings together an interdisciplinary group of faculty, undergraduate students and organizations in the marketplace. The primary goal is to match faculty members and undergraduate students with organizational projects that are mutually beneficial opportunities for learning and professional development. Partnering organizations benefit by leveraging expertise and resources from IBAV who complete pro bono student consulting service projects. These typically last one semester but may extend to a full academic year.

IBAV students have been fortunate to work with several different firms throughout the years to give students the opportunity to manage real-world projects. Some of these firms include: Federated Group, Customer Service Institute of America, Ballco Inc., National Tiger Sanctuary, Lisle Lanes, Conagra Brands, Crystal House and Hoopis Group. Process improvement projects have created solutions for campus parking optimization, grocery store check-out lanes, Chicago Cubs ticket sales, University student recruitment and speeding up commencement processions. Upper level students in any business major can join IBAV by registering for our FINA or BALT 4397 course after departmental consent; there are no course prerequisites. This supports an appropriate match between industry projects and students' capabilities. Students may register for 1-3 credit hours depending on their overall level of involvement in the project. Most students opt to enroll as a typical 3 semester credit hour course. The faculty member will then oversee the project for the students to develop.

Depending on the project, a team leader will be selected either by the faculty or by their peers in the course. Students are expected to evaluate the current landscape of the firm requesting the consulting work, evaluate the problem of the firm, determine the required data needed for evaluation, complete analyses and make recommendations to solve the problem (Thompson, 2018). In a typical project, the students will be required to present their findings to the firm and relevant stakeholders, as in consulting. Table 3 demonstrates the contact hours for the Institute Project.

Table 3: Institute Program Contact Hours

Institute Program Analyses	Time
Evaluate Landscape	3 Weeks; 5 Hours / Week = 15 Hours
Evaluate Problem	3 Weeks; 5 Hours / Week = 15 Hours
Evaluate Data	3 Weeks; 5 Hours / Week = 15 Hours
Provide Recommendations	2 Weeks; 5 Hours / Week = 10 Hours
Total	55 Hours

CFA Research Team The Chartered Financial Analyst (CFA) research program prepares one team from our University to compete in the CFA Institute Research Challenge. Annually, university students produce a sell-side

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report on the CFA chosen firm. Undergraduate and graduate teams compete on the quality of their research, analyses and strategic valuation, report writing and presentation skills. The second round of competition includes presenting team findings in a timed 10-minute presentation, followed by a timed 10-minute question and answer round to leading industry experts who form the panel of judges. Judges conduct blind reviews, not knowing the university or the level (undergraduate, graduate) of any team. The competition is held in the local area, the winner of the local competition goes on to compete in the America's division, which includes all local winners from North and South America. If the team is successful, the team goes on to compete in the global competition with a team from each of the five global regions. The competition begins in October and runs through the end of February. The local competition chooses the firm the team is to evaluate. Students are encouraged to generate their own research and conduct a thorough evaluation of the firm based on its industry analysis, financial health, risk and valuation. Students work on two sections of the overall project: the written paper, which is due in the middle of January and the oral competition which is finalized at the end of February. Competition rules limit Faculty Advisor and Mentor time, excluding logistical arrangements, so teams assume substantial self-management responsibilities. Table 4 demonstrates the contact hours for the CFA Research Team. To be eligible, students must have completed or be enrolled in our undergraduate equity valuation course, FINA 4355.

Table 4: CFA Research Team Project Contact Hours

CFA Challenge	Time
Paper Research / Writing	8 Weeks; 8 Hours / Week = 64 Hours
Presentation Preparation	6 Weeks; 4 Hours / Week = 24 Hours
Total	88 Hours

METHODOLOGY

Our EL assessment was an exploratory, descriptive pilot study, relying on post-hoc student self-reports from our opportunistic population, not intended to be generalizable. Our EL assessment goal was students' retrospective, reflective perceptions of their own learning, in knowledge, skills and the quality of their learning experience. Each rated herself on a before/after Likert Scale (1-5) with three additional open-ended questions. Rating questions asked about capabilities in three groups: cognitive/knowledge, communication and teamwork, plus their ability to apply their learning. In addition to knowledge gains, questions asked about communication and teamwork because we had multiple course exams and CAPSIM measures of students' quantitative and cognitive skills. Open-ended questions asked about the "most novel and valuable thing" and what "came to mind" from their EL experience. Open-ended questions sought reflections on embedded outcomes, such as perceived growth, valuable activities, and self-awareness known to result from high-impact learning (Kuh, 2008). See Table 5 Survey Questions.

Survey Development Feedback Before conducting the survey, we got advice from two faculty colleagues and 41 non-participating students on our questionnaire, in terms of whether it "made sense" (face validity) and ease of use. Additional construct validity and reliability development were beyond the scope of this pilot project. Ratings from Jodi Houlihan, our colleague and expert in design thinking, were favorable: questions were related to our survey goal; length of completion time was short (under five minutes), and the simple questions and structure of the survey promoted completion rather than partial responses. Our second colleague, Karly Matthews, is a user experience (UX) design expert and departmental instructor. Her expertise echoed survey and evaluation researchers: The ease the individual has to achieve the desired objective or outcome is critical (Demetriou, et. al, 2015). She favorably rated the survey format ("Google is easy for undergraduate students"); execution—answering survey questions was straight-forward and became easier because they were similar; readability could be improved with an alternative to "gained", and time was less than five minutes. This short time period, to optimize completion and response, is consistent with other self-assessment survey studies (Kost, 2018).

A peer group of 41 students who had not participated in any of the experiential learning programs completed the survey to evaluate clarity and completion time. 75% said they knew how to answer the questions and 79% were either neutral or positive about question clarity. Comments included, "You can't, these were very clear" and "I think it is great." On average, the survey was completed in six minutes by these peers.

Our online EL assessment survey was approved by our Institutional Review Board as a course assessment and did not include identifying information in the Google survey aggregation. This convenience survey sample consisted of

87 individuals who had participated in one or more of the four EL opportunities between 2018-20. This opportunistic participant pool was not composed of an equal number of participants from each EL program. They were identified from multiple sources: class lists of IBAV (20, 23%) and CFA Challenge program (11, 13%); our Hackathon student registration list (13, 15% from our University) and the Investment Club student Fund Manager's membership list (43, 49%), for a total of 87 students with email contact information. The survey invitation and Google link email were sent out March 25. After two weeks, no additional survey responses arrived, and the site was closed April 7.

Table 5: Survey Questions

Instructions: Please reflect upon your Experiential Learning participation and rate each of the following:	EL Capability Group
What year did you graduate / will you graduate?	College level/ full time work experience
What project did you participate (drop-down)?	Experiential Learning Program
Rate your subject matter knowledge	Cognitive
Rate your gained knowledge in the subject matter	
Rate your secondary subject knowledge	Cognitive
Rate your gained secondary knowledge in the subject matter	
Rate your communication skills, overall	Communication overall
Rate your gained communication skills, overall	
Rate your oral presentation skills to others	Communication oral presentation
Rate your gained oral presentation skills to others	
Rate your skills in listening to others	Communication listening
Rate your gained skills in listening to others	
Rate your conversational skills with others	Communication conversational
Rate your gained conversational skills with others	
Rate your writing skills	Communication writing
Rate the gained writing skills	
Rate your teamwork skills	Teamwork
Rate your gained teamwork skills	
Rate your appreciation of differences among people	Teamwork appreciation of differences
Rate your gained appreciation of differences among people	
Rate your influence skills to promote your ideas	Teamwork influence
Rate your gained influence skills to promote your ideas	
Rate your problem-solving skills	Teamwork problem-solving
Rate your gained problem-solving skills	
Rate your leadership skills	Teamwork leadership
Rate the gained knowledge in leadership skills	
Rate your ability to apply concepts you learned in classes and work	Ability to apply
Rate your gained ability to apply concepts you learned in classes and	
Please note the most novel and valuable things in your EL experiences	Experiential Learning quality
What came to mind?	
Did you understand the questions?	User experience

RESULTS

40 anonymous surveys were received from 87 EL participants, for a 46% response rate. Data from Google survey responses were aggregated into Excel, then analyzed with descriptive statistics after extensive coding clarified respondent characteristics. In addition, sentiment analysis, using MeaningCloud, was added to our qualitative

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responses. Respondents overwhelmingly agreed (99%) that our survey questions were clear; only 1% asked for more specificity. Survey completion times ranged from 2-15 minutes, with a four-minute average (five modal), certainly contrary to "reflection" in a traditional sense, but in keeping with their social media mindset. Based on respondents' graduation dates, 33 (83%) of these respondents were at or above junior level: 7 sophomores (17.5%), 10 juniors (25%), 16 seniors (40%) and 7 (17.5%) alumni since 2018. Surprisingly, Investment Club members composed 60% of these respondents, so in future analyses we will explore relevant weighting methods. Table 6 demonstrates the original sample and responses by program.

Table 6. Responses by Experiential Learning Program

N and Percent	CFA Research	Investment Club	Hackathon	Institute IBAV	Totals
Invited	11 0.13	43 0.49	13 0.15	20 0.23	87 100%
Response	7 0.175	24 0.60	7 0.175	2 0.05	40 46%

Table 7 demonstrates the average rating score that students gave themselves retrospectively, for their before and after EL program. Overall, students perceived that these EL programs consistently increased their knowledge, skills and ability to apply learning. The single largest gain was cognitive, in primary subject matter knowledge in the Hackathon, with an average increase of 2.5. The CFA research also had a large improvement to a 1.4. The overall average gain score across all of the projects was a 1.5. The appreciation of differences in others had the least amount of gain, with an average increase of 0.3.

Table 7: EL Rating Results by Programs Significance Level at 0.001*

Experiential Learning Element	CFA		Hackathon		Institute		Investment Club	
	Prior	Post	Prior	Post	Prior	Post	Prior	Post
Primary Subject Matter Knowledge	3.3	4.7	2.5	5.0	2.9	3.9	2.8	3.7
Secondary Knowledge	3.6	4.7	4.0	4.5	2.4	3.9	2.8	3.5
Communication Skills	3.7	4.6	3.0	3.5	3.9	4.1	3.8	4.1
Oral Presentation Skills	3.6	4.9	2.5	3.5	3.4	3.7	3.3	3.5
Listening Skills	4.1	4.7	2.5	3.5	4.0	4.3	4.0	4.3
Conversational Skills	3.9	4.6	2.0	3.5	3.9	4.1	3.8	4.1
Writing Skills	3.9	4.7	2.0	3.0	3.7	4.1	3.4	3.8
Teamwork Skills	4.0	4.9	4.0	4.0	4.0	4.4	4.1	4.3
Appreciation of Differences	4.1	4.7	4.0	4.0	4.0	4.6	4.2	4.3
Influence Skills	3.1	4.1	3.5	4.5	3.7	4.0	3.4	3.8
Problem Solving Skills	3.9	4.7	5.0	5.0	3.6	4.0	3.9	4.1
Leadership Skills	4.0	4.6	3.5	4.5	3.9	4.1	3.7	4.1
Average Rating	3.76	4.66*	3.21	4.04*	3.62	4.1*	3.6	3.97*

Using a paired t-test on Table 7 results, we determined that these average ratings (prior, post) for the CFA, Hackathon, Institute and Investment Club demonstrated gains at the 1% significance level (p-values 0.0001, 0.0006 respectively).

Next, we evaluated the differentials of each of the programs and looked at the averages of the differentials, by program element and sub-groups for three capabilities: cognitive, communication and teamwork, in Table 8.

The CFA Research Competition, with the largest total of 88 contact hours, had the largest gains of an average of 0.9. The Hackathon, which had the most intense time period of contact hours, all in one weekend, had a gain of 0.8. The Institute, a semester class where students work as consultants, had a gain of 0.5. The Investment Club, meeting 10 weeks each semester, had the least amount of gains at 0.4. ANOVA two-factor without replication results demonstrated that these average gains, between CFA, Hackathon, Institute and Investment Club, differed at the 1%

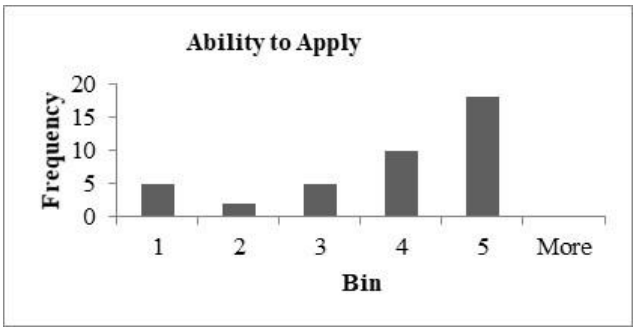
significance level. The different learning elements (rows) also differed but not as significantly as their overall program averages.

Table 8: Average Gain Differentials by Experiential Program Significance at the 0.001 Level *

Experiential Learning Element	CFA	Hackathon	Institute Project	Investment Club	Average by Item	Capability Group Average by Items
Primary Knowledge	1.4	2.5	1.0	0.9	1.5	Cognitive: Primary and Secondary Knowledge 1.2
Secondary Knowledge	1.1	0.5	1.5	0.7	0.9	
Communication Skills	0.9	0.5	0.2	0.3	0.5	Communication Skills Overall, Oral Presentation, Listening, Conversational, Writing 0.64
Oral Presentation Skills	1.3	1.0	0.3	0.2	0.7	
Listening Skills	0.6	1.0	0.3	0.3	0.6	
Conversational Skills	0.7	1.5	0.2	0.3	0.7	
Writing Skills	0.8	1.0	0.4	0.4	0.7	
Teamwork Skills	0.9	0.0	0.4	0.2	0.4	Teamwork Skills - Teamwork, Appreciation of Differences, Influence, Problem Solving, Leadership 0.48
Appreciation of Differences	0.6	0.0	0.6	0.1	0.3	
Influence Skills	1.0	1.0	0.3	0.4	0.7	
Problem Solving Skills	0.8	0.0	0.4	0.2	0.4	
Leadership Skills	0.6	1.0	0.2	0.4	0.6	
Average by EL Program	**0.9***	**0.8***	**0.5***	**0.4***	**0.6**	

Students rated their ability to apply what they had learned (1-5, low to highest). Graph 1 shows the rating histogram, with very high self-reported perceptions of application capabilities.

Graph 1: Students Ability to Apply Classroom Knowledge



Sentiment Analysis This focus on application was also confirmed by text analysis of two open-ended questions about the quality of students' learning experiences: "Please note the most novel and valuable things in your EL experiences" and "what came to mind?" 28 (70%) responded to the first question. Written comments are unstructured textual data, so we used sentiment analysis and simple key word extraction to identify patterns. Sentiment analysis shows underlying polarity, (positive, neutral, negative). The polarity of the textual data was determined using a general English dictionary in MeaningCloud, resulting in a very positive polarity frequency: 23 positive, 4 neutral and 1 negative. One positive statement said: "Honestly, the work itself. Knowing we were the "underdogs" in the competition helped inspire the whole team to shoot for goals I don't think we would have set for ourselves otherwise. It also established in all of us an expectation of excellence that I'm fairly certain we all carry

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into our careers". Others were "hands down, the best experience I had in my collegiate career", "feeling included" and "being able to comfortably talk about a subject in detail". Neutral included "time management" and "group communication". One negative statement was "nothing at all". Key word themes were "challenging expectations", "industry expertise" and "learning". Only 19 (48%) answered, "what came to mind?" Key words were "experience", "skills", and "apply". Samples of what came to mind were "How much an experience can help better the skills you already possess", "Good memories! It was also a nice way to reflect on my progress as a leader and as a presenter" and "high standards and good teaching". Again, textual analysis of these open-ended responses showed a similar positive polarity frequency of 23 positive, 3 neutral and 1 negative.

CONCLUSIONS

The responding students and alumni who participated in these EL curricular experiences at Benedictine University retrospectively reported an increase in their subject matter expertise; communication; teamwork; ability to apply learned concepts, and positive sentiment about the value of these EL innovations. Analyses confirmed reported improvements and the differences in average gains across these four EL programs. Though very limited in validity and reliability, survey results showed us the contribution sentiment analysis offers with more GenZ-friendly feedback options —online, mobile, opinion focused and brief. Benefits of high-impact learning were reported: meaningful learning, challenging expectations for success, and ability to apply concepts in real-world settings. We have expanded our self-selected community development with MeetUps, for inclusive learning and informal networking among students and area professionals. More teamwork competitions across disciplines may energize other academic clubs. We have added more student-designed assessments with digital applications, such as individual video self-assessments and rubric-based classroom polling for peer student presentations and written reports. Significant methodological improvements in the future include validity development; incorporating CAPSIM and other direct assessment data and adding sentiment analyses for more insightful curricular improvement. Excellent examples abound in the literature for quality investment funds and service-projects. This pilot study has reaffirmed the value of user-design assessment, overall, and the impact of experiential learning, as stated by Kolb: "Learning is a holistic process of adaptation. It is not just the result of cognition but involves the integrated functioning of the total person – thinking, feeling, perceiving and behaving. It encompasses other models of adaptation from the scientific method to problem solving, decision making and creativity" (Kolb and Kolb,2005:43-44).

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Unique Study Abroad Program Highlights Benefits to Students and Faculty Alike

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ABSTRACT

Business schools and employers recognize the value to students of a study abroad experience. Many times, such experiences include an internship as well. While there is a good deal of research on the benefits to students of such experiences, there is not as much written on the benefits to faculty of teaching in a study abroad program. This paper summarizes the benefits to students of both studying and interning abroad. It then describes one business school's unique study/intern abroad program for freshmen designed to maximize the benefit to students and future employers of such an experience. The paper then examines the value that a faculty member obtains from teaching in such a program and offers tips to maximize the rewards of doing so. A primary goal of the paper is to encourage more faculty to consider teaching abroad opportunities.

Keywords: study abroad, international internship, teaching abroad, faculty opportunities, teaching tips

INTRODUCTION

There is little doubt that students need to have an understanding of the global nature of business. There are many ways such an understanding can be achieved - through coursework, study abroad, or an international internship.

Many times, study abroad can also include coursework that has a global focus to it, and many study abroad programs include an internship experience.

The Institute of International Education (IIE) reports that a total of 341,751 U.S. students received academic credit for study abroad in 2017/18, a 2.7 percent increase from 2016/17. In addition to those students who received academic credit for study abroad in 2017/18, 441 institutions reported that an additional 38,401 U.S. students participated in non-credit work, internships, volunteering, and research abroad (Open Doors, 2019)

Student Benefits of Studying and Interning Abroad

A great deal has been written about the benefits to students of studying and interning abroad. Here is brief summary of some of that research:

- According to USA Study Abroad (2020), studying abroad will enable students to experience new perspectives, learn how to navigate different cultures, work with diverse peers, and communicate in other languages. No matter a student's career plans, these are the skills that will prepare students to solve the world's toughest challenges, make them more competitive in the job market, and transform them into responsible, engaged citizens.
- Studying abroad can have a significant impact on students' career development and on some aspects of their intercultural development. According to an Institute for the International Education of Students (IES) survey, nearly 85% felt that studying abroad helped them build job skills, and almost 80% indicated that studying abroad was 'effective' or 'very effective' in helping them develop confidence to deal with new skills required for the first job. (Preston, 2012).
- Eckert, Luqmani, Newell, Quraeshi, and Wagner (2013) notes that studying abroad, in addition to developing cultural awareness, fostering personal and intellectual growth, and understanding global issues, may also help students recognize their potential biases and ethnocentrism.
- A study by Stebleton, Soria, and Cherney (2013) identifies study abroad as a high-impact practice for student engagement, which serves to deepen students' learning and is empirically linked to desired college outcomes, namely, global and intercultural competencies. The results suggest that formal study abroad programs through the university or through another college/university bring value-added components to students' intercultural and global competencies that generally meet or surpass the outcomes of other international travel opportunities.

