The Effect of a Blended Teaching Method on Student Performance and Satisfaction in a First Accounting Course in Higher Education

by

Gregory John Krivacek

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Advisor: Mary A. Hansen, Ph.D.

Fan-Yu Lin, Ph.D.

Nathan N. Taylor, Ph.D.

Mary Ann Rafoth, Ph.D., Dean

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Abstract

The demands of the 21st century student, professional accounting organizations, and employers have educators continually searching for the best instructional methods in the undergraduate first accounting course in higher education. This important course has been mostly offered to a diverse group of enrolled business and non-business majors in a face-to-face environment with the online method quickly increasing. A blended instructional method combining the best of the face-to-face and online methods was implemented and utilized in this quasi-experimental design to measure students' performance and satisfaction compared to a face-to-face environment. The study was completed at one university during two semesters using two instructors with similar teaching styles. The face-to-face (control group) consisted of 148 participants and the blended (treatment group) consisted of 147 participants. A pre- and post-test using a Gain variable score to measure performance of both equivalent groups, a researcher-constructed post Likert scale survey to measure the two groups' satisfaction, and a focus group interview and survey on the participant perspectives of the advantages and disadvantages of the blended instructional method were instruments used in this study. The results found positive performance gains regardless of the instructor or type of instruction. The research also showed that the student performance varied by the instructor teaching the course. The findings additionally revealed that both groups were equally satisfied and that satisfaction was not dependent on instructor or type of instruction. Finally, eight themes emerged from the nine focus group participants with additional support provided by the survey given to all the blended participants. This research suggested there was no evidence to preclude the blended instructional method

from being offered to students. This blended format builds a new approach, offering students the instructor/student and student/student interaction demanded from the face-to-face environment with the benefits of flexibility and technology from the online environment. Few studies have been conducted on the blended instructional method in a first accounting course. Additional research is suggested to find the optimal design of the blended instructional method to further meet the demands of professional accounting organizations, employers and the 21st century student.

Keywords: Blended teaching method, first accounting course, higher education, face-to-face teaching method, online teaching method, 21st century student, social benefits, flexibility, technology, synchronous teaching methods, asynchronous teaching methods, online cheating

Chapter 1 – Introduction

First Accounting Course Today

The first accounting course in today's higher education business schools' curricula is a critical class. The American Institute of Certified Public Accountants (AICPA) has reported that enrollments and degrees in accounting in higher education and hiring by the public accounting organizations have increased significantly (AICPA, 2013). The Accounting Education Change Commission (AECC) emphasized the special attention the first accounting course deserves as a building block in assisting those in professions who make important decisions using accounting information (AECC, 1992).

The first accounting course in higher education is a one-semester class in business schools and includes a diverse group of business students consisting of both accounting and non-accounting majors. The class also includes non-business students from other fields such as engineering, actuarial science, and computer information systems. In fact, most students attending the first accounting class are non-accounting majors, since the course is required for numerous majors (Malgwi, 2006).

Warren and Young (2012) stated that in serving this diverse population, the first accounting course must be designed to prepare accounting majors for higher-level accounting courses, while offering all business and non-business majors the necessary foundations. Cottrell and Robison (2003) noted that the objectives of the first accounting course are to understand the technical information, gain a foundation, and be able to apply it. To design a first accounting course that fits the needs of this diverse group of students becomes a challenging task for many instructors. Tickell, Lim, and Balanchandran (2012) indicated that making this course challenging, interesting, and

useful for this diversity of students generates much difficulty for accounting educators today. Mladenocic's (2000) research indicates that students taking a first accounting course have negative perceptions about the course and these stereotypes continue to be developed and reinforced during the class.

Face-to-Face First Accounting Course: The Design

The face-to-face method of instruction has been the primary design for the first accounting course in the undergraduate classroom since formal accounting education was first undertaken. Within the face-to-face first accounting course, students typically meet with the instructor in the classroom once in the evening or two to three times per week during the day for a 15-week semester to account for three credit hours of their 120 credits required for their Bachelor of Science degree (Robert Morris University Registrar, 2014).