- According to Braskamp, Braskamp, and Merrill, (2009), "education abroad has become an increasingly important educational program (experience) in global learning and development, intercultural competence, intercultural maturity, and intercultural sensitivity of students".
- Clarke, Flaherty, Wright, and McMillen (2009) suggested that students who study abroad may have greater intercultural proficiency, increased openness to cultural diversity, and become more globally minded than their peers who remain back on campus.
- Students who study abroad gain a competitive edge that will increase their job prospects (Dwyer, 2004; Norris & Gillespie, 2009).
- Employers and universities expect students to possess strong global competencies (Hunter, White, & Godbey, 2006; Tarrant, 2010).
- Encouraging students to study abroad earlier in their college career, such as in the freshmen or sophomore year, may help improve the four-year graduation rate (Xu et al., 2013).
- Students can benefit from active global learning experiences in study abroad programs. These experiences may take the form of scavenger hunts (Danko et al., 2018), internships, and company visits.
- Study abroad programs can be an invaluable resource when learning a foreign language (Cortijo, 2016).

It is perhaps no surprise, given the multiple benefits of studying and/or interning abroad, that universities and educators encourage their students to participate in such opportunities.

In response to this demand by students, educators, and businesses for international experiences that occur early in a student's academic program and include both coursework and an internship, the Villanova School of Business (VSB) created the Global Citizens Program (GCP) in 2008, which is only open to Villanova University freshman who are enrolled in VSB.

AN INNOVATIVE STUDY ABROAD AND INTERNSHIP EXPERIENCE FOR FRESHMEN

The semester-long overseas study experience in either London or Singapore combines academic coursework with a practical internship. Applicants who apply and are accepted to VSB via Early Action are invited to apply and participate in Global Citizens.

Coursework

There are four course components, developed in collaboration with Villanova University and taught by local faculty (except for Financial Accounting, which is taught by a Villanova faculty member). These four courses are designed to fulfill freshman year VSB requirements and to ensure that all GCP participants will remain on schedule to graduate in four years:

1. Augustine and Culture Seminar – ACS 1001
2. Financial Accounting - VSB 2004
3. Business and Society – SCSI 1975 (Social Natural Science Requirement)
4. Intro to Macroeconomics – ECO 1002 OR Global Political Economy -- ECO 3108

The courses are offered in an accelerated format over an eight-week period. Upon completion of the courses, the students have a one-week Spring break before the start of their six-week internship (BA2002 - counts as a free elective).

Internship

Students participate in a 6-week professional practice internship, working 40 hours a week, Monday-Friday. Villanova has partnered with EUSA in London and the Academic Internship Council (AIC) in Singapore, organizations that provide the following services:

- Instructions on preparation of a placement essay and a resume appropriate to the country where they will do the internship
- Individual interview with an internship director on the Villanova University campus approximately two months prior to the program start date
- Group orientation on the Villanova University campus and on-site in London
- Placement of student in a professional practice internship
- Follow-up and any required troubleshooting

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- Coordination with each internship supervisor and obtaining the supervisor's and the student's written evaluations

Internship placements are based on the skills, interests and professional goals of the student and the project needs and work cycles of the internship sponsors. Students are placed in internships that directly reflect or relate to their courses of study to ensure quality and academic relevance of the placement.

Logistics of the GCP Program

Once the participating students have arrived on Villanova's campus in the fall, a member of the Office of Education Abroad staff leads a series of orientation sessions on various topics that will prepare the Global Citizens for their semester abroad and internship placement. The Global Citizens also participate in a pre-departure orientation on the Villanova University campus and an on-site orientation for students upon arrival to London or Singapore.

Upon arrival in London or Singapore, students are met at the airport during designated arrival windows.

The EUSA (London) or AIC (Singapore) program directors are the principal contact for students on issues of housing, safety, culture and social life in the city. The program director also serves as the principal contact with the Villanova University campus. The program directors are available via regular office hours, outside the students' normal work schedules, to answer questions and resolve problems and are also available to students 24 hours per day via cell phone for medical, legal or other emergencies.

The programs also include cultural opportunities, such as tours of the city, attendance at artistic performances, day trips to surrounding attractions, and a farewell reception. Each program also provides students with a local public transportation pass, allowing the students to explore the local area.

Cost of Program

GCP participants pay normal Villanova semester tuition directly to Villanova University. Students are entitled to all approved Villanova grants and scholarship aid. All GCP housing costs are also included in the cost of tuition, but students are responsible for flights, meals and other personal expenses. Please note that this billing situation is unique to GCP participants and the tuition policy will differ for any future semester study abroad experiences.

Benefits of GCP to Students

This program is designed to offer a unique and life-altering academic experience to first year business students, thereby enabling participants to:

- Stimulate greater intellectual curiosity early in their college careers
- Challenge pre-conceived notions of the world
- Test career assumptions early
- Start building resumes and allow for more competitive future jobs
- Have the opportunity to study overseas later as a sophomore, junior, or first semester senior.

The next section will focus on the many benefits to faculty who have an opportunity to teach abroad, including the personal experiences of faculty who have taught in the Global Citizens Program, and suggestions for making the most out of such opportunities.

FACULTY BENEFITS

There is little published on the benefits to faculty from teaching abroad, and what has been written tends to look at either the logistics involved for a faculty trying to organize a study abroad program (Koernig, 2007) or look specifically at opportunities to teach English as a second language in a foreign country (Rossier School of Education, 2020).

Serin (2017) notes that teaching abroad offers the opportunity for both personal and professional development, including: enabling teachers to more effectively teach students from diverse groups, becoming more knowledgeable both culturally and politically, improvements in self-confidence and self-determination, and greater tolerance, understanding, and respecting of others' views.

Mikael (2010) notes similar benefits from teaching abroad, finding that international teaching experiences had significant effects on teachers' professional and personal development, as well as increasing their cultural awareness, global perspectives, and self-efficacy.

Faculty exchange programs have also been shown to enable faculty members to participate in campus internationalization through fundamental changes in their teaching, research, and service (Alkarzon, 2016)

Teaching in the GCP

Villanova's Global Citizen's Program provides faculty with a significant opportunity to advance their global perspective toward education. A major benefit for faculty is that they are only required to teach one course in the semester they spend abroad. In addition, this class is generally quite small (15-20 students) and involves a number of class excursions to increase students' understanding of the country's culture. This program structure enables faculty to develop an even closer relationship with the GCP students than is possible in a normal semester. Students appear to be more interested in "connecting" courses taken in the GCP which leads to more diverse discussions outside of class and a better understanding of students' backgrounds, goals and aspirations. Obviously, this structure is expensive for VSB, so in order to cover the additional cost of this reduced teaching load, faculty are required to teach overloads in other semesters to make up for their semester abroad. The faculty involved with this program have all felt that this tradeoff was beneficial to both them and VSB, since it contributed to many of the strategic goals of the college (i.e. globalization, cross functional thinking, closer student/faculty relations etc.).

Although a number of VSB faculty have spent a limited time outside the United States through their involvement with either short term consulting contracts with businesses, or teaching in foreign countries in short term summer programs, few faculty have the financial resources available to spend ten weeks in high cost of living cities such as Singapore or London. Fortunately, to make this opportunity available to faculty, the cost of traveling to, and living in, either London or Singapore is covered by the University. In talking with faculty who have been involved with the GCP, spending 2-3 months in another country provides a very different global experience than spending a few weeks abroad. They believed that this longer period spent abroad was critical to helping students develop a good understanding of different cultural norms, and better positioned them to develop a global perspective in their decision making.

One professor who had completed a consulting assignment in Singapore prior to teaching there in the GCP summarized the differences. He noted that during his one-week consulting project he seldom had the opportunity to venture far from his hotel, never took the subway, and experienced a very small slice of life in the city. While teaching in the GCP for ten-weeks, he took subway rides to all sections of the country, visited many of the museums enabling him to better understand the reasoning behind the formation and culture of Singapore, visited two of its major universities to observe student life, and interacted with a number of professionals living and working there. These experiences demonstrated to him first-hand, that his original understanding of the Singapore culture was incomplete. Having the time to travel to the outer limits of the country gave him a perspective that was quite different than his earlier consulting experience provided. He gradually understood that English was truly used throughout Singapore (not just in the busy parts of the city) and that its reputation for being so restrictive in terms of personal freedoms was, in his opinion, overblown in the press. In general, faculty teaching in Singapore felt that their understanding of the history, culture, and living conditions in Singapore gave them a new appreciation of the strengths and weaknesses of various cultures along with a more open view of alternative governmental and business structures. Finally, with the additional time spent in such a centrally located section of Asia, faculty were able to travel to many different countries to broaden their exposure to other cultures. Faculty pointed to weekend trips to Vietnam, Cambodia, Laos, Thailand and Malaysia, which provided additional insight into differences among various Asian cultures.

Faculty teaching in the GCP in London shared similar experiences. London is a great walking city, yet it takes time to become comfortable with taking long excursions by foot to see various parts of the city. Being part of a ten-week program gives faculty the time to venture to other areas, both in and outside of London, to gain different perspectives of people from different regions of England. It brings home the notion that similar to the United States, different sections of a country may have very different cultures that impact peoples' perspectives on business and politics. In addition, with a ten-week program, most faculty travel outside of England proper (i.e. to Scotland and other cities in Europe), where they are exposed to additional business and political perspectives. This type of travel is simply not possible during a one or two week stay in a particular country. Longer stays also provide more

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opportunities for experiencing major historical events in foreign countries such as Brexit in London. Being present for these events increases one's understanding of the emotional impact that they have on the people directly involved, which differs dramatically from simply reading about their experiences.

Finally, as wonderful as the GCP has been for faculty, there are some issues that have arisen. First, since the courses in VSB's GCP are offered in the Spring semester, it is difficult for a number of faculty with young children to participate. Although that is a limitation of GCP, it allows faculty without this constraint to share this "once in a lifetime" experience with their partners. Faculty have identified this opportunity to share such a significant life experience with their partner as a key benefit of this program. Second, being away from home for 3 months can be difficult when you have children and grandchildren back in the States. Fortunately, inexpensive communication tools such as Facebook and WhatsApp make it much easier to stay in touch with family and friends than it was years ago. Overall, it seems like the advantages far outweigh the disadvantages for this GCP experience for students and faculty alike.

A few logistical tips to get the most out of teaching abroad

This brief section will offer some tips and suggestions to make the teaching abroad experience as rewarding and problem-free as possible.

Housing, transportation, communication

- It is critical to do some research on what type of housing options are available. While Airbnb offers many options, it may be technically illegal in some countries, such as Singapore. In such cases, the local program hosts (e.g., EUSA or AIC) may provide some guidance or put you in contact with a local rental agent. You may also be able to search the Internet yourself, but unless you are familiar with the surrounding area, it may be difficult to have a sense of where the various housing options are located.
- Faculty who participated in GCP favored housing that was close to where they would be teaching and were able to find housing that enabled then to walk to class in both London and Singapore.
- It is also helpful to find housing that is close to public transportation, since that will most likely be the easiest way to get around. Singapore and London are both blessed with incredible public transit systems. As a result, it is recommended that one of your first purchases be a transit card that you can swipe and replenish as needed.
- Decide what to do about your cell phone. Options include buying a local sim card and paying a local telecom provider, adding an international component to your home plan, or simply plan to use Wi-Fi when you are overseas. Again, the planning for this should be done in advance of arrival so that you can take care of this on your first day. Faculty and students who have participated in the program before are a valuable source of information regarding such an issue.

Teaching issues

- If possible, have a meeting with the students prior to departure. The meeting gives you the opportunity to start to know the students, hand out the syllabus, and talk about the necessary textbook(s). The students may also have some questions for you at the meeting.
- It is much easier if you can print all of your tests in advance, and then ship them overseas. It may be difficult and/or costly to get such printing done overseas. As part of that shipment, you may also want to include your textbook, pens, pencils, markers, erasers, etc. Do not assume that the basic tools for teaching that you may take for granted would be available in your overseas classroom.
- Determine what type of technology is in the classroom you will be using. Does the room have the capability to project from your computer, what is the electrical standard, is there a whiteboard, a flip chart, etc. This will guide you in terms of what type of computer and electrical adapters you may need.
- Ask about the availability of office space, which could be useful for office hours. In London and Singapore, there were no formal office spaces available, and faculty ended up meeting students in the classroom, in the school cafeteria, at a coffee shop, etc. Faculty and students can make any space work, but it is helpful to know in advance what your options will be.
- Be flexible in terms of due dates and amount of material covered. Faculty need to realize that your course is likely not the most important item on a student's agenda while they are studying abroad. This is a once in a lifetime experience for them, and they want to, and should be able to, take full advantage of such an experience.

Student issues

- The GCP faculty have noted that the overseas teaching experience was one of the best they have had, in over 30 years of teaching for each faculty member. One of the reasons is because of the close relationship that develops between faculty and students.
- Take advantage of any opportunity to join students on any formal tours they may be going on as part of the program. It is a wonderful opportunity to interact with the students in a different setting, and for each of you to get to know each other a bit better.
- While it may be possible to invite the students out for dinner while overseas, the GCP faculty have learned that it is much easier, and more enjoyable, to plan for such an event when you are all back at your home campus the following semester. It's a great way to reconnect with the students and find out what they have been up to since you taught them overseas.

CONCLUSION

While the benefits to students of a study/intern abroad experience are well-documented, not has much has been written about the benefits that faculty can accrue from teaching in an overseas program. Such benefits include increased cultural awareness, closer faculty/student relationships, increased self-confidence and adaptability, and becoming an advocate for both student and teacher study abroad. Several tips are also offered for making the most of a teaching abroad opportunity.

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Lost and Found in Translation

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ABSTRACT

With the rise of international students seeking U.S. accounting degrees, this project leveraged the skills of foreign accounting seniors and master's students to produce 40 short videos explaining basic accounting principles in Chinese, Korean, and Vietnamese. While the pilot project started with scholarship hours, the majority of the work was ultimately completed by volunteers. The videos proved beneficial to both novice students and those who did the recording. Introductory students expressed gratitude for the additional material explaining key U.S. accounting concepts in English and their native language. Volunteers found satisfaction in helping their peers with concepts they had previously struggled with. This paper provides an example of how to empower peer-to-peer learning through the use of technology to help overcome language barriers.

Keywords: Peer-to-Peer learning, Accounting Education, English as a Second Language, Video

INTRODUCTION

Similar to many universities in the United States, Truman State University has experienced significant growth in enrollment of international students. Nationally, foreign students account for approximately 5% of total university enrollment. Nearly 25% of current Truman accounting students are from outside the United States. As with other universities, nonnative English speaking students are required to score 79 or above on the internet-based TOEFL and may be required to take English remediation classes. Despite these requirements, many international students struggle with courses involving specialized language. These challenges are especially evident in our Introduction to Financial Accounting course.

Many international students know that accounting is a lucrative career choice, but some have the misconception that it is primarily a math class. These students quickly realize in their first course that accounting is more about communicating information and less about mathematical computations. Not only are they non-native English speakers, but the precise and nuanced nature of accounting as a language proves especially challenging.

Though ample opportunities for tutoring are made available, many foreign students are reluctant to take advantage of them. With this in mind we determined videos explaining core concepts in foreign languages would be more accessible and useful for the students. These videos enable students to learn concepts in an environment they are comfortable in.

LITERATURE REVIEW

Foreign Students at American Universities

The U.S. is the world's leading destination for international students, holding 22% of the global market share (Bartlett & Fisher, 2011; ICEF, 2018). Business and management programs host the largest percentage of international students in the U.S. at just over 20% (IIE, 2015). It is projected that English will continue to be the dominant language of business schools throughout the world (Mauranen et al., 2010). Globalization has made English competency a prerequisite for modern business students (Louhiala-Salminen & Kankaanranta, 2012; Oria, 2012; Taillefer, 2007). The International Federation of Accountants states that mastery of English should be regarded as "general knowledge" (Cole et al., 2011; Diaconu et al., 2011; Jeanjean et al., 2010). Companies that use English as an external reporting language have more foreign owners, less information asymmetry, and reduced information processing costs (Jeanjean et al., 2014).

Language Gap

Despite high percentages of international students, business schools have been slow to adapt curricular and pedagogical approaches to help these students (Darlington, 2008; Sawir, 2011; Zhang et al., 2016). Research shows that although schools recognize the need for continuing assistance with English language proficiency,

implementation of widespread strategic practices has not taken place (Andrade et al., 2018). It is well documented that minority-language-speaking students who are taught in majority languages do not do as well as their majority-language-speaking peers (Benzie, 2010; Guiterrez et al., 2010; Toohey et al., 2015).

Cultural Difference

While our students come from various countries, the initial emphasis was on helping Chinese students. They make up the largest percentage of foreign students and seem to struggle the most with the specialized language of accounting. Part of the challenge comes from their cultural background steeped in Confucianism. Being subject to sovereigns was at the core of Confucius' teachings, believing a hierarchical system was essential to the harmonious well-being of society (Bond & Hwang, 1986). With this in mind, Chinese students regard their teachers as almost unreachable. Asking questions of the teacher can be seen as undermining their authority (Brooks, 1997). Therefore, it has been hard to get them to participate in class discussions, come to office hours, or attend free tutoring sessions. To this end, we recognized working with foreign upperclassmen to create short videos as a way to reach them on their terms.

Help From Peers

Extant research shows students prefer learning from professors in a classroom rather than on their own (Cabi, 2018). The desire for interaction is one reason why massive open online courses and other online learning platforms struggle with dropout rates of around 90% (Jha et al., 2019). Because language barriers make interaction with professors and tutors difficult, foreign students often rely too heavily on individual study. Defined as a learning activity involving the sharing of knowledge, ideas, and experiences, peer-to-peer learning is a middle ground approach (Davis et al., 2019; Boud et al., 2001). Also known as near-peer learning, this method has been widely adopted in medical schools where up to 50% use peers as teachers of small groups in basic science or doctoring courses (Soriano et al., 2010). By taking on the role of peer teacher, it has been demonstrated that medical students gain important teaching and learning skills (Shenoy & Petersen, 2019). Research has shown near-peer teachers have a better understanding of required base of knowledge, including limitations and can therefore better clarify understanding at an appropriate level (Lockspeiser et al., 2006). Similarly foreign language upper-classmen provide an effective bridge in helping novice students comprehend the specialized language of accounting. These peer teachers serve as role models, providing encouragement, relatability, and helpful instruction.

Video

A survey of 240 students found that the combination of videos and non-traditional lectures was beneficial for learning (Nouri, 2016). Pre-recorded lectures provide a non-threatening learning environment. The ability to pause, rewind, fast-forward, and increase playback speed allows students to better understand complicated material. Current students, also known as the instant generation, embrace technology as a natural way of learning and sharing information (Lento, 2010). Studies have shown that the "effectiveness of video learning largely depends on three components: cognitive load, non-cognitive elements that impact engagement, and features that promote active learning" (Brame, 2015). Bravo et al., found that when video learning is incorporated into curriculum it increases motivation (2011). In light of this research video lectures were a clear choice for helping international students.

PROJECT DESCRIPTION AND IMPLEMENTATION

Short concept specific English videos were first created by the professor. These videos were then used to create similar videos in Chinese, Vietnamese, and Korean. Two graduate and one senior accounting student helped create the videos which were then made available to introductory accounting students through Blackboard. Lessons taught U.S. GAAP concepts using words and ideas that our foreign students were already familiar with. Recording students made sure not to simply translate, but instead use a mix of English and their native tongue to explain the concepts. Mixed language videos helped create a bridge between languages and improved comprehension. While we focused on accounting concepts, this methodology could also be applied to other subject matter. The average video was 20 minutes long recorded using Panopto. Panopto is convenient because it easily integrates into Blackboard and restricts access to those enrolled in the course. The software also allows students within the course to create videos which can then be approved by the instructor. In addition to Panopto, Zoom has also successfully been used to create peer-to-peer videos.

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Instructions for Panopto Videos in Blackboard:

1. If Panopto is available in Blackboard it can be found in the Course Tools tab.
2. Type the following URL: "name of your university".hosted.panopto.com and sign in using your Blackboard login information.
3. Adjacent to the search bar at the top, there is a green box that says Create. If you don't see this box, click All Sessions and then it should be there.
4. Click Create and then choose Record New Session.
5. It will prompt you to Launch Panopto or download it to your appropriate type of computer.
6. Once it is open, the server should be "Your University".hosted.panopto.com. If this does not work, close Panopto, and click Record New Session to re-launch the application. It should then fill in the server for you.
7. Click Get Providers from Server. It will automatically load Panopto, but the option needs to be changed to Blackboard.
8. Log in using your Blackboard information.
9. You are ready to record your video

Instructions for Zoom Recordings

1. Sign up for a Zoom account (https://zoom.us/)
2. Start a new meeting.
3. Click on the record button at the bottom of the screen (Alt+R). Recording to the hard drive requires less processing time.
4. The recording can be paused or stopped at any time (ALT+P to pause and ALT+R to stop the recording).
5. When you are done recording, end the meeting (Alt+Q). Zoom will automatically convert the meeting recording to .mp4 format.
6. Once the new folder opens, the file can be renamed and copied into Blackboard or uploaded to YouTube.

Suggestions for Quality Recordings:

Keep videos fairly short to maintain viewer's attention.
Use a high quality microphone, speak clearly, and at an appropriate volume.
Try not to distract the viewer with excessive movements or gimmicks.

RESULTS AND CONCLUSION

A survey of international students found widespread appreciation for the videos. Some of the feedback communicated that the videos allowed students to be less concerned about understanding every word in the class and better able to focus on the fundamentals of the lecture. It is also interesting to note that some of the foreign students appreciated the English videos because they forced them to learn the language. Others preferred the student prepared videos because the explanations made more sense in their own languages. Some students simply expressed gratitude for the extra effort shown in helping them succeed. The project was also beneficial to the foreign students who helped record the videos by solidifying their own understanding of the concepts through teaching. Critical thinking skills were also developed by the recording students as they thought through the best way to explain the topics. Though the project initially started with scholarship hours, the majority of it was completed by students volunteering their time in the hope of helping others.

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Creating Teaching Presence in Online Courses through Videos

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ABSTRACT

As we deal with a global pandemic and educational institutions move their face-to-face offerings to online delivery mode, institutions are grappling with how to replicate the face-to-face learning experience in online courses. In the recent past, online programs have increasingly emphasized incorporating videos in courses. In this paper, we analyze video usage based on the Community of Inquiry framework. Videos can promote social, teaching, and cognitive presence in the online classroom. Online programs use videos differently and examples from multiple programs in natural, health, and social sciences help explore faculty and student perceptions of video usage in these programs. The purpose of this paper is to present a qualitative discussion of how video presence can strengthen student learning in online courses. This paper is applicable for institutions designing or offering online programs and those that are forced to move their programs to online delivery due to the current health crisis.

Keywords: COI Model, Online Learning, Instructional Video, Teaching Presence, Cognitive Presence, Social Presence

INTRODUCTION

University of Wisconsin-Parkside (UWP) offers a number of collaborative online programs at the undergraduate level including the Sustainable Management (SMGT) and the Health Information Technology and Management (HIMT) along with degree completion programs in Business (BUSO), Sociology (SOCO), and Liberal Studies. At the graduate level, UWP recently launched fully online programs in Business Administration (MBA) and Applied Professional Studies (Master of Arts in Applied Professional Studies - MAPS). The use of videos in online programs varies widely. Some online programs, instead of using videos created by their own instructors, incorporate freely available videos from other sources while others strive to utilize a significant number of videos produced by their own faculty. Most programs do not have a prescriptive model for video usage. Some programs adhere to standards prescribed by Quality Matters, standards that refer to multimedia content and allude to video usage without being specific in terms of video requirements.

With advances in technology, video content generated by faculty is becoming an important aspect of building a cohesive learning community. In this paper, we discuss how video presence can enhance the learning community using the Community of Inquiry (CoI) framework. Instructor's video presence can help build social, teaching, and cognitive presence in the online classroom. Our primary focus in this paper is on social presence and teaching presence. We classify the videos into several categories including instructor introductions, course and unit introductions, video lectures, video screencast tutorials, and video feedback. We consider the SOCO, SMGT, HIMT and MBA programs, and discuss current practices of using videos in these programs with examples.

The type of videos varies by subject matter. For example, some subjects such as management may benefit from video lectures, while technical subjects may benefit from step-by-step video screencast tutorials on how to work with technology. We discuss how video feedback is incorporated to enhance student learning. We also consider examples of how student videos such as presentations can contribute to building a learning community.

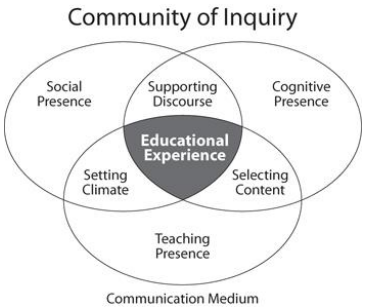
Video usage is not universal in online programs offered in the UW System. We discuss the relationship between videos in online courses and the online course certification. We also share faculty and student perceptions of videos in some of our online programs. The main purpose of this paper is to show how video presence can strengthen student learning in online courses. This paper is applicable for programs and educational institutions currently designing and offering online programs.

PREVIOUS RESEARCH

A National Center for Education Statistics study reported that the number of college students enrolled in at least one online course, as well as the proportion of all enrolled students who are studying online will continue to increase (Ginder, Kelly-Reid, & Mann, 2017). While online courses offer greater educational access, students' sense of distance can threaten their ability to learn (Moore, 1980). Creating a sense of community in online courses has been shown to be significantly associated with perceived learning (Rovai, 2002; Shea, 2006). Innovative teaching strategies ensure that students are engaged and are motivated to learn. Research has shown that creative classroom techniques that incorporate technology promote a more productive and enriched learning environment (Rosenfeld, 2007; Beldarrain, 2006). To that end, videos serve as an important tool to build a sense of community in the online environment. The community of inquiry (CoI) is a theoretical framework for the optimal design of online learning environments to support critical thinking, critical inquiry, and discourse among students and teachers (Garrison, Anderson, & Archer, 2000). Utilizing the COI model of learning, this paper attempts to show how videos can be successfully incorporated to improve the social and teaching presence in an online environment.

CoI Model

Figure 1. Community of Inquiry (CoI) Framework



The Community of Inquiry (CoI) framework is a well-established model utilized to gauge learning effectiveness in the online environment (Garrison & Arbaugh, 2007). With the proliferation of online education in the post-secondary setting, both synchronous and asynchronous videos have been utilized to promote learning. The CoI model (Figure 1) assumes that learning happens within a community of learners through the interaction of three core elements: cognitive presence, social presence, and teaching presence (Garrison et al., 2000). Garrison (2007) presented several categories of teaching, social, and cognitive presence in the online classroom. Table 1 summarizes these categories. While Garrison's (2007) work does not specifically address the video examples and how videos help implement the CoI model, in Table 1, we have included examples of the type of videos that may be used for each category of the CoI model.

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Table 1. Video Usage Utilizing CoI Framework

Elements	Categories	Indicators	Video Presence
Social Presence	Open Communication	Risk-Free Expression	Course Introduction Videos; setting the ground rules such as the classroom is an open classroom
	Group Cohesion	Encourage Collaboration	Video Conference with Students; providing tools for students to collaborate with one another via video
	Effective Expression	Interviewing Professionals	Student Videos with Interviews; requiring students to interview experts and share their videos with the class
Cognitive Presence	Triggering Event	Sense of Puzzlement	Module/Unit Introduction Videos; introducing the module topic with an example scenario and questions related to that scenario
	Exploration	Information Exchange	Video Conference with Students and Holding Office Hours through Videos; Module/Unit Introduction Videos
	Integration	Connecting Ideas	Summary Videos; these cover all topics included in the module and how they relate to one another
	Resolution	Apply Ideas for Problem Solving & New Scenarios	Video Feedback; these include feedback on student's work and what they need to change to apply concepts to new scenarios
Teaching Presence	Design & Organization	Setting Curriculum & Methods	Module Introduction Videos; these explain the structure of the module and what is covered and how different topics are taught in the module
	Facilitating Discourse	Sharing Personal Meaning	Collaborative Work with Students via Video; working with students synchronously via video conferencing
	Direct Instruction	Skills Attainment	Instructional Videos Step-by-step Video Tutorials; these show how students can apply a concept to a scenario in a step-by-step fashion

DISCUSSION

Online Programs Offered by UW-Parkside

Most of the colleges at UWP offer online opportunities at both the undergraduate and graduate level ranging from completion programs, certificates, and full online programs. An example of some master's programs are Applied Professional Studies, Business Administration, Applied Biotechnology, Health and Wellness Management, Sports Management, and Sustainable Management. Some of the undergraduate online programs include Business Administration, Health Information Management and Technology, Liberal Studies, Sociology, and Sustainable Management (Sustainable Management is offered via a consortium of four system-wide UW universities).

Social Presence

Social presence, as a component in the Community of Inquiry (CoI) model facilitates an open communication between the instructor and student and provides a risk-free expression of student learning. Garrison's (2007) review of CoI revealed that the social presence inspires more importance pedagogically when the class activities include participation among students, such as during discussion forums, or in interview assignments. Borup, West, and Graham (2012) noted that emerging video technologies may help improve student-instructor interactions and thereby support the development of COI. In this study, authors noted that video communication had a substantial impact on establishing the instructors' social presence with a large majority of students indicating that their instructors seemed more real, present, and that these relationships were similar to face-to-face instruction. Students indicated that viewing instructor's video communication as well as communicating with the instructor via video helped them perceive the teacher as a real person, develop an emotional connection with the instructor, and realize that they could rely on the instructor for help. Similarly, in a study of mixed media approaches conducted by Clark, Strudler, and Grove (2015), a strong response from students was revealed when asked if video enhanced discussions (VED), compared to text-based discussion (TBD), facilitated a stronger social presence, specifically because students can hear the voice of their peers or instructor. The authors discuss the state of ease the asynchronistic flexibility offers to students, while still maintaining a social presence in the classroom. In addition, students' feedback highlighted instructor commitment that helped foster connection. Social presence is a key factor to community engagement (Dixson, 2015). Not only does a strong social presence allow students to feel that they are communicating with real people, but they are more comfortable expressing their emotions in their assignments. For example, in an interview assignment, we found students were quite animated in their self-generated videos and enjoyed using technology to perform a "live" interview, using either Kaltura or Collaborate Ultra (when interviewing someone from a distant location).

Table 2. Social Presence Examples: Instruction and Participation Driven

Elements	Categories	Indicators	Video Presence	Examples
Social Presence	Open Communication	Risk-Free Expression	Course Material	Class Introduction Lectures on site Lectures from lab
	Effective Expression	Interviewing Professionals	Student Videos	Interview assignment
	Group Cohesion	Encourage Collaboration	Interactions with Students	Field technique, Instruction in fields Final presentations

Draus, Curran, and Trempus (2014) support the notion that video content will enhance student learning, and stress that instructors can make a stronger and more meaningful impact by incorporating instructor-generated video content. The study found that the use of instructor generated videos and student participation in discussion forums were correlated with a strong social presence and an increase in course satisfaction. Similarly, in the online courses at UWP under discussion (Table 3), instructors facilitate open communication with the students by creating introductory videos that incorporate a personal welcome, an introduction to the instructor and the instructor's expertise, details of the course, and how various aspects of the course material connect with the learning objectives. Often times, the videos are taken from an instructor's office. Likewise, videos can introduce an instructor's laboratory, or provide lectures from off-site places (such as by a river, or in an agricultural field).

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Clark et al. (2015) indicates that both social and teaching presence is enhanced when video-enabled discussions were employed compared to text based discussions as the former allows for increased student engagement. VEDs provide visual social cues that help build trust and establish connections, which in turn help facilitate social presence. From the instructor's perspective, VEDs and videoconferencing offer ways to effectively engage students by allowing them to meet with the instructor and other students to discuss issues and exchange viewpoints. Another way to leverage VEDs to increase engagement is to tap into student desire to express their skills while completing an assignment. In the UWP MAPS master's level course on Applied Research, a student is assigned a task to interview a Professional in their chosen future career. While the content of the interview provides one aspect of learning, how a student uses the technology allows the student to use their own creative means to illustrate the interview.

Group cohesion is another means in which students not only learn how to collaborate well, but to manage their combined work in a video or otherwise illustrated format. Student group cohesiveness and team effectiveness has been purported to correlate well with social presence and learning outcomes (Garrison & Arbaugh, 2007). In the SMGT 325 course, students can watch an example of other students performing activities in the field, speaking to each other, or participating in a lesson with the instructor. When students are asked to interact with each other, or critique each other's video attempts, it encourages collaboration and a sense of community within the classroom. A possible limitation was reported by Garrison (2007) that gender differences can lead to varying results because men and women may have different ways of communication.

Teaching Presence

According to Garrison and Arbaugh (2007), teaching presence comprises of three components: (a) instructional design and organization (b) facilitating discourse, and (c) direct instruction. It is through effective teaching presence that meaningful and desired learning outcomes are attained. It is clear that the interaction between the social, cognitive, and teaching presence of the CoI model is essential for any of the three to contribute to effective online learning. Garrison et al. (2000) reported that an effective teaching presence contributes to the overall learning by defining the parameters and direction of social and cognitive presence. A strong teaching presence leads to students having a more positive approach to the materials (cognitive) and an increased sense of community (social) in online courses.

Table 3. Teaching Presence Examples

Elements	Categories	Indicators	Video Presence	Program/Courses/Examples
Teaching Presence	Design & Organization	Setting Curriculum & Methods	• Welcome Video • Module/Unit Introduction Videos	SOCA 250, SMGT 325, MBA 720
	Facilitating Discourse	Sharing Personal Meaning	• Instruction Video • Summary Videos • Video discussion forum • Video Office hours	SOCA 250, SMGT 325, MBA 720, MBA 729, MBA 781
	Direct Instruction	Skills Attainment	• Instructional Videos • Step-by-step Video Tutorials • Screencast Video Tutorials	SOCA 250, SMGT 325, MBA 720, MBA 729, MBA 781

Teaching Presence in SOCA 250: Foundation of a good teaching presence can begin weeks and months ahead of the actual start date of the course with the goal of designing courses and instructional activities that deeply engage the mind of the learner. The design and organizational aspect of the course is explained using a welcome video that would be evocative of the first day of class. Direct instruction may require the instructor to create her own videos and/or find videos that will supplement the instructor's video. Direct instruction in a Statistics course may start with an example, leading to a discussion on the assumptions of the model, the variables involved, the levels of measurement, etc. explaining the "why's" at every stage. It also involves solving problems on the screen using Ixplain software, reproducing an in-class scenario of instructor solving problems on the whiteboard, screencast

tutorials that walks the student through running the analysis and explaining the output table. Facilitating discourse takes place through weekly synchronous video discussions where students discuss specific problems, inquire together, and benefit from each other's query. Student evaluations showed that (a) course design and organization was easy to follow with minimal navigational challenges (b) the videos emphasized the process rather than the end result, and (c) the video discussions enhanced their appreciation of the interpretive aspect of statistics. Effective teaching presence was evident in this course as Nagel and Kotze (2010) point out that when students spend more time on learning by thinking, comparing, contrasting, and communicating, the learning is rich and deep.

The SOCA 250 course is a Statistics course for social sciences majors (Sociology, Anthropology, Geography, etc.). Listed below are a few sample comments from students.

Table 4. Sample Student Reflections from SOCA 250

The organization was great and for being an online class, the instructions and weekly outline was one of the best I have seen as a student and I have taken several online courses.
For an online course it didn't seem to feel like an online course due to the lecture videos. The step by step calculations felt like I was sitting in class but within the comforts of my home.
The content and assignments were very well designed and easy to follow. The course was laid out very well and you made difficult information easier to learn via the lecture videos and presentations. I appreciate that I knew what to expect as far as weekly workload was concerned.

Teaching Presence in SMGT 325: In the SMGT 325 class, videos which contribute to the teaching presence are used in many circumstances. To begin the course, students are welcomed to the class with a personal video from the instructor. This welcome would be reminiscent of a "first-day" lecture experience in the classroom. In this video, the instructor shares information about herself, her research and expertise, goals and layout for the class, and expectations from students. Students learn the material in sections or Units, each focusing on a theme such as Policy, Soil, Forest, or Water. For each unit, the instructor creates an individually custom "Summary Video" ("Sharing Personal Meaning", consistent with CoI Model) to focus on that theme. As an example, the video may take place from a river, for the Unit on water. Videos are also used for "Direct Instruction" (which sets the curriculum and methods), such as in PowerPoint lectures. In this way, the instructor will insert short clips so that she can explain certain difficult concepts. As there is a strong "hands-on participation" component in this online course, the instructor uses self-created "Instructional Videos" (to build "Skills Attainment", consistent with CoI Model) in each of the Units. For example, in the Soils Unit, students can watch a video where the instructor shows them how to use field tools to collect soil, and then watch another video that explains how to analyze the soil in the lab for simple characteristics such as texture, organic matter, and structure. Likewise, in the Forests Unit, students can view videos in which the instructor describes how to extract a core from a tree, or how to use methods in the field to measure diversity indexes. These videos allow the student to learn through direct observation and participation.

Other ways to provide a teaching presence in the SMGT 325 course is the use of video-related activities, or links to webpages with embedded videos describing applications (apps) on "how to live a more sustainable life" that students can download onto their mobile devices. While these types of videos are not created by the instructor, they are valuable to the course learning objectives. Additional types of videos are informational and are used to encourage student reflection. Examples of this type of learning include TED talk discussions on wetlands as a natural resource.

The Natural Resources Management (SMGT 325) course is taught at least once a year, with a moderate class size of 22-30 students, which allows for ample teaching presence to satisfy students' desire for open interaction with the instructor, thereby facilitating individualized attention in learning interactions. The teaching presence is expressed in how students are learning the subject matter.

Nagel and Kotze (2010) point out that the teacher student ratio in large classes present challenges as it relates to teaching presence. However, for smaller class sizes, we found that the use of videos was a valuable part of the learning process as it helped foster teacher presence. Listed below are a few sample comments from students.

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Table 5. Sample Student Reflections from SMGT 325

Clear instructions and objectives made this class a lot easier than my other online experiences. Also, her lectures and videos were helpful and very well done
The multimedia formats (lecture videos, narrated PowerPoints, linked YouTube videos, etc.) used in the course assisted my learning.
By using video recording, I had to get my thoughts organized before hand. This methodology really helped me to narrow down the items I felt were important and to be focused. This is an important skill that I struggle with and this methodology will help me improve in that area

Teaching Presence in MBA courses: In MBA courses, all three aspects of teaching design are emphasized. For example, in MBA 720 (a course on Technologies for Business Decision Making), a welcome video introduces the course to students and provides high-level details of the course including the required work that students need to complete, deadlines, and a brief synopsis of weekly topics along with motivational examples on why students need to learn those topics. Further, each MBA course has module introduction videos for each module; module introduction videos discuss the topics covered in the module, highlight the key concepts and point to additional videos/resources in that module that help students learn further. Many of our online courses also facilitate discourse through multiple mechanisms. For example, some courses introduce discussions through videos and invite students to participate in discussions. Most courses conduct video office hours for students through technologies such as Zoom, Webex, and Blackboard Collaborate. Our MBA courses also incorporate direct instruction through videos by preparing and posting instructional videos. For example, MBA 781 (a course on healthcare technologies) uses instructor videos to teach students on how to arrive at healthcare quality measures based on clinical data and how to apply healthcare reimbursement principles to specific patient cases. As much as possible, instructor-created videos are used for direct instruction; this is in line with previous research by Draus et al. (2014) that indicates that connections with students and their learning can be stronger if instructors integrate their own videos in online courses.

The MBA 781 (a course on healthcare technologies) is also viewed positively by students for incorporating videos. Listed below are a few sample comments from students.

Table 6. Sample Student Reflections from MBA 781

Application exercises and video lectures by the professor were excellent.
His videos and explanations we're very useful and helped to explain the content in recognizable terms.
The videos and hands on application exercises along with step by step tutorials helped the learning process tremendously

CONCLUSION

As we deal with a global pandemic and academic institutions scramble to move their programs to the online mode of delivery, many are wondering what impact this might have on student learning and ultimately student retention and graduation rates. With the disruption to the face-to-face delivery mode, we need to revisit the issue of how to enhance the student learning experience in the online delivery mode. In online program delivery, videos can play a significant role and, in this paper, we provided qualitative examples of how videos can help promote CoI framework's teaching presence dimension by discussing examples from courses in natural sciences, healthcare, and social sciences. For a number of years, online courses have been evaluated for their design aspects based on certifications such as Quality Matters. For example, the Quality Matters rubric standards enumerated below allude to multimedia content and their quality:

QM 4.5 A variety of instructional materials is used in the course.

QM 6.3 A variety of technology is used in the course.

QM 8.5 Course multimedia facilitate ease of use.

QM 8.4 The course provides alternative means of access to multimedia content in formats that meet the needs of diverse learners.

As can be seen from the above standards, online courses that use multiple formats can provide a richer learning experience. Our paper addressed how video usage can enhance teaching and social presence. However, developing quality videos come with its challenges. Sometimes, the many iterations needed to produce a video or to produce outdoor videos can be onerous. Another challenge with videos is the time it takes to revise the videos if the course is revised in minor or major ways. Training faculty in technologies that help produce quality videos can be time-consuming as well. To comply with federal regulations on course content accessibility, closed captioning and/or transcripts need to be provided for each video in the course. All these requirements imply that quality instructional design and media teams are absolutely necessary for faculty to design, develop and integrate videos in their online courses. Administrators need to provide adequate support in funding of technology to address issues of video production and be cognizant of the time commitment that goes into planning and delivering a quality online course. Institutions must recognize the diversity of learner-faculty interaction with different learning tasks requiring different environments, support structures, and technological tools (Resta & Laferriere, 2007) and make suitable provisions for faculty to sustain their efforts. It should be noted that our study is limited to qualitative evaluation of videos and their benefits. Further research is needed in determining the benefits quantitatively. This can, for example, be conducted by comparing student learning in courses with and without videos. Conducting such a study through well-designed methodology can be a worthwhile research topic for the future.

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BIOGRAPHY

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A Transportation Matrix Activity Using Monte Carlo Simulation to Generate Variable Shipping Costs

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ABSTRACT

The best activities in any business course are the ones that mimic real-life situations. Providing the balance between reality and academic simplicity makes developing these activities difficult. Most transportation model activities simplify reality by using fixed inputs. The novel aspect of this in-class activity is that the transportation costs are generated using a Monte Carlo simulation. The simulation is used to help students understand the variable nature of transportation costs. However, the first time this activity was used it was not successful, as instructions that did not connect with the students led to class-wide confusion. After revising the instructions students were able to successfully complete the activity and meet the learning outcomes. It is important to understand transportation costs as variability is a common occurrence in the transportation of items in the supply chain.

Keywords: education, operations, activity, transportation, transportation matrix, Monte Carlo, simulation

INTRODUCTION

Objectives

The most effective in-class activities are the ones that provide educational value and exposure to real-world problems (Drake, 2019). Operations management courses commonly demonstrate issues related to transportation by introducing the transportation matrix. Most operations management textbooks will have a chapter on transportation and will have a section in that chapter on the transportation matrix. This matrix uses shipping cost, warehouse supply, and customer demand to determine a minimal cost for transporting items. Usually in this matrix, cost, supply, and demand are constant. However, this is an over simplification, as all three of the inputs might be variable. One recent paper uses a Monte Carlo simulation to vary the demand (Weltman & Tokar, 2019). This mimics real-world situations where the customer demand will vary. The activity described in this paper holds the demand and supply constant, and uses an Excel-based Monte Carlo simulation to vary the shipping cost. This exposes students to the idea that shipping costs are dependent on different variables, such as weather, that need to be considered. The idea of variable transportation costs creates an important contrast to the generally fast, reliable, and fixed cost shipping that has become common through online shopping. Many of the aspects of this activity were adapted from the author's experience in related business activities.

Background on the Traditional Transportation Activity

In operations management the ability to transport items from the supplier to the customer is critical (Ardestani-Jaafari & Delage, 2018; Bertsimas & Yan, 2018). Not only does the demand need to be filled, but the cost to fulfill that demand must be minimized to meet cost goals. To teach how this can be accomplished, many operations management courses use a transportation matrix. A sample transportation matrix is shown in Figure 1. To develop this table, students are given suppliers and available supply (left & right columns), demand centers and quantity demanded (top & bottom rows), and the cost to ship between two locations (top table middle dollar values). It is assumed that these values will not change during the activity. Once the top table with the supply, demand, and costs is complete, computer code (such as a Microsoft Excel macro) is run to minimize the cost that satisfies the demand with the stated supply. The code then generates the bottom table which is the number of shipments between the two locations. (Sometimes the matrix is completed by-hand through different iterative methods, but the simplicity of the computer code makes the by-hand method more uncommon.) These shipments are then multiplied by the cost to provide the total cost at the bottom of the matrix. This is the minimum cost that is associated with the given inputs. The shipment information and associated cost would be provided to logistics and management for planning purposes.

Justification

The incorporation of an input that can change adds an increasing amount of complexity that starts to simulate the issues that an operations manager might encounter in a business setting. By introducing complexity the goal is to increase the problem solving that needs to be performed to complete the activity. This activity forces students to

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consider that shipping is not as simple as selecting the free next day shipping option. There are many steps that a shipment goes through that could delay a package. This activity presents different scenarios that could occur in transporting items and allows the students to consider the probability of positive or negative outcomes. While the standard transportation matrix is academically useful, it can be used to provide a more complex scenario that mimics real-world steps and decisions. This exposure will help to prepare the students for situations that they might encounter when they are working in an operations management position.

Figure 1: A traditional transportation matrix

Transportation Matrix

COSTS	Hartford	Houston	Cleveland	Supply
Detroit	$5.00	$4.00	$3.00	100
Buffalo	$8.00	$4.00	$3.00	300
Denver	$9.00	$7.00	$5.00	300
Demand	300	200	200	700 \ 700

Shipments	Hartford	Houston	Cleveland	Row Total
Detroit	100	0	0	100
Buffalo	0	200	100	300
Denver	200	0	100	300
Column Total	300	200	200	700 \ 700

Total Cost	$3,900

Guidance to Reader

The first delivery of this activity did not achieve the learning outcomes. The instructions were provided to the students as a written Microsoft Word document. The instructions were formatted as bullets with a short sentence or two for each bullet. While the activity was being completed in-class it was apparent that these instructions generated confusion for a large portion of the class. Some of the issues observed were that students were skipping over bullet points, misreading numbers that were spelled-out, attempting to skip ahead to the Excel file to attempt to get done early, and not able to transfer data from charts to the Excel template. As a result of the confusion the activity was not graded. A second attempt was performed later in the semester. This time the instructions were revised as a series of PowerPoint slides that included more images. The revised instructions improved the comprehension of the activity and eliminated all but some minor confusion among just a few students.

METHODOLOGY

Learning Goals, Objectives, and Outcomes

Upon completion of the project, students will be able to apply the academic principles of a transportation matrix discussed in class. This includes applying the transportation matrix under two scenarios – Scenario 1: fixed delivery cost and Scenario 2: variable delivery cost. Students will also understand basic steps for shipping freight including using a website to estimate costs. The case will also expose students to the terminology and skills required for logistics. Table 1 shows the learning goals, objectives, and outcomes for this activity.

Table 1: Learning assessment table outlining the goals, objectives, and outcomes

Goal	Objective	Outcome
Apply transportation matrix principles covered in class	An Excel template will be provided for completion following written instructions	Questions will be completed to test the successful completion of the activity and understanding of basic principles
Make decisions based on the data	Provide questions that a logistics manager would be required to make	Questions after the activity would require strategic analysis
Expose students to real tools used in logistics management	The activity will require students to look up shipping costs on a real shipping company website	Questions after the activity will be quantitative to test if the correct numbers were used

One of the key goals is that the students apply the knowledge acquired in class and through reading to a transportation matrix. This will be accomplished through completing a template and answering questions after completing the activity. These questions were written to test the ability to interpret the data. This activity also focused on demonstrating to students the types of data, decisions, and tools that are used in logistics management.

Using the tools that professionals use provides the necessary reality to the activity. Assessment was completed quantitatively through the questions at the end of the activity and qualitatively through discussions while the activity was being completed in class.

Activity Details

This activity was delivered as an in-class activity in a section of an introductory operations management course with 136 students who were in the school of business. One instructor and two teaching assistants were available to answer questions during the activity. Students were provided instructions on how to complete the activity in a PowerPoint file. A walk-through was performed by the instructor before the activity was started. Students were divided into teams of four and moved so that the students were at the same table. Groups were given a paper map to complete as part of the activity. An Excel template file was made available on the course website for use during the activity. This file was not directly graded, but it was used to answer questions that were submitted. Class time was 75 minutes; however, most groups took less than 60 minutes. After groups completed the activity they handed in the answers to questions that were asked along with the map that was generated during the activity.

The steps to complete the activity were broken down into the five following steps.

- Step 1: Map
    - Visuals like maps are common in operations to use as quick references
- Step 2: Template review
    - Discuss template use and functionality
- Step 3: Fixed cost calculation
    - Test the cost of a shipping price that will not change
- Step 4: Generating the fixed cost transportation matrix
- Step 5: Variable cost calculation
    - Test the cost with variables that could impact the final cost
    - Compare fixed cost and variable cost calculations

In Step 1 groups were required to map the transportation hubs. This required them to locate the city, identify it as a supplier or customer, indicate the supply or demand number, and draw a line to the other locations. Maps like these are sometimes used by a manager to visually see where the supply and demand is located. It also helped the student see what the transportation matrix looks like visually.

In steps 2 through step 4, students completed the traditional transportation model with fixed costs. This process was outlined in the introduction above. A traditional transportation matrix activity provides the fixed cost; however, this activity had the student calculate the fixed cost using a real-world method a shipping employee would use. The fixed cost was calculated using the United Parcel Service (UPS) website. The students were provided with dimensions and weight of the item. The UPS site was then used to look up the cost associated with shipping one box from each supplier to each demand center. While on the site students followed the instructions to navigate the UPS shipping requirements. This included entering zip codes, dimensions, weight, freight class, and other common details. One important new term was less-than-truckload (LTL). LTL is a common shipping term that is useful to know when shipping (Gorman et al., 2014). For simplicity, it was assumed that quantity discounts were not available and that the company had a contract with UPS to use them exclusively. These assumptions were reviewed with the students orally during the PowerPoint presentation before the activity. The cost from the UPS site was entered into the matrix. These steps were repeated for each combination of supplier and demand center. The number of shipments and the total cost were calculated using an Excel macro in a template file. The template was part of the ExcelOM package provided by Pearson, the textbook publisher for the course. The software is available at https://wps.prenhall.com/bp_weiss_software_1/76/19556/5006377.cw/index.html.

Step 5 of the activity introduced variability into the shipping cost by integrating a Monte Carlo simulation into the shipping cost. The Monte Carlo simulation was performed using a lognormal distribution. This was chosen because analysis of internal data from the author's previous employment showed that the expected dates for business transactions fit a lognormal distribution instead of a normal distribution. This was expected, because a normal distribution assumes equal likelihood of early delivery as late delivery. In reality, deliveries are more likely to be late than early. Equation 1 shows the equation that was used to generate the Monte Carlo output.

Equation 1: LOGNORM.INV(RAND(),LnAVG,LnStDev)

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The inverse function was used to generate a random output based on the average delivery time and the standard deviation. The computer selected the probability based on a random number generation (Microsoft Corp., n.d.). For this activity the average and standard deviation was assumed to be generated from company data.

The variable cost calculation required several steps to generate a useful and realistic value. Figure 2 shows one of the cost tables used to calculate a variable transportation cost. The calculation started with the fixed cost from the UPS site and was input into the initial estimated cost cell. This simulated the company's average cost for shipping and were multiplied by an impact factor then used as the average input into Equation 1. This cost was then broken down into different variables that impacted the shipping cost – shown in the Variable column. Definitions of the variables was provided to the students and are shown in Table 2. These variables were chosen as a mix of standard impacts (weather, accidents, fuel, driver salary) and international impacts (tariff, border crossing, political disruption). The costs associated with these variables are the total costs with any potential variables factored in. For instance, insurance (an accident cost reduction) would require insurance and paperwork processing (accident cost increases). Simplifying the cost helps to keep the students from becoming overwhelmed by details – like the first attempt of this activity. The variables allow the activity to be used in scenarios such as developing countries where border crossings may require bribing crossing agents. One question students were asked at the end of the activity is to consider how the impact factors might change when shipping to Zimbabwe, which is undergoing political turmoil. This required the student to understand that shipping costs will start to be significantly impacted by border crossing fees/bribes and political disruption that would not occur when shipping between Hartford, CT and Pittsburg, PA in the United States. The average factored cost is the dollar value calculated after multiplying the initial estimated cost by the impact factor. For simplicity, the standard deviation was provided to the students and is held constant throughout the activity. In the instructions, the values for the impact factor and standard deviation are presented to the students as values that the company has calculated based on their historical data. The average factored cost and the standard deviation were used for the Monte Carlo simulation. To minimize extreme values that might not reflect reality, the minimum cost was set to 70% of the average factored cost and the maximum cost was set to 350% of the average factored cost. These values were determined by analyzing outcomes for reasonable results. This prevented costs of $2.00 or $1,000,000 to ship items; these values are clearly unrealistic and would impair the real-world aspect of the activity. Each calculated cost (far right column) was added together to generate the final calculated cost. The final calculated cost for each supplier to demand center was tabulated together to allow for easy copying and pasting into the upper cost table of the transportation matrix. These tabulated results were run using the Excel macro to calculate one minimized shipping cost value. Two more simulations were accomplished by having the students refresh the formulas. The three results of the simulations were recorded and used for analysis.

Figure 2: Cost calculation table showing inputs to the simulation

Hartford to Storrs	$161.07	Initial estimated cost		Final calculated cost		$114.33
Variable	Impact Factor	Average Factored	Min Cost	Max Cost	StDev	Calc Cost
Unaccounted variation	11%	$17.65	$12.36	$61.79	$7.00	$12.36
Weather	20%	$32.21	$22.55	$112.75	$1.70	$22.55
Accidents	65%	$104.70	$73.29	$366.43	$5.00	$73.29
Border Crossing	0%	$0.02	$0.01	$0.06	$1.25	$0.03
Tariff	0%	$0.02	$0.01	$0.06	$2.00	$0.02
Customs	0%	$0.02	$0.01	$0.06	$3.00	$0.01
Fuel	2%	$3.22	$2.25	$11.27	$5.00	$2.25
Political Disruption	0%	$0.02	$0.01	$0.06	$20.00	$0.02
Driver Salary	2%	$3.22	$2.25	$11.27	$2.00	$3.81
	100%	$161.07	$112.75	$563.75	$46.95	$114.33

It is important to note that the calculations for the Monte Carlo simulation were done automatically for the student and output into a table where the numbers were easily copied and pasted into the upper cost table from the transportation matrix. This eliminated the need to teach the mechanisms behind the simulation. Students were told that the number was generated through a simulation that randomly output a number. Only a few students required clarification that was easily performed during the activity.

Table 2: Definition of the variables used for the variable cost calculation

Variable	Definition
Unaccounted variation	Miscellaneous variation(s) that could account for change
Weather	Weather related expenses, road closures due to weather
Accidents	Mechanical breakdown, road construction, other vehicle breakdown
Border Crossing	Costs associated with crossing borders (fees, bribes, etc…)
Tariff	Formal regulations associated with transport
Customs	Time spent in transition
Fuel	Fuel costs, other vehicle fluid costs
Political Disruption	Disruption due to war, protests, changing government, local politics, etc…
Driver Salary	Costs for driver transport including salary, benefits, other personal expenses

To assess whether students met the learning goals, questions were provided as an after activity assignment. These questions were answered as a group and submitted for grading. Listed below are questions asked after the activity.

1. What does less-than-truckload (LTL) mean?
2. What was the fixed cost estimate that your group calculated?
    a. What assumptions would you need to tell your boss to help her understand this value?
3. What was the variable cost estimate that your group calculated?
    a. What assumptions would you need to tell your boss to help her understand this value?
4. How would your recommendation change if a new supplier was found in Los Angeles, California?
5. What are other potential delivery methods? When should alternative methods be considered as options?
6. In the transportation model, there is a variable for political disruption. How would this change if you were shipping to Zimbabwe, which is undergoing political turmoil? Fill out the table below for what you estimate the impact factor.

Question 1 is a vocabulary question to reinforce a new vocabulary term. Question 2 will be the same for all groups and assessed whether the fixed delivery cost was completed correctly. Question 3 was given to assess if the groups correctly identified the impact of variable costs, as the cost will change for each simulation. Questions 4 and 5 are questions that might occur in a professional setting. Finally, Question 6 assessed student's ability to understand how shipping inputs are impacted by social and political factors. These combined questions allow for assessment of the stated learning goals.

RESULTS AND DISCUSSION

Based on answers to the after activity questions and student comments after completing the activity, the activity was considered successful in helping students understand the topic of transportation matrices. Students were asked to discuss how the activity impacted their understanding of the course material. Table 3 provides a representative sample of comments provided by students. It is clear from reading these comments that the students found educational value in the activity. Words such as enhanced, understand, helped, reinforce, and other analogous words were common in the written comments. A few of the comments stated that the activity was engaging. This was also obvious from observation of the groups during the activity. Many of them were very focused on the activity and enthusiastically discussing the details. While not all groups directly commented that the activity had value, there were no comments stating that the activity had little or no value. The answers to the after activity questions showed that students were able to correctly determine the fixed cost using the UPS site and navigate the variable cost simulation. The answers to the questions showed that students were able to apply the theory that was learned in class to the activity. Informal conversations with students after the activity revealed that they found the activity to have a lot of steps, but the instructions were clear and helped. The students also said that they thought it was a useful activity.

After completing the activity students were asked to comment on the perceived difference between the original Microsoft Word written directions and the PowerPoint directions. Table 4 is a representative sample of the comments that students provided. The comments mentioned how the "broken up" PowerPoint directions were easier to follow. Students also felt that adding the images to the PowerPoint was a big factor in improving the ability to complete the activity. Most importantly, many groups found that the PowerPoint-based directions removed confusion from completing the activity, which led to a better educational value as discussed above.

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Table 3: Representative comments from students on the educational value of the activity

By completing the activity we got a better grasp on the topic
The activity enhanced our understanding of the material
Yes it did, because we were able to get a more comprehensive view of the matrixes and how the tables and Excel worked
Easier to understand shipping freight and applying the matrix to a realistic situation
He helped grow our understanding of transportation models
The activity broke things down into simpler terms, helping understand every step of the process
We felt it enhanced our understanding
Yes, the activity helped improve our understanding of fixed and variable costs
The activity enhanced our understanding of the material by giving us a better understanding of transportation matrices
The activity became a resource for our team to learn from and engage with
We understand why the numbers we were entering were going in the places they were entered
The activity was good practice to reinforce concepts

Table 4: Comments from students comparing the initial written instructions to the PowerPoint-based instructions

PowerPoint more broken up which made the information more digestible
Visuals showed exactly what to expect which eliminated confusion
The paragraph format of the instructions were harder to follow due to the overload of information
Specific step-by-step directions in the updated version clarified our tasks and made completion of the assignment clear and easy to execute
More comprehensive directions allowed us to focus more on the content behind the activity and less on the directions
The PowerPoint directions were more clear and broken down, and less overwhelming, and the explanations were more direct
A lot easier to visualize

CONCLUSIONS

Summary

The transportation activity described in this paper was a successful activity that, when presented to students in the right form (PowerPoint for this paper), provided an opportunity to explore a time-tested model in a new way. Students were challenged to consider how the cost of transporting items could change under different situations. This required more critical thinking than creating a traditional transportation matrix with fixed inputs. When inputs are fixed, students can perceive the concept as something that is straightforward and easy to implement. However, after the activity students commented that they never really understood how much effort goes into shipping items. One student mentioned that what he learned was that he never wanted to do logistics for a job. This is important, as learning what a student would like and dislike for a career is an important aspect of college. An activity that successfully mimics real situations provides students useful insights into not only the academic skills but the daily tasks that are associated with a profession. Therefore, a realistic activity can assist students in job selection.

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Teaching Safety Management Principles

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ABSTRACT

Human Resource Management teaches principles of safety management (Cascio, 2019; Dessler, 2020). Concepts include OSHA (Occupational Safety Health Agency) inspections, employee accident prone behavior, and warnings that new employees have a higher accident rate. Case examples such as a lab technician's hair getting caught in a lathe machine warn that safety cannot be just talk and slogans. Machine guards and physical protections are needed in high risk work situations. Organizations and managers have a responsibility to create safe work environments. Teachers of business management have a responsibility to understand what students need to know to keep themselves safe at work and to educate students with that knowledge, skill, and mindset. This paper presents suggestions for improving how business students are taught safety principles.

Keywords: safety management, OSHA, workplace accidents, accident prone behavior, workplace safety, teaching safety

INTRODUCTION

"A moment of inattention can ruin a lifetime of work." --- Aikido quote

Safety is an important topic in human resource management courses (Cascio, 2019; Nathan, 2018; Gerhart & Newman, 2020). Safety is taught as chapter 16 in a typical 14 week semester (Dessler, 2020). Alternative to a single chapter late in the semester, safety could be highlighted throughout a management course as an ongoing practice of awareness, as a critical individual employee responsibility, and a set of employee skills to build. Safe job behaviors potentially impact the well-being and lives of students. Cascio (2019, p. 558) reports that about 13 workers die on the job each day and that more than 3 million workers get sick or injured because of their jobs each year.

Business graduates take jobs in manufacturing and other risk environments. Graduates are expected to have basic safety knowledge, safety awareness, ability and motivation to learn industry specific safe operation procedures. Business schools need to ensure that students know and practice safety management. For example, Dessler (2020, p. 550) teaches students how to conduct a detailed safety audit in an organization. Analysis includes the placement of OSHA posters, reporting requirements, annual summary of workplace injuries, safety policies, safety committees, safety training, person in charge, what to do in an emergency. This project continues with a detailed checklist on electrical wiring, exits, fire protection, housekeeping, and machines and equipment. The assignment is designed to build student attention to detail and an ability to observe where things can go wrong and cause accidents in organizations.

STATEMENT OF THE PROBLEM

How can business programs do a better job of teaching safety principles to business students? How can colleges of business do a better job of making sure that students have a basic understanding of how to stay safe in work environments? How to motivate students to choose safe behaviors?

First, what types of safety management information are typically presented to students? A review of a selection of Human Resource textbooks highlight case studies from accidents (analysis after events happened), common sense – basic knowledge (e.g., water and electricity do not mix, how to store lithium batteries), industry specific teachings (e.g., hospital contamination prevention procedures, construction procedures), video warnings (e.g., airplane passenger take off drills), and general emergency procedures (the types of information that safety officers send out).

The range of safety concerns is wide and feels endless: fire, chemicals, violence, impaired behaviors from drugs, alcohol, or lack of sleep, slips and falls, warehouse forklifts and large mechanical equipment. To help create a

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mental map, a framework is used that begins with individual and teams, expands to organization and industry, and then considers societies' issues (Robbins and Judge, 2019).

Five questions are proposed as a starting point for a renewed effort to improve teaching safety management:

Question 1: Do students include safety issues in strategic analysis of organizations? Starting with strategic management (the mission, goals, and long-term planning of the organization), where does safety fit into the strategic plans of the organization? Does the organization use its resources to create a culture of safety (Thompson, Peteraf, Gamble, Strickland, 2019)?

Question 2: What is the content to be taught so that students learn basic safety wisdom? But, how much warning makes employees numb (non-responsive to messages)?

Question 3: How to create student resources from the information from internet sources such as U.S. Department of Labor, Occupational Safety and Health Administration (www.osha.gov), Society of Human Resources management (www.shrm.org), and Centers for Disease Control and Prevention (www.cdc.gov)? Cascio (2020, p. 590-599) provides a list of safety sources.

Question 4: What are the safety lessons for students from studying past accidents and cases (for example, the Oakland apartment fires, BP oil explosions, NASA space shuttle disasters, Chipotle food safety, Samsung phone fires)?

Question 5: What can be learned from the pandemic crisis? A concern is to motivate students to follow proven safety practices such as wearing a mask, hand washing and social distancing? 'You should care', the health expert Fauci tells young coronavirus patients (Blake, 2020).

In summary, five starting questions are asked to begin a revision of safety education for business students: what is the organization's strategy related to safety?, what is the content that students need to know (especially basic, common sense information)?, how can the wealth of information from internet sources be tapped?, how can cases and current safety events be used to learn?, and how can we learn from the current pandemic crisis?

CURRENT PRACTICES IN TEACHING SAFETY

Human Resource courses include safety management. (Product safety is covered in marketing, ethics, and legal business courses.) For content, HR texts consider accident prone behaviors, accidents such as slips and falls, and winter weather hazards. Dessler (2020) reports research that employees in new situations have a high accident rate. Students with work history can reflect on their new hire/ orientation experience. Safety chapter case examples include what to do when an employee appears to be under the influence of drugs (Cascio, 2019) and the corporate culture for safety after a BP explosion (Dessler, 2020). Students can conduct a safety audit at home or in an organization (Dessler, 2020).

The strategic management text by Thompson, Peteraf, Gamble, Strickland (2019), provides cases on Samsung (product fire and cancer causing agents in the manufacturing), a case about shipping cancer causing pajamas for international sales, and the Chipotle food safety case. Analysis and problem solving in organizations should consider safety issues for employees and customers.

Current event articles (e.g., Ariely, 2019) provide a steady stream of past accidents to learn from. Hage, Lei, and Shahal (2020) reviews a crew that survived an aircraft engine blowing on take-off. The crew was trained in Crew Resource Management training, based on the idea that in an emergency everyone on the flight deck must have the right to speak up. This training teaches that controlling a crisis is beyond the skills of a single person.

Students can view a free audio lecture on the 9/11 memorial museum app, Witnessing History Tour. The survivors' stairs" offers an impression of escaping to safety --- the importance to know exits and to be able to move quickly.

Schools have safety officers, fire safety and drills, and plans for an active shooter. Campus offer influenza plans (if you are sick, stay home; wash hands, cough into sleeve). In class discussions, students offer extensive stories of their experience with accidents, near misses, hazards, in their work experiences.

Classic wisdom quotes can remind students of basic common knowledge: Measure twice, cut once; an ounce of prevention is worth a pound of cure; electricity and water don't mix; lock-out/tag-out when working on any electrical equipment. Students are encouraged to build their own list of wisdom quotes.

Table 1: Re-visioning Teaching Safety: Five Questions for educators

Question	Recommendation
1. What is the role of safety in the strategy of the organization ?	Check for a tradeoff between safety and profits Consider strategy when conducting a safety audit
2. How much to repeat and offer safety warnings without numbing students to non-responsiveness?	Err on the side of over communicating Teach safety across multiple courses and throughout the semester (an alternative to one week on safety). Offer a safety minute
3. What safety information is available for students from internet sources?	Create shared documents with the useful information gathered from the Department of Labor, OSHA, CDC, Society of Human Resources (www.shrm.org) websites
4. What can students learn from cases?	Oil Explosions (correct interpretation of data, group think, doing two things at once confounds data interpretation), 9-11 Survivor Staircase (know your exit), Oakland fires (move quickly), Chipotle food safety, Samsung cell phone fires (handling lithium batteries)
5. What can be learned in the current pandemic?	Experts try to motivate young people to follow recommended safe behaviors

The range of safety information and guidance in the Human Resources body of knowledge is extensive. A conceptual map of categories based on the level of analysis is offered in Table 2 to organize the list of topics. Safety is more than a just a list of topics. It is a lens to study organizations and a mindset of awareness and planning. Safety deserves management front-burner attention.

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Table 2: Safety Topics organized by level of analysis (individual, teams, organization, industry, and society (Robbins and Judge, 2019)

Level of Analysis		Content, Topics and Issues
I.	Individual Employee Responsibility	Accident prone, awareness, basic policies and practices, new employee orientation, safety training, video recorded safety training, accommodating impaired employees for safety issues; impaired employees under influence of alcohol or drugs or lack of sleep; individuals managing their attention
II.	Organization and the view from HR Department	Reporting requirements; forms; communication across the organization, technology applications for reporting and tracking, routines for organization meetings reporting safety
III.	Industry Specific Safety Issues	For example, Healthcare, Energy, Food Manufacturing, Hotel industries each have unique safety concerns. Emerging problems, cooperation, research on protective practices
IV.	Society Health and Wellness	Managing work stress; tracking fitness, managing influenza (don't come to work); changes as marijuana is legalized --- the impacts on work safety
V.	Common Knowledge, Common Sense	Common sense is defined as general individual basic behaviors, basic knowledge as assumed. The expectation is that instructions do not need to be given on these basic behaviors. Ability to work safely, run equipment, the skills that one learns in the practice of safely working --- This needs to be practiced, not just read about. For example, the practice of washing hands is basic common sense.
VI.	Emerging Societal Problems	Pandemic, Extreme weather, active shooters
VII.	Safety Officers and special departments	Some organizations such as Healthcare have such intense safety concerns that they have responsibilities such as infection control specialists. The oil field has well control/ blow-out prevention.

Table 2 offers a conceptual map of safety organized from narrow individual employee behavior, then organization and industry, and finally wider societal issues of wellness and human behavior. Here, the beginning focus is on the individual level of responsibility. This is the highest priority for business students to learn. This mapping manages the wide range of safety topics and serves as a table of contents to organize new safety information for business students. Safety issues expand out to include emerging societal issues such as addictions, medications, flu, pandemics, lack of sleep, driving, emergency preparation, stress management, employee mental health, and healing post-pandemic.

CONCLUSIONS

Suggestions to educators: Consider increasing the time given to safety in the workplace. Consider including safety across multiple business courses and teaching small safety lessons each week. Student projects include conducting an organization safety audit, manager interviews, and internet searches of the Department of Labor, OSHA, and CDC websites. Students can be directed to build a set of wisdom quotes. In the classroom, exits should be reviewed.

Message to students: Life could depend on awareness and taking quick action. It is reasonable to expect that managers and the organization provide a safe working environment, but accidents happen. Motivation for safe

behaviors is a lesson that can be learned in the current virus pandemic (e.g., wear a mask). Here are some suggestions urging students to be careful:

- Change accident prone behaviors
- Safety is a mindset; it requires constant awareness
- Even with an organization's best efforts, it is possible that one day, out of the blue, a catastrophic accident will occur. For example, a young college student almost lost his arm in a conveyer belt accident --- he was just trying to do a good job as supervisor. And, on a clear day on campus, two cars hit because a student was rushing to class.
- Gather safety wisdom. Here is a list to get you started: Make it so 2 things have to go wrong. Do you text and drive? Wash your hands often. Water and electricity do not mix. When working on conveyer belts or broken electrical equipment: lock out and tag out. See what is really there --- not what you want to see. Pay attention to your industry specific safety training. New employees have a higher rate of safety training. Wear PPE (personal protection equipment). Keep stress management techniques in your tool kit. Always know your exit. Be prepared to act (cases from disasters such as Oakland apartment fire or Houston Flood report how fast events happen). Be prepared to react if your job has a 'push in case of emergency' button. Have a hands-on hobby which helps learn how to safely operate in potentially dangerous environments.

*A few thoughts for managers: (*This information was developed from discussions with safety managers in the energy industry and a hospital),

- Do not assume common knowledge or knowledge of basics
- Create a culture for safety (For example, a hospital system holds a weekly conference call reporting on all patient safety issues)
- make time for safety (a cause of errors is time pressure, being in too much of a hurry)
- Caution when doing 2 things at once
- Beware group think effects; for example missing correct interpretation of the data and instead believing what you wish
- Value story telling --- collecting the information on the near misses (contests and reports that discourage reporting need to be reconsidered)
- Prepare employees about how to report and communicate when accidents happen
- Make employees aware that email and messaging are a part of the record
- Broadly disseminate "lessons learned" so that all may benefit without having to personally experience the safety incident

FUTURE RESEARCH

Future research is recommended to better understand what information skills prevent accidents and illness in the work environment. Four future research areas are proposed:

1. Survey students on their self-efficacy for task specific actions (e.g. Can you safely run a lathe? Can you build a habit of driving without distractions? Can you pay attention when you walk (without getting distracted with cellphone)? Can you lock out/ tag out electrical power when working on equipment? Can you prepare a home emergency kit? Can you shelter in place at school if required? Can you manage weather emergencies? Can you manage moderate levels of work stress? I can follow recommendation precautions to prevent the spread of virus?

2. Analyze data collected from a laboratory use quiz to study gaps in common sense knowledge about tools and equipment.

3. An ultimate goal of this research stream is to create a guidebook or shared document for business students containing the full range of safety information that students need to know for future work.

4. Continue to interview corporate safety trainers about content and methods. One corporate trainer recommended a swiss cheese model: that accidents are rarely just one cause; rather accidents result from a lining up of holes in

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the process in several places (like a perfect storm). Prevention includes making it so that two things have to go wrong to have an accident.

Future research will help business and management schools to improve educating students about the safety practices required for future work lives.

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Mapping Out a High-Impact Service Learning Project for Business Undergrads

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ABSTRACT

As high-impact practices, service learning projects provide an attractive tool for course instructors in undergraduate education. These projects have the potential to teach through demonstration to students how "real-world" practitioners and civic groups implement certain business-related concepts. However, developing successful service learning projects can often prove daunting given constraints on course instructor time and resources, and challenges related to engaging students. This paper proposes that identifying and using technology that is familiar to students facilitates engagement and helps ensure the effectiveness of these projects, and thus, the courses in which they are employed. We present an example of a successful service learning project employed in an undergraduate business class that leverages student familiarity with a popular online mapping application in teaching course objectives.

Keywords: High-impact practices, service learning projects, spatial business data

INTRODUCTION

One of the more popular teaching methods employed in higher education in recent decades involves high-impact practices (HIPs). According to the National Survey of Student Engagement (NSSE, 2018), HIPs are practices that "demand considerable time and effort, facilitate learning outside of the classroom, require meaningful interactions with faculty and students, encourage collaboration with diverse others, and provide frequent and substantive feedback." The NSSE divides HIPs into six categories including; community-based service learning projects, learning communities, research with faculty, internships and field experiences, study abroad, and culminating senior experiences. As such, these HIP categories can prove to be useful measures and assessing undergraduate curriculum at various universities.

As one of the HIP categories, service learning projects are commonly used by university instructors as a tool to help teach students the value of certain course objectives (Chickering and Gamson, 1987; Gale et al., 2007; McKay and Estrella, 2008). This approach blends instruction and service so that students are afforded "real-world" examples of course material. Typically, service learning involves a degree of engagement with practitioners and civic groups to provide students with experience, and instill in them the importance of teamwork, civic responsibility, and professionalism. Students appreciate the first-hand engagement with business owners and civic groups that are involved with economic development. Students are also more likely to retain important business concepts that are part of curriculum objectives. Business partners in these endeavors also value such projects, as they provide opportunities to actively participate in higher education, and directly interact with college students in the education process.

Implementing strategies that ensure student engagement and interest is vital in the success of a service learning project. By definition, these service learning projects are designed to promote student engagement with business people and organizations. However, engagement and may wane, and the quality of learning suffer, if student interest is compromised. Therefore, course instructors need to consider methods that stimulate student interest as well. One of the more promising techniques in achieving this goal is to use technology, preferably technology already valued and used by students (Alfadil and Anderson, 2019; Saitta et al., 2011; Vázquez-Cano, 2014). The modern university undergraduate spends a large portion of their day online. They use technology to communicate with others, plan their schedule, organize their lives, travel, and simply have fun. This has led to many tools and applications becoming more popular than others among students. Therefore, it makes sense that service learning projects that utilize popular apps and technological tools may help keep students interested and also engaged with the overall project.

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This article demonstrates the utility of developing a service learning project for business undergraduates that employs a computer application that is familiar and commonly used by students. As an example, the authors present a project in a sophomore-level business course that leverages a partnership with the chamber of commerce of the local community and its member business owners. We show that students commonly use Google Maps, and that their familiarity with this app lends itself to the success of this project.

LITERATURE REVIEW

Many scholars have noted the benefits of integrating service learning projects as HIPs into college courses (Kuh, 2008; Roldan et al., 2020). For instructors, these projects present an attractive alternative or supplement to traditional lecture-and-textbook teaching. For students, service learning projects and other HIPs provide a way of learning important course concepts through engagement with real-world practitioners and civic groups (Campbell and Cabrera, 2011). These projects also tend to promote cultural awareness, social and individual responsibility, teamwork, professional networking, and self-esteem (Blewitt et al., 2018; Buch and Harden, 2011; Fairfield, 2010; Porter et al., 2011). Further, it has been shown that students tend to appreciate courses with service learning projects and that overall performance is higher in these classes than in those without (Roldan et al., 2020). For business schools, HIPs (including service learning projects) can be implemented and assessed to measure student performance as well as retention (McKay and Estrella, 2008). This is especially useful to colleges who are required to demonstrate adherence to accreditation standards (Berry and Hammer, 2018).

Another popular teaching tool in recent decades involves the use of computer technology and applications. Integrating technology into higher education has become commonplace, due in large part to the growing acceptance and demands of modern college students. Today's undergraduates live a large part of their lives in a virtual environment. Further, most business college freshmen already have a degree of proficiency using certain software, such as Microsoft Excel, and expect college courses be taught using these and other popular applications. This technological familiarity among students proves especially beneficial when developing course curriculum (Alfadil and Anderson, 2019; Gilakjani et al., 2013).

Leveraging student appreciation for, and familiarity with, popular applications can help course instructors develop curriculum that is meaningful, interesting, and engaging. Additionally, we propose that instructors who integrate commonly-used apps into their service learning projects stand a better chance of increasing student engagement and subsequent overall class performance.

BACKGROUND

The faculty of the Dicke College of Business Administration (DCBA) at Ohio Northern University have long recognized the utility of high-impact service learning projects within business curricula. Table 1 presents the results of the NSSE survey in 2018 (NSSE, 2018). The table illustrates the importance of HIPs to our university and college curricula as compared to our peer institutions and all other national participants in the survey. Some eighty-eight percent of ONU students indicate participating in more than one HIP in their classes. As for specific types of HIPs, the survey results reveal that ONU has many opportunities related to research with faculty, internships and field experiences, and culminating senior experiences. Service learning is also high (67%) and comparable with our peer institutions and the national rate.

Table 5: High-Impact Practices

	ONU Business Seniors	**ONU Seniors**	**Peer Schools**	**National Participants**
At least 1 HIP	0%	8%	16%	25%
More than 1 HIP	100%	88%	78%	60%
Research with faculty	22%	43%	33%	23%
Internships and field experiences	100%	75%	67%	49%
Culminating senior experiences	100%	79%	59%	45%
Service-learning	67%	67%	64%	74%

With regard to ONU's business students, the survey results reflect DCBA's emphasis on the importance of high-impact practices as facilitating learning. Within the ONU business college, every student (100%) completes an internship and a senior capstone project as part of their graduation requirements. Further, all business seniors completed more than one high-impact practice in their classes, and 67% took classes with service learning projects as part of their curriculum. These projects have proven especially beneficial in certain classes that emphasize applied knowledge. One such class is Geoanalytics.

THE GEOANALYTICS COURSE AND SERVICE LEARNING

As noted by other scholars, developing a successful service learning project involves careful planning (Gale et al., 2007). The instructor should consider project objectives as they relate to those of the course and the major curricula. This will help the instructor determine the structure and resources needed for particular projects. The Geoanalytics class has many objectives, including teaching the importance of spatial relationships that exist throughout a supply chain, as well as those between businesses and consumers. The fundamental objectives of the service learning project presented in this paper have proven especially valuable to the course and to our majors. Objectives include working with the Ada Area Chamber of Commerce and its members to ensure that relevant spatial business data be kept up-to-date and accurate. Therefore, identifying and using a computer application that is commonly used by students, business owners, and consumers is vital to this project.

A fundamental and vital part of this service learning project entails working with local businesses, all of which are geographically close to the Dicke College of Business Administration in Ada, Ohio. The village is approximately a mile wide, is home to about five thousand residents, and a near-equal number of ONU students. Ada has about one hundred businesses, of which most are currently members of the Ada Area Chamber of Commerce. Most of the businesses are located near the center of the village along Main Street or one of its side streets. ONU occupies the southwest quadrant of the village, and the DCBA is situated along Main Street just south of the business district. A student can easily walk from DCBA to any Ada business in just a few minutes. This allows the instructor to designate time during class to work on the project.

The project is also designed to repeat with each new academic term, and extend through the 15-weeks in each term. It has several parts that are easily managed and assessed. The first part entails demonstrating to the class the prevalence of Google Maps among online mapping applications, and its importance to students, local businesses, and commerce. Once that is accomplished, students use the Google Maps application to verify and edit spatial data pertaining to Ada businesses. The Ada Area Chamber of Commerce assist throughout the project by providing business data and feedback related to current events.

GAUGING APPLICATION POPULARITY

Because the success of this project depends on student interest and engagement, we chose an application with which the students were already familiar. The worth of business-related spatial information is directly correlated to the popularity of specific online mapping applications. Google Maps dominates this market, with nearly six times as many smartphone users using the application than its second-most popular competitor (Panko 2018). A simple survey of ONU business students further demonstrates the preference of Google Maps to the college-age demographic. This project surveyed over 100 students (n=135) in the Geoanalytics class over the course of three years. The survey was employed early each term to accurately gauge student preference and use of online mapping apps.

While the survey continues with each new class, clear trends are already emerging that reveal student preference to Google Maps over other mapping apps. First, it should be noted that the overwhelming majority of those surveyed own iPhones (124 of 135, 91.9%). The total number of Google Maps users (on iPhones and Androids) equaled 95 students, or just over 70%. Further, of those that owned iPhones, over half (n=84, 67.7%) downloaded and installed Google Maps. This suggests that, as iPhone owners, they preferred Google Maps to Apple Maps. When asked about their preferred navigation app, near equal percentages (about 50%) responded that they always or frequently use either Apple Maps to Google Maps (Figure 1). However, those stating that they never use Google Maps were in the minority and accounted for only 10%, compared to the 32% of respondents that claimed they never use Apple Maps. Far fewer ONU business students surveyed claimed to use other navigation apps. Clearly, Google Maps is the preferred navigation app for our college-age demographic. This complements Panko's (2018) conclusions in

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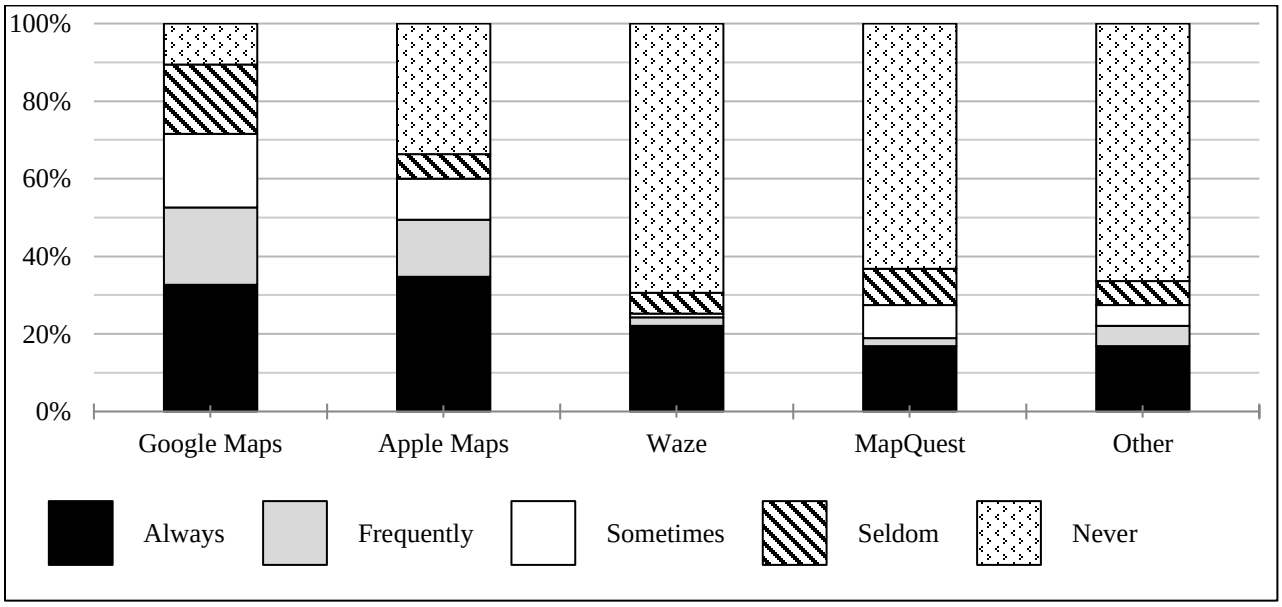
which she surveyed a much more diverse population. Further, some 90% of those we surveyed also stated that they used Google Maps at least 5 times a week.

Figure 3: Most Popular Navigation Apps



Our survey also contained questions designed to assess the worth of business data to DCBA students. When asked about the types of tasks they performed in Google Maps, students responded that they frequently used the app to find locations and get driving directions (Table 2). Most indicated that they sometimes used the app in obtaining business hours, websites, telephone numbers, read reviews (posts), show traffic flow and look at pictures uploaded by business customers. Fewer students used the app to send directions to others or share their location with others. The survey also sought to assess student familiarity with business information in the app. Specifically, we asked our students to rank the value of business information found in Google Maps in terms of accuracy. Over 85% of ONU business students see worth in up-to-date business information in Google Maps.

Table 2: Use of Google Maps for Certain Tasks*

Task	Average Rank
Find locations	2.38
Get driving directions	2.42
Check hours of operations for businesses	2.74
Visit business website using listing in Google Maps	2.98
Call businesses using telephone number listed in Google Maps	3.03
Read reviews of businesses	3.15
Show traffic flow	3.19
Look at pictures uploaded by business customers	3.31
Send Google Maps directions to locations to yourself or others	3.42
Share your location in Google Maps with others	4.00

*Ranks were 1=Always, 2=Frequently, 3=Sometimes, 4=Seldom, 5=Never

Another vital condition of this project involved identifying an app that allows for editing spatial data, preferably with tools that students can easily and accurately learn to use. Google Maps has long promoted its editing functions to its users. However, the typical ONU business student never uses these, despite their acknowledging the need for accurate business data in Google Maps. The survey indicates that less than 10% of ONU's business students have

experience editing in Google Maps (Table 3). Slightly more have uploaded pictures to business markers and written reviews.

Table 3: Google Maps Editing Functions Used by DCBA Students

Task	Yes	No	Yes	No
Have you edited the location of a business in GM?	5	90	5.3%	94.7%
Have you suggested an edit to a business marker in GM (hours of operation, URL, address, etc.)	8	87	8.4%	91.6%
Have you taken and uploaded a picture to a business marker in GM?	12	83	12.6%	87.4%
Have you written and submitted a business review in GM?	16	79	16.8%	83.2%

Based on these results, it is clear that undergraduate business students at ONU are familiar with Google Maps, see the worth in maintaining accurate business data in this application, but do not have experience editing spatial data using the app. These findings justified using Google Maps in this service learning project.

PROJECT DESIGN AND IMPLEMENTATION

After demonstrating to students the worth of Google Maps to the project, students divide into small teams and begin work on the first of four phases. The first phase involves meeting with the Ada Area Chamber of Commerce officers to provide introductions, as well as review goals and tasks. Every new class holds this meeting at the beginning of the term. This meeting serves to emphasize the importance of our relationship between the Chamber, its members, and ONU business students as valuable partners in this initiative. Before the meeting, students work as a group in developing a presentation for Chamber officials. Their presentation details the timeline associated with the project, typically in the form of a Gantt chart. The Chamber provides input regarding local businesses, and introduce students to their organization, its purpose, goals, and activities. The Chamber also provides an overview of membership and recent changes since the last iteration of the project. They provide students with a list of new, closed, and relocated businesses, and also introduce the class to the Chamber website and its resources. Students understand from the conversation that they will engage local business owners and help them manage their virtual presence in Google Maps. Specifically, student work will ensure business information on Google Maps is current and in their correct locations. The class then develops a Letter of Intent that is sent to the Chamber of Commerce. The letter formalizes the relationship between all parties, and briefly outlines the objectives, steps involved, and timeline.

The second phase is designed to afford students with experience validating geospatial data. The class then examines the list of current Chamber members and discuss how to equitably divide them among the teams. Total number of businesses that are members of the Chamber of Commerce varies from year to year, but consistently averages about 60. Most are in the Ada business district, along Main Street, within walking distance from our Dicke College of Business Administration. Students can easily visit several businesses during a fifty-minute class meeting, perform the required tasks of this project, and return to campus in time for their next class.

Once the students divide the list of businesses, the instructor develops a spreadsheet that is shared with all students. The class uses the spreadsheet to manage work, monitor progress, and flag any problems encountered. The Chamber website provides the correct name, street address, website, and telephone number for each business member. Students can complete most of the work involved in this phase of the project in the classroom, simply by cross-referencing information on websites, Google Maps, and other online sources. Each team, however, will encounter problems that will require them to utilize other methods for validating and updating business information. One common issue involves the location of business chains in Ada which use the address of their headquarters instead of that for the local business. Another challenging scenario that teams encounter entails businesses that have no website. These are predictable and common issues related to geospatial data quality control and can be easily rectified with a little effort.

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The third phase of the project is designed to provide students with experience editing geospatial data. Editing data in Google Maps is fairly simple and straightforward. Two types of edits exist in the geospatial data verification process. The first involves the physical location of businesses in Google Maps. Students verify the location of each business marker and, if a marker is in the wrong location, students use the Google Maps editing tools to move the marker to its correct location. Another scenario involves the creation of new businesses in Ada. When this occurs, students use the editing tools to create a new marker in Google Maps for the business. The second type of data edit involves verifying and updating the business attribute information (hours of operation, website URL, telephone number, etc.). For example, when a student notices that a Google Maps business marker has the wrong telephone number, they use the editing tools to enter the correct number. These edits typically take no more than a week to post in Google Maps. It should be mentioned that, while Google Maps continues to update its application, Google has not made any major changes to its editing tools since the project's inception in 2014.

The fourth phase of the project is designed to provide students with experience creating information in Google Maps that may help improve business image and attract customers. Google Maps provides the ability to easily upload pictures and post comments to any location marker in their interface, including business markers. Phase four requires the students physically visit each of their assigned businesses, and then take and upload at least two high-quality pictures to the business markers in Google Maps. We discuss methods for taking high-quality pictures in class and emphasize the value of pictures posted to business markers in Google Maps. Students typically enjoy this phase, and are mindful of issues related to taking and uploading pictures, such as perspective, contrast, blur, and background annoyances.

The project concludes with the class as a whole presenting to the Ada Chamber of Commerce and its members. After the presentation, we discuss strategies on how to effectively improve the project. This is followed by an informal networking session.

RESULTS

By all accounts, the project has proven very successful in achieving its objectives. ONU business students learn the importance of maintaining virtual business data in a manner that is educational as well as enjoyable. Table 4 shows that student responses on course evaluations are consistently high and averaged above 4.5 out of 5 (strongly agree). One student replied that "I liked how it incorporated real-world concepts" (Dicke College of Business Administration, 2019). Another responded "fun class! He makes it more interesting. Allowed for a nice break from the same lecture style classes that we have every day."

Table 4. Course Evaluation Mean Responses, 2017-2019

Question	Mean (out of 5)
Was designed to foster learning of the course material.	4.7
Provided me with an important skill set needed to further studies in this field.	4.8

The authors cannot understate the importance of using an application that is popular with students. The project survey, in which we demonstrate the high use of Google Maps among students, also increases student buy-in. One student responded on their course evaluation that "I use Google Maps all the time to get to businesses. My friends and I always read restaurant reviews and look at uploaded pictures before we choose where to eat. I had no idea we could edit points and other business data, but learning that was easy and fun. So glad I took this class and the instructor let us use Google Maps!" (Dicke College of Business Administration, 2019).

It should also be noted that the Ada Area Chamber of Commerce and its members also appreciate this project. They value our maintaining their important virtual business information in Google Maps. According to David Dellifield, 2017 Chamber President, "when Google is the go-to for most people in exploring local business, using Google Maps allows local businesses to reach their potential customers with a virtual storefront and experience. And it forces ONU business students to interact with local business owners toward the common goal of improving our community" (D. Dellifield, personal communication, May 6, 2020). Deb Curliss, the current Chamber Director, says "this project helps students as well as visitors coming to our community. A great addition to our business community" (D. Curliss, personal communication, May 6, 2020). The member businesses of the Chamber were also

quick to provide feedback to this project. Fred Reichert, owner of Reichert's Clothing stated that "Professor Wilson brings his students into my clothing store every term, many for their first time. And his business project helps me reach a wider clientele through Google Maps. That's very important for family-owned businesses like mine. I hope that he and his students continue their project" (F. Reichert, personal communication, May 15, 2020). Chad Hays, owner of Hays Insurance, wrote that "for family-owned local businesses like mine, it's vital to maintain our virtual presence. I'm glad Professor Wilson project teaches students these valuable skills" (C. Hays, personal communication, May 6, 2020).

CONCLUSIONS AND DISCUSSION

The main objective of this paper is to demonstrate that course instructors can leverage student familiarity with certain computer applications in the development and successful implementation of high-impact service learning projects. The authors present this project as an example, which gauges student use and interest in online mapping apps and reveals their preference for Google Maps, which is also increasingly valued by business owners and consumers. A simple class survey conducted early each term will reveal the prevalence of student use of any app. Sharing survey results with students also has the effect of increasing their buy-in as it demonstrates that the project will employ an app that they already value in their daily lives.

It is worth mentioning that the authors have employed this particular project each Fall and Winter term since 2014, and expect to continue indefinitely. Several factors lend themselves to this high degree of sustainability. First, it directly addresses an important need of the local Ada Area Chamber of Commerce and its member businesses who recognize the increasing correlation between commerce and spatial applications such as Google Maps. In short, many modern consumers utilize Google Maps to help them make business-related decisions. Therefore, ensuring that spatial business data provided in these apps is accurate is important to the Chamber, its members, and modern consumers. As reliance on virtual data increases, so then will this correlation. Second, this project leverages the industry standard of online navigation apps in Google Maps. Google Maps popular functions, its wealth of highly accurate spatial data, and its easy-to-use editing capabilities lend itself to its dominance in this market. Third, most modern undergraduates already possess direct knowledge using Google Maps. This familiarity lends itself to student buy-in and engagement during the project. Fourth, and perhaps most important, the project continues to directly address course and major objectives related to HIPs and business-related concepts. Students engage local business owners and learn, for example, the importance of spatial relationships that exist related to supply chain management and marketing.

The course instructor has not implemented any major changes since beginning thie project in 2014. This is mainly due to careful planning with DCBA faculty and the Ada Area Chamber of Commerce officials and members. To facilitate ease-of-access, we migrated from Microsoft products housed in ONU network drives to Google apps stored and accessed in Google Drives. We also has made minor changes to Google Maps editing instructions as the company implemented app improvements. However, the major objectives, tasks, and progression of the project through a particular academic term have not changed.

One major concern involved the volume of edits required to spatial business data. Specifically, as we initially planned the project objectives, we did not know if Ada commerce changed enough between terms to warrant offering the project in both the Fall and Spring. Ada commercial business, however, proved to be quite vibrant, with new businesses opening and other businesses closing or moving. Each term provides ample opportunity for new students to edit and create spatial business data in Google Maps, as well as validate existing information for businesses that has not changed.

Business faculty at other institutions would likely find replicating this project to be worth the effort. The authors strongly suggest that a formal relationship be made with the local chamber of commerce, and that this be done during the initial planning phase with careful consideration of course and major objectives. The local chamber would most likely welcome the opportunity to work toward the common goal of maintaining virtual business data, and would prove invaluable in developing connections with member businesses with the same aspirations. To help ensure student buy-in and engagement, we also strongly suggest developing and implementing a survey of online mapping applications used by enrolled students, and that this be performed at the beginning of each term. This would also allow the course instructor to gauge the worth of applications before choosing one to use during the project. With regard to the location of businesses, this project is flexible enough to implement several strategies.

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The instructor could choose businesses that are within short walking distance from classroom, as it allows fieldwork during class time. Classes in universities in large cities may be able to select businesses in particular neighborhoods and perform site checks during field trips during evenings or weekends. If the project maintains a high level of student engagement, and achieves its academic objectives, it will succeed. Identifying and using an online mapping application that is familiar with students will help the instructor achieve this objective.

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Peer Coaching and Peer Feedback: Two Models for Enhancing Student Development

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ABSTRACT

Peer feedback, and to a lesser degree, peer coaching, is becoming widespread at all levels of higher education, professional training, and even high school. As with any innovation, a successful peer coaching/feedback program depends on a number of contextual factors. The authors present two very different examples of utilizing peer coaching in one case and peer feedback in the other to enhance student development. One case involves a Freshman Introduction to Business course; the other involves an upper level Negotiations course. Despite the two very different cases, the authors draw general conclusions about the contextual factors that can lead to a successful relational learning program.

Keywords: peer coaching, peer feedback, mentoring, Introduction to Business Course, Teaching Negotiations

INTRODUCTION

Both the academic and the professional working community have been increasingly applying the concept of relational learning in the form of peer coaching, peer feedback, and mentoring to facilitate development. Relational learning can take many forms but it generally involves the process by which two or more peers work together for the purpose of developing skills or tasks, content knowledge, interests, mutual support, learning challenges, career development, and self-confidence. (Robbins, 1991) Two of these forms, peer coaching and peer feedback, are on the short-term end of a continuum of relational learning models that range from the short-term limited time interactions discussed here to longer-term ongoing mentoring relationships. While peer feedback involves anonymous comments, peer coaching is more personal, involve face-to-face interaction.

Numerous studies have shown the positive impact of relational learning on the development of one or both of the coaching dyad in the business environment (Neese, 2018, Friedman, 2015) and the academic community. (Parker, Wasserman, Kram and Hall, 2015). Despite the growing popularity, the practice often does not achieve its goals. A recent study (Neese, 2018) found only a third of respondents considered the program at their organizations as "very" or "extremely" effective.

There is adequate anecdotal and empirical research to support the concept of relational learning, but more work needs to be done to understand the contextual factors that contribute to a successful peer-coaching program.

The work presented here began when the authors, teaching in very different business school courses, started sharing experiences with using peer coaches in one case and peer feedback in the other and shared thoughts about what worked and what needed to be done to make the activity more effective. Here we present our experiences in two different courses, one a first year "Introduction to Business" course, and the other, an upper level elective in Negotiations. After describing the activities in each case, we will share the responses and draw some conclusions about the conditions and contextual factors that contribute to program success. Our hope is that while the authors share similar interests, our diverse approaches will help create a deeper understanding of what makes for a successful coaching program.

BACKGROUND AND RESEARCH

Research about relational learning goes back to the 1950s when studies found that so much of teacher training was ineffective in terms of applying classroom education to the field. Resulting changes and innovation in teacher education were based on theories that "teacher training would be far more effective if student teachers formed small peer coaching groups." (Showers and Joyce, 1996). This integrated well with evolving notions of the classroom as

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community with an emphasis on greater involvement and social connections. Astin (1993) concluded "the student's peer group is the single most potent source of influence on growth and development during the undergraduate years."

These authors, as well as others, suggested that simply using peer coaching would have little impact without carefully managing the context in which the peer coaching took place. Early efforts at implementing enhanced coaching first focused on faculty doing the coaching but found that peers were just as effective at coaching, at least in the context of teacher training (Baker and Showers, 1984). Questions remained about whether young adults in a non-work environment could be effective coaches.

Subsequently, the concept of peer coaching became more widespread and broadened to include mentoring and peer feedback and moved beyond teacher training into other professional training and into higher education and even secondary education. As various forms of relational learning spread, research followed.

Since these early efforts, much research has focused on the efficacy of peer coaching and peer feedback including:

- Improved achievement and attitudes (Topping 1998)
- Increased grades (Rodger and Tremblay, 2003)
- Improved writing and critical thinking (Kuh, G.D., Kinzie, J., Schuh, J.H. and Whitt, E.J. 2010)
- Cognitive gains and decreased distress (Fantuzzo, J.W., Riggio, R.E., Connelly, S. and Dimeff, L.A. 1989)
- Student retention, learning, social, and emotional development (Cuseo, J., Fecas, V.S. and Thompson, A. 2007)
- Improved student performance (Cho and Cho, 2011)
- Growth and development (Astin, 1993)
- Critical thinking and empathy (Hanrahan and Isaacs, 2001)

Meek, Blakemore and Marks (2017) add "Students gain from reviewing as well as from their own work being reviewed." They go on to note that peer coaches can be in a better position to give on the spot feedback; faculty have to deal with dozens of students and are rarely in a position to observe and give specific coaching to individual students.

This survey of research, covering many different contexts, supports the notion of the positive effect of peer coaching on a variety of desirable outcomes and with students covering a wide range of ages and abilities. Topping (1998) concluded the research on the practice of peer coaching yields "adequate reliability and validity in a wide variety of applications."

Some of the research includes caveats and not all resulted in positive conclusions. For example, Topping (2010) suggests that "hard evidence is mixed, possibly because of the variability of approaches being used." Showers and Joyce (1996) similarly caution, "There is no evidence that simply organizing peer coaching or peer study teams will affect students' learning environments." Design and implementation must be carefully considered.

CASE ONE: Peer Feedback in a Senior Undergraduate Negotiation Course and an MBA Negotiation Course

This case focuses on two classes in Negotiations, one Graduate and one Undergraduate. The classes were structured similarly and each class had forty students. Each class in the semester long course involved a real time role play simulation, either involving a one on one situation, a two on two situation, or a multi-party negotiation. After each negotiation, students were asked to provide feedback to their counterparts. This was done anonymously on a Google questionnaire. In the larger six party negotiations, students were asked to give coaching to any two students in the group.

The goals of adding peer feedback to the class included:

- Provide deeper insight into the negotiator's strengths and areas for improvement
- Accelerate the learning process in negotiations
- Help develop skills in observing and critiquing a negotiator
- Improve negotiator's skill level

In an ideal situation, students would conduct this kind of feedback face-to-face after each negotiation. But it was difficult getting students to give honest and helpful feedback while face-to-face.

Format: A google questionnaire was used (See Appendix A). This is just one of a number (e.g. qualtrics) of online tools that could have been used. This tool allowed the instructor to quickly sort the responses first by the student providing the feedback to see how each student carried out the assignment. Then the responses could quickly be sorted by recipient so all those comments pertaining to a particularly student could be collected and sent to that student.

All students had a "negotiations skills checklist" (Appendix B). This list has been used in a number of different situations throughout the course, so students are familiar with it. In addition, two quantitative questions are included:

1. Is this person trustworthy?
2. Would you want this person negotiating for your organization?

We wanted to use an overall general evaluative question and found from past experience, that students were likely to be more objective with a question like this rather than "how would you rate the negotiator."

We felt it was important that the comments be anonymous, given normal reluctance to give critical feedback. Of course, students could self-identify.

Grading: We told students explicitly that the purpose of their peer feedback assignment was purely developmental and had no effect on the receiver's grade. However, the task of writing the coaching comments, in terms of timeliness, quality, and thoughtfulness of the comments was part of the overall grade.

Distribution: In an earlier version of this exercise, comments were distributed to each student at the end of the semester. There were numerous requests to share comments earlier so students can make "midcourse" corrections. We did that in these current classes.

Examples of Responses
1. Effective:
2. Planning and strategy: It was evident that Valerie and her partner had a clear idea of what they wanted and a strategy of how they were going to achieve it.
3. First approach: Valerie was effective in the beginning of the negotiation by initiating small talk
4. Self confidence: Valerie was very self-confident about her argument and was assertive about it

Areas for Improvement:
1. Communication: Valerie should wait for the other person to finish talking in order to begin her argument.
2. Balance of empathy and assertiveness: Did not show empathy, she was only assertive of why her option was better.
3. Hardball tactics: Tried to bluff in the beginning which made me doubt her trustworthiness.

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2. Skill areas that Ruth excelled in:
-Planning: It was evident in her approach to create family-centered value around the sugar bowl that she had thought about the case before class
-Likability: Ruth was warm and open with me as the seller - I enjoyed talking to her
-Impact Management: Ruth was confident in her delivery of her backstory and was careful with what she shared from her story with me

Skill areas that are opportunities for improvement:
-Rejection: I sensed a little hesitation in lowering the price after I proposed the higher counteroffer. I think with a bit more practice and confidence this could be a strong point for Ruth.
-Trustworthiness: Ruth's negotiation strategy was based off of lying to the seller. While it was not immediately evident that she was doing so, I would recommend using other tactics in negotiations that might take longer or be more involved to prevent the lies from inhibiting her in any way.

Results: In a post course survey, students rated this activity very highly. On a question of "how helpful was the peer feedback" responses averaged 4.7 out of 5.0 (Graduate) and 4.6 out of 5.0 (Undergraduate). Some of the qualitative responses are *below:*

> *"Giving Feedback to someone else helped me to think about my own negotiation skills."*
> *"It was eye-opening to see some of the comments. I need to give this a lot of thought and need to address some of these issues."*

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"I found it valuable to receive comments from different viewpoints."
"These comments were the most helpful part of the course."
"The comments reinforced my sense of my own strengths and weaknesses."
"I was struck and disappointed at how many people did not rate me very high in trustworthiness. I don't understand why but need to find out."
"I found a lot of value not only being coached but serving as a coach; it helped develop my sense of what makes for effective negotiations; I probably learned more about negotiations (do's and don'ts) from coaching as from engaging in negotiations."

Some students expressed discomfort giving candid feedback. Doubts about the exercise included:

"I didn't feel comfortable or qualified to coach my peers."
"The comments were wildly inconsistent."
"I'm convinced whoever wrote some of these comments had the wrong person."

Moving forward: To enhance the quality of the experience, we suggest that there be more training at the beginning of the course to increase the consistency of the feedback. It might help to conduct a "fishbowl" exercise with the whole class followed by discussion, so all students have a common experience of providing feedback to the same "public" negotiation. It would help to provide early feedback to students about the quality of their coaching comments and about how to improve their own coaching efforts.

Most of the negative comments focused on the added workload required by the coaching activity; it took time to do well and some found it too challenging to coach others.

CASE TWO: Coaching in a Freshman Course

In an experiment of the role of coaching in freshmen classes, student coaches were introduced into four honors sections of a required first-semester business course at Northeastern University. There were two goals behind the project: to create a more supportive and engaging classroom community for newly arrived students and to give upper level students an opportunity to practice project leadership, managerial, and coaching skills.

The Introduction to Business course revolves around a 14-week entrepreneurial project. Students are exposed to all the functional areas of business during class time and outside of class they work largely independently in groups to create a business "pitch" and comprehensive written plan for an idea that would be "saleable" to a Fortune 100 retail company. Although professors meet frequently with the teams to answer questions and assess progress, there was interest in exploring whether students would feel more connected to the learning process through the use of juniors and seniors as semester-long peer coaches.

Simultaneously, the newly formed office of Student Engagement, Affinity, and Inclusion was invested in providing more leadership opportunities for upper-level undergrads. The structure of the freshman class seemed ideal as a model for introducing juniors and seniors to important managerial skills such as supporting ideation, giving feedback, and empowering a team.

An invitation to apply, with a description of role expectations, was sent to all upper-class honors students who would be on campus during the fall 2019 semester. As part of the application process, students were asked to explain why they were interested in the position. While coaches would be paid for their time, their reasons for wanting to take on the coaching commitment seemed primarily focused on giving back, in meaningful ways, to an experience that had been important in their own educational journey. This may be an unexplored outcome of the value of peer coaching.

**… the Intro to Business project was my entry to solving a real-life business case in a group setting at D'Amore-McKim and I would love to help new students succeed in this class.*

**My professor in [*Intro to Business*] pushed my class to reach peak performance, but it would have been helpful if that guidance was more present and accessible along the way, instead of being restricted to class time. Becoming a coach is a great opportunity for me to give back and provide the same kind of transformational leadership that I experienced, but in a more accessible and consistent capacity.*

**The freshman project was one of the most valuable in-classroom experiences I have had during my time at Northeastern, and I would love to use reflection of my own experience as well as furthered technical knowledge, after taking more classes, to support these students.*

**The project alone encompasses what I believe as key pillars to success in all D'Amore-McKim classes: navigating group dynamics, developing creative solutions, and applying classroom material beyond a textbook example… this class in particular can shape a student's entire experience at Northeastern and I would like to be a part of that.*

**To any freshman coming into an institution like Northeastern, being assigned the project right away is certainly intimidating; working closely with a new group of students, writing their first business plan, and completing formal presentations are a few of the many difficulties this course presents, not to mention all while adjusting to a new school. However, with such a challenge comes great achievement, a message I hope to impart.*

There were twice as many applicants as available openings. In the end, 10 coaches were selected, each with responsibility for one five-person freshman group. To ensure that all coaches understood their obligations, a clear set of guidelines were provided. For example, all coaches had to attend classes when their assigned teams were presenting. In addition, coaches had to hold one-on-one meeting with each student in the first week of the term, followed by weekly sessions with the whole team throughout the semester. [Appendix ?]

Students also had to participate in two skill-building training sessions offered by business faculty early in the term, specifically, "Giving and Receiving Feedback" and "Leading Teams." While these short classes covered relevant project coaching information, a weakness in the program design was lack of follow through on whether the material was actually used and whether it was helpful.

Of interest is the fact that the host professor had minimal required interaction with the coaches. Allowing older students and freshmen to develop a relationship, separate from interference or judgment by the teacher, was the rationale behind the hands-off approach. While professors were always available to convene with any of the parties, there were no mandated check-in procedures. In retrospect, this design flaw affected both coaches and "coached." A few coaches chose to meet frequently with the classroom teachers but most had few or no conversations with the instructor thus losing an opportunity to solicit advice or feedback on problems. Because the ground rules about the coaching role were vague, freshmen were generally reluctant to talk to their teachers about coach performance [e.g. not showing up for weekly meetings]. There was too much uncertainty regarding how negative comments might be used.

At the conclusion of the term, a Qualtrics survey designed to elicit reactions to the program was sent to coaches and students. Both parties reported overall positive experiences but, in many ways, the benefits seem weighted in favor of the coaches, as evidenced by their extensive comments on a post-hoc survey. In contrast, the coaches have had limited opportunities to practice real-life coaching, conflict resolution, and managing a team, thus being able to gain proficiency in these areas was seen as a positive.

Below we include some particularly salient comments from coaches:

(On Giving Feedback) Giving feedback has been one of the most difficult aspects of this position. Because the outcome of the project did not directly impact me, it was more challenging to give negative feedback.

I wanted the group members to feel like they could come to me with non-project issues: college adjustment questions, co-op job search advice, etc. But if I was too critical of their work, I was worried that they would not solicit my opinions.

My approach was to "sandwich" criticism with positive feedback. For instance, I would say, 'I really liked the way you organized your slides, but I think Slide #5 could be removed since it does not add value to your pitch. Otherwise, it was fantastic!'" I realized that this was highly ineffective because the 'improvement feedback" was almost always ignored since they focused only on the positive comments.

Whenever we were tasked with giving them feedback on class presentations, I started by asking them for their thoughts on what they did well and what they did poorly. I think this was effective because they took ownership of their evaluation. Recognizing your own strengths and weaknesses is a powerful skill.

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Rather than telling them the "right" answer, I continually asked questions. They improved their supply chain logistics plan just by trying to answer my questions.

(On Conflict Management and Resolution) Once we got started, I realized that we had some strong personalities on my team, which often led to clashing opinions. This first manifested itself when they were deciding on their actual business concept. Half the group wanted a traditional idea such as introducing tailoring services into a clothing store, while the other half wanted to have automated tailoring integrated into an app to "revolutionize" the tailoring service. This caused a huge impasse, with neither side willing to concede. So I gave the pro-technology students a week to prove to the low-technology side that their idea was feasible. They agreed and the issue was resolved when their research yielded no workable solution. However, they did some small tech additions that the other side liked so it was a win for the whole team.

(On Communication) I struggled to get updates on the project and have meetings. Not having a designated meeting time each week was a big mistake.

Making time to connect with each individual member helped to build cohesion and trust.

In retrospect, I probably needed to schedule more one-on-one meetings.

(On team building) I do not think that any member of my team would have been drawn to each other as friends if they had not been assigned to the same group. Because of the differences in background and personality, finding an efficient way to work together was challenging and took longer than I expected. Building a culture of mutual respect was key and I felt I had to step in many times to remind students of our commitment to be "one team."

The biggest challenge I encountered in building the team was getting the students to break out of their shells and open up as individuals. Sharing personal information about myself helped students reciprocate.

In a post-hoc survey, freshman responded to questions about their coaches with overall highly favorable ratings. Of interest is the complete lack of critical comments.

Survey Questions	% of Responses "strongly agree"
I felt comfortable with the role of the coach in my group	80%
The coach provided feedback that was useful in helping the group move forward on their project	95%
The coach provided information that was useful in helping me understand other aspects of [the Business School] outside of the course.	80%
On a scale of 0 to 5, indicate how important your coach was in regards to each of the following project areas:	% of Responses "always helpful"
Presentation skills	75%
Power Point development	80%
Financial budgeting	80%
Qualtrics Survey	65%
In what ways could the coaches have been better utilized?	*~None. I feel that we received the best utilization that we could have out of [his] participation in our project.* ~[She] *was amazing and was always there to help!* *~Our coach did a fantastic job helping us achieve our goals.* *~The coaching program is an amazing idea and I believe all [Intro to Business classes] should provide them for the groups.*

The lack of negative comments could suggest a near-perfect vetting process of selecting coaches. However, the program was developed very close to the opening of fall term and there were limited training opportunities in place

throughout the semester. Another possible explanation could be the nature of honors students, who tend to be highly focused, organized, and prepared to jump into the rigors of college courses. Given their motivation and skill levels, having an upper class coach may have been perceived as just the right value-add to help them over a few academic hurdles.

In general, based on student feedback, the peer coaching program accomplished the goals originally set out and achieved outcomes not anticipated. This includes the impact on the coaches and the development of their own group and leadership skills. Further study needs to be done to support the conclusions empirically. As has been pointed out, there are a number of suggestions for strengthening the program. More careful advanced planning is critical. More advance planning would allow more training of the coaches. More interaction between the Professor and coaches would also help improve the program and increase the common experience across sections. Increased contact among the coaches would also help increase the commonality of the experience and help spread best practices.

CONCLUSION

Relational learning includes a number of efforts ranging from peer feedback to peer mentoring. We have presented two different models of relational learning, peer feedback in an upper level class and peer coaching in a Freshman Introduction to Business class. Despite the significant differences between the two courses, levels, and approaches, we will try to draw some general conclusions that apply to both of these models, and we would suggest, to relational learning in general. For simplicity in this conclusion, we will refer to those students in both of our cases as "coaches," although the students providing feedback are not technically "coaches" in the relational learning context.

We found both levels, the coaching model and feedback model, require training to be effective. In both cases, those doing the coaching or feedback need to see examples and need to practice. As Topping (2009) suggests, the faculty have to be role models and show the peer coaches how to be effective. The coaches need to see demonstrations and models of how to be effective. We need to provide practice through role-playing as well as feedback. We have the responsibility not to just turn our student coaches loose but to make a reasonable effort to train them. Also, continuous communication between coaches and the faculty would increase the spread of best practices.

The problem of giving honest feedback is an issue in both of our examples. Giving honest feedback is challenging for experienced managers and is certainly a problem for inexperienced students working with their peers. Dealing with this problem involves both working with the coaches and working with the recipients of the feedback. We found that involving the student dyad in the design of both the process and the instrument could help prime students to both give and receive feedback.

We drew a number of other conclusion:

- To increase standardization across coaches, it is important to develop a common template and protocol for observing and providing feedback.
- Faculty need to monitor the coaches and look at the quality of the coaching that is being provided.
- Thought needs to be given to logistics, a factor more critical in the second case than the first. How will coaches and students meet? Who is in charge of the arrangements? What about those who are not participating?
- If it is possible, faculty need to try to check the validity and reliability of the coaching by comparing their assessment of the student with that of the coach.
- Faculty need to make sure they are clear on the goals and objectives of the peer coaching program and that these are communicated to the coaches. Is the focus cognitive gains, behavioral, or social objectives?
- Faculty need to be clear about whether the outcomes of the coaching will be graded.
- If possible and appropriate, faculty should try to involve both the coaches and those being coached in developing the assessment tools and criteria.

Peer coaching can provide a powerful element to a wide variety of courses and level of students as these two case studies suggest. With careful thought, planning, training, organization, and feedback, faculty can create effective peer coaching programs that can have a significant impact on helping to create mutual development for students and their coaches.

Providing feedback, coaching subordinates, and mentoring are critical skills needed in the professional world. Helping students develop these skills should be an important part of the education that we provide our students.

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Ed Wertheim, Ph.D. has been teaching Negotiations and Mediation at D'Amore-McKim School of Business, Northeastern University since 1970; he is also a professional mediator. Like so many of his academic colleagues in the age of the COVID-19 pandemic, he is teaching remotely and spending his time visiting breakout rooms to watch his students negotiate.

Paulette McCarty is an Associate Academic Specialist at Northeastern University where she serves as primary architect for the Introduction to Business Course that is delivered to 500 entering freshmen in the D'Amore McKim School of Business. Her research interests concern the engagement of students in the learning process. The global COVID-19 pandemic has exacerbated the need to examine and adjust traditional educational models to ensure continued student interest.

Appendix A: Peer Feedback Questionnaire (Negotiation Class)

"Peer Feedback" (please refer to the peer coaching guide)...anonymous unless you self identify

Coaching Peer Evaluation: It is critical to provide candid feedback to your negotiating counterpart. During the negotiating session, observe your adversary closely; Immediately after the negotiation, note your key impressions and any specific examples that might clarify your comments to your adversary. Your candid comments may be the single most helpful information the student gets in this course, so be thoughtful and helpful. Sometimes during a negotiation, we get upset with the other person; try to separate your evaluation from your emotions; consider yourself looking down on this negotiation from a balcony and forget that you were a party.

Your Name *

(this is only for the Professor's purposes....to give you credit; .your name is not shared with the person you are commenting on unless you self-identify)

Your answer

Whom are you providing feedback for? (Choose from the list) *

Overall, this person was very effective...(5=totally agree...1= totally disagree) *

This person would represent my organization very well

This person is very trustworthy? (5 = totally agree...1 = totally disagree) *

when this person says something, I have every reason to believe it.

Please use the NEGOTIATION SKILLS CHECKLIST to identify a couple of areas that your counterpart was particularly effective and a couple of areas that need work...Please give specific examples, if possible ...Be sure to include at least one area that this person could improve *

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Appendix B: Negotiation Skills Checklist

Negotiation Skills Checklist (5=very characteristic.. 1= not characteristic at all)

(This list will be used for your journal and for your Peer Coaching)

Name: _____

Please refer to this list when filling out your Journal and giving peer coaching (with coaching, change "I" below to the person you are coaching). At the beginning of the course fill out your sense of how you would evaluate yourself as a negotiator. We negotiate differently in various contexts; for this, try to think of a "work" negotiation (e.g. salary, performance review, resolving conflict with a boss, co-worker, roommate, customer, etc)

1	2	(1) Refers to beginning of course (2) at end of course (5=very characteristic.. 1= not characteristic at all) (You may not be able to assess some of these areas at the beginning of the course)
		Overall I consider myself an effective negotiator: I usually satisfy my interests
		I really dislike conflict; I tend to make concessions in order to avoid confrontation or conflict
		It is important to me to be liked; this can be a problem in my negotiations
		Overall, I consider myself quite trustworthy; I don't bluff or lie in negotiations
		Rejection doesn't bother me; I have no problem asking for things even if I think the answer will be "no"
		Planning and Strategy: I am usually prepared for my important negotiations; I set walkaways, targets. I am clear about what my objectives are. I tend to analyze the problem
		Alternatives: I am usually clear about my alternatives if a negotiation fails (BATNA)
		First approach: At the beginning of a negotiation I try to establish rapport, set a win-win, positive approach
		Focus on the problem, not the person: I am skilled at getting a negotiation to focus on the problem, not the person
		: I am effective at making my **interests** clear to the other side;
		I am effective at finding out the other side's real interests and constraints
		Persuasion: My persuasion skills are strong
		Communications: I am good at the inquiry (ask questions)/advocacy (push my position) balance:
		Communication: I don't talk over people
		I practice **Active Listening**: (listen, ask questions, rephrase the other's statement, good eye contact, ask clarification, use the person's name, etc.
		I practice good negotiation **etiquette**: e.g. thank my counterpart for concessions, praise the person, don't force him/her into a corner, praise him at the end.
		Improved Relationship: When I negotiate, is the relationship better off after than before; will this person want to negotiate with me again?
		Options…Do I tend to try to create value or do I focused on "claiming value"?: Did I explore "expand the pie" options: did I try to find ways of meeting each party's needs
		I tend to "create value," in my negotiation; I don't leave "money on the table."; I tend to maximize potential mutual gains (Pareto Frontier);

		Hardball Tactics: If the other side used hardball tactics (e.g. lying, bluffing) , did I deal with them well; did I use hardball tactics; did they work? What was the result?
		Negotiation Flow: Did I manage information generation and processing….Did I react well in "real time"; did I control the agenda?
		Is the agreement sustainable?… did the agreement avoid problems in the future; were any "strings left untied?" Will we want to work together in the future
		Psychological factors: did outside factors (eg. emotions) affect the outcome (their efforts or ours)
		Would I be considered having realistic self-awareness….Realistic self-confidence…understands strengths and limitations…knows when to rely on someone else…
		Would I be considered having "emotional empathy": understands other perspectives…welcomes other points of view…understands own feelings
		I am **Emotionally Balanced**: I don't "lose it" (unless used strategically)…I I calmly let others know what's wrong and how to move forward; I am calm under pressure. easily laugh around me?
		People like negotiating with me
		I show a good balance of empathy and assertiveness
		Dominant Influence strategies: Rate yourself on each of these nine influence strategies: note each of these may or may not be appropriate in particular situations.
		Empowerment: e.g. I like to get others' support and involve them in decision making; I look for solutions that satisfy everyone; I give others credit, recognition; I ask questions
		Interpersonal Awareness: I try to understand what motivates others; what their concerns are; I can anticipate how others will react to ideas, information; I adjust my approach to others' needs, concerns
		Bargaining: I will suggest mutual compromises when I meet resistance; I will offer a favor to gain support
		Relationship Building: I am good at establishing rapport; I have a wide network; I try to maintain relationships with people I may need to influence
		Organizational Awareness: I tend to persuade by enlisting the support of others, one by one, to build support for an idea
		Common Vision: I like to persuade others showing how my ideas advance a common good; I appeal to values or principles
		Impact management: I present ideas convincingly and with self-confidence
		Logical Persuasion: I am effective at persuading people with logic; I typically have well thought out arguments; I rely on facts and data to convince others
		Coercion: If necessary, I will use the power of my position to gain concessions
		Overall what skills from the above list do you feel you will need to focus on in the course?

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Manuscript Guidelines, Submission and Review Process

TOPIC AREAS (BUT NOT LIMITED TO THESE):

- Course design – current courses, new courses, new trends in course topics
- Course management – successful policies for attendance, homework, academic honesty …
- Class material
  - Description and use of new cases or material
  - Lecture notes, particularly new and emerging topics not covered effectively in textbooks
  - Innovative class activities and action-learning – games, active learning, problem based
- Major or emphasis area program design that is new or innovative.
- Assessment – all aspects including AACSB and university level assessment strategies and programs
- Integration of programs or courses with other academic disciplines
- Internship programs
- Business partnerships
- Successful student job placement strategies
- Any topic that relates to higher education business education.

SUBMISSION AND REVIEW PROCESS:

Copyright

- Manuscripts submitted for publication should be original contributions and should not be under consideration with another journal.
- Authors submitting a manuscript for publication warrant that the work is not an infringement of any existing copyright, infringement of proprietary right, invasion of privacy, or libel and will indemnify, defend, and hold Elm Street Press harmless from any damages, expenses, and costs against any breach of such warranty.

Prepare your manuscript

- See the Style Guideline page for specific instructions.
- Articles must make a contribution to business education innovation.
- Manuscripts should be limited to 8 to 10 pages or less, although longer will be accepted if warranted.
- Articles can be either regular research papers, or shorter notes that succinctly describe innovative classroom teaching methods or activities.
- Manuscripts should be completely finished documents ready for publication if accepted.
- Manuscripts must be in standard acceptable English grammatical construction.
- Manuscripts should be in MS Office Word format. Word 2007 files are acceptable, as are earlier versions of Word. If you are using a new version of Word after Word 2007, save in Word 2007 format.

Submit your manuscript

- Manuscripts may not have been published previously or be under review with another journal.
- Submit the manuscript attached to an email to **submit@beijournal.com**
- We will respond that we have received the manuscript.
- Article submissions can be made at any time.
- Submission deadlines: September 15 for December issue, March 15 for June issue.

Manuscript review

- The editor and reviewers will review your submission to determine if 1) the content makes a contribution to innovative business education, 2) is of the proper page length, 3) is written in proper grammatical English, and 4) is formatted ready for publication.
- Submissions not meeting any of these standards will be returned. You are invited to make revisions and resubmit.
- If the submission meets the standards, the manuscript will be sent to two reviewers who will read, evaluate and comment on your submission.
- The editor will evaluate the reviews and make the final decision. There are 3 possible outcomes:
    - Accept as is.
    - Accept with minor revisions.
    - Not accepted.
- Reviews will be returned promptly. Our commitment is to have a decision to you in less than two months.
- If your paper is not accepted, the evaluation may contain comments from reviewers. You are invited to rewrite and submit again.

If your paper is accepted

- Minor revision suggestions will be transmitted back to you.
- Revise and send back as quickly as possible to meet printer deadlines.
- Upon final acceptance, we will bill you publication fees. See www.beijournal.com for latest per page fees. Sole author fees are discounted.
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- All publication fees should be remitted within 10 business days of acceptance, if possible.
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- Cancellation cannot occur after the paper has been formatted into the final printer's file.

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Manuscript Style Guide and Example

An example is provided following these instructions.
This style guide represents style guidelines in effect for future issues, but always check for updates online.
Authors are responsible for checking for correct grammar, construction and spelling. Authors are also responsible for formatting pictures, tables, and figures such that a pdf black and white file sent to the publisher will reproduce in a readable manner.

General Setup:

- All fonts other than exceptions noted below: Times New Roman. 10 point for text. Other sizes as noted below
- Margins: 1 inch on all sides of 8½x11 inch paper size.
- No headers or footers.
- Absolutely no footnotes or endnotes via footnote or endnote formatting. For footnotes or endnotes, place a number of the footnote in the proper location as a superscript. Then at the end of the paper or bottom of the page, add the footnote as text with a superscript number to correspond to that footnote.
- Page numbering bottom centered.
- No section breaks in the paper.
- No color, including url's. Format to black. No color in tables or figures. Use shading if necessary.
- All pages must be portrait orientation. Tables and figures in landscape orientations should be reformatted into portrait orientation.
- All paragraphs should be justified left and right, single spaced, in 10 point Times font, no indent on first line, l line between each heading and paragraph.
- One line between each paragraph.

Titles, Authors, and Headings:

- **Title centered 14 point bold**. One line between title and author's name.
- Authors: centered, 12 point. Name, affiliation, state, country.
- One line space to **ABSTRACT** (title 10 point, bold, all capitalized, aligned left; text of abstract 10 point, no bold)
- After **ABSTRACT**, one line space, then **Keywords**. Followed by one line space to first major heading.
- **HEADINGS, MAJOR**, 10 point, bold, all capitalized, aligned left.
  The specific headlines will be based on the content of the paper, but major sections should at a minimum include an abstract, keywords, introduction, conclusion, and references.
- **Sub-headings**: 10 point, bold, first letter capitalized, no line to following paragraph. Align left.
- *Third level headings: Italic*, 10 point, first letter capitalized, no line to following paragraph. Align left.
- **Keywords:** heading: 10 point, bold, first letter capitalized, no line to following paragraph. Align left. Your list of keywords in 10 point, no bold.

Tables, Figures and Graphs:

- All fonts 10 point.
- Numbered consecutively within each category. Table 1, Figure 1 etc.
- Title: 10 point, bold, left justify title, one space, then the table, figure, etc.
- Example: **Table 1: Statistical Analysis**

References:

- APA format when citing in the text. For example (Smith, 2009).
- References section: 8 point font, first line left margin, continuation lines 0.25 inch indent. Justify left and right. No line spacing between references. List alphabetically by first author.
- Specific references: Last name, First initial, middle initial (and additional authors same style) (year of publication in parentheses). Title of article. *Journal or source in italics.* Volume and issue, page number range.
- Example: Clon, E. and Johanson, E. (2006). Sloppy Writing and Performance in Principles of Economics. *Educational Economics*. V. 14, No. 2, pp 211-233.
- For books: last name, first initial, middle initial (and additional authors same style) (year of publication in parentheses). *Title of book in italics.* Publisher information.
- Example: Houghton, P.M, and Houghton, T.J. (2009). *APA: The Easy Way!* Flint, MI: Baker College.

Example (note that this example represents a change from previous style guides)

Evidence to Support Sloppy Writing Leads to Sloppy Thinking

Peter J. Billington, Colorado State University - Pueblo, Colorado, USA (12 point)
Terri Dactil, High Plains University, Alberta, Canada

ABSTRACT (10 point, bold, all capitalized, left justified)

(text: 10 point Times font, no indent, justified, single space, 150 words maximum for the abstract)
The classic phrase "sloppy writing leads to sloppy thinking" has been used by many to make writers develop structured and clear writing. However, although many people do believe this phrase, no one has yet been able to prove that, in fact, sloppy writing leads to sloppy thinking. In this paper, we study the causal relationship between sloppy writing and sloppy thinking.

Keywords: sloppy writing**,** sloppy thinking **(10 point, bold title, first letter capitalized, left justified).**

INTRODUCTION (10 point, bold, all capitalized, left justified).

The classic phrase "sloppy writing leads to sloppy thinking" has been used by many to make writers develop structured and clear writing. However, since many people do believe this phrase, no one has yet been able to prove that in fact, sloppy writing leads to sloppy thinking. Is it possible that sloppy writing is done, even with good thinking. Or perhaps excellent writing is developed, even with sloppy thinking.

In this paper, we study the writing of 200 students that attempts to test the theory that sloppy writing leads to sloppy thinking.

PREVIOUS RESEARCH

The original phrase came into wide use around 2005 (Clon, 2006), who observed sloppy writing in economics classes. Sloppy writing was observed in other economics classes (Druden and Ellias, 2003).

RESEARCH DESIGN

Two hundred students in two business statistics sections during one semester were given assignments to write reports on statistical sampling results. The papers were graded on a "sloppiness" factor using…

Data Collection (Sub-heading, bold but not all caps, 10 point, aligned left, bold, no line after to paragraph)
The two hundred students were asked to write 2 short papers during the semester…

Data Analysis(Sub-heading, bold but not all caps, 10 point, aligned left, bold, no line after to paragraph)
The two hundred students were asked to write 2 short papers during the semester…

DISCUSSION

The resulting statistical analysis shows a significant correlation between sloppy writing and sloppy thinking. As noted below in Figure 1, the amount of sloppy writing increases over the course of the spring semester.

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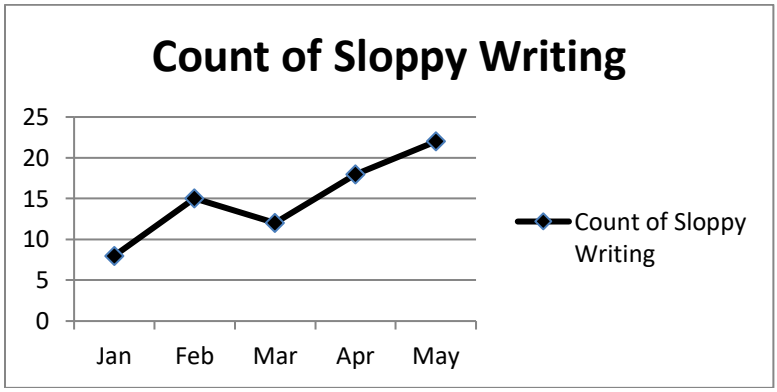
Figure 1: Sloppy Writing During the Semester



The count results were compiled and shown in Table 1 below.

Table 1: Counts of Good and Sloppy Writing and Thinking (bold, 1 line after to table, left justify)

	Good Thinking	**Sloppy Thinking**
Good Writing	5	22
Sloppy Writing	21	36

*-Indicates significance at the 5% level)

As Table 1 shows conclusively, there is not much good writing nor good thinking going on.

CONCLUSIONS

The statistical analysis shows that there is a strong relation between sloppy writing and sloppy thinking, however, it is not clear which causes the other…

Future research will try to determine causality.

REFERENCES (title10 point, all caps, bold, align left, one line to first reference)
(1line spacing) (All references 8 point, indent second line 0.25 inch, justify left and right)

Clon, E. (2006). Sloppy Writing and Performance in Principles of Economics. *Educational Economics*. V. 14, No. 2, pp 211-233.

Devad, S. and Flotz, J. Evaluation of Factors Influencing Student Class Writing and Performance. *American Journal of Farming Economics*. V. 78, Issue 3, pp 499-502.

Druden, G. and Ellias, L. (1995). *Principles of Economics*. New York: Irwin.

(short bio section optional, can run longer than these examples; removed before sent to reviewers)

Peter J. Billington, Ph.D., is a professor of operations management at Colorado State University – Pueblo. His research interests include lean six sigma and innovative education.

Terri Dactil, Ph.D., is a professor of business communication in the College of Business at High Plains University, Alberta, Canada. His research interests include instructional methods to improve student communication skills.

Endnote: (do not use word footnote or endnote formatting to accomplish this; see comments above)