In the face-to-face environment, the accounting instructors deliver the information in the classroom primarily by lecturing and reviewing homework solutions (Warren & Young, 2012). However, the lecturing and reviewing of homework solutions in class may not engage the students adequately during the first accounting course. Francis (2012) found that students are not engaged in the face-to-face setting, resulting in more Facebooking, Googling, or web-surfing during class. Geiger and Ogilby (2000) indicated in their research that both accounting and non-accounting majors showed increased boredom while taking the first accounting course in a face-to-face environment. In a UK focus group, students reported that they had increased class absenteeism due to the fact that the instructor's main instructional strategy was lecturing in the face-to-face environment (Fearon, Starr & McLaughlin, 2012). A survey of higher performing

students in the first accounting course indicated that these students did not major in accounting because the course was considered not challenging and "dull" (Williams, 2011). Warren and Young (2012) also found a similar perspective, stating that the face-to-face method reinforces the negative stereotypes of accounting as "bean counting" and "number crunching" and does not serve the diversity of students enrolled in the first accounting course.

There have been increasing failure rates in the first accounting course (Joubert, Viljoen, & Schall, 2013; Lay, 2008). Research indicates that it is not the information presented in the first accounting course that is causing the higher failure rates, but the instructional methods employed to present the information that have become stale (Lay, 2008). Furthermore, the instructor's methods in a face-to-face environment of having students read the textbook, reviewing homework in-class, and taking the exam are not the most effective and efficient methods with this technology-savvy, diverse group of students. Lay (2008) further indicates that modifying the traditional method by integrating technology with additional flexibility is a demand of these students in the first accounting course. Lay's (2008) study indicated that students surveyed indicated a positive response, higher motivation, and better performance when instructors integrated online tools in the first accounting course. In addition, the technological tools provided students more flexibility in their learning.

In contrast, Joubert et al. (2013) stated that existing studies do not clearly delineate all of the reasons for the high failure rates in the first accounting course. Furthermore, their research indicated that students who have negative perceptions coming into the first accounting course have lower performance results. The instructor and

teaching methods play a vital role in helping students maintain a positive attitude and performing to expectation. In addition, Yu (2011) indicated the importance of hiring and training accounting faculty to address the flexibility and technological needs of the students. Furthermore, such faculty training will help enhance the students' performance in the first accounting course.

Advantage of Face-to-Face Teaching: Social Benefits

The major advantage of having a face-to-face first accounting course is the social benefit from a strong interaction and collaboration between students and the instructor. Paechter and Maier (2010) stated that the major strengths of the face-to-face environment include the interaction and communication with both the students and instructor. One of the most significant advantages of the face-to-face environment is that students can communicate and obtain immediate feedback from the instructor and other students in the classroom setting (Chou & Chou, 2011). Wuensch, Aziz, Ozan, Kishore, and Tabrizi's (2008) research found that students at 46 universities taking both a face-to-face and online course, ranked classroom social benefits, interactions, and visibility of body language and expressions as a critical element.

In the face-to-face environment, students directly experience the human connection of speaking to other students and their instructor in their classroom and during the office hours. Praechter and Maier (2010) indicated that instructor and student interaction and discourse are critical to the face-to-face classroom. The instructor's goal of building community, collaboration, and interaction in the first accounting course is necessary to provide comfort and security, as well as identify the added value for the student. Beard, Harper, and Riley (2002) stated that the interaction between instructors

and students in the face-to-face class creates a valued learning environment. Fearon et al. (2012) stated that students found that the element of socialization present during lectures allowed for better interaction with both the instructor and students and made the learning process more complete. Wuensch et al. (2008) further indicated through their research that students expressed that face-to-face classes allowed more facilitated communication, helped students evaluate their learning better, and improved their understanding of the material, especially if it were complex, over online classes.

The face-to-face teaching method has been the dominant environment for the first accounting course on the college and university campus for decades. In recent years, online methods have become increasingly popular due to student demands for flexibility and the evolution of technology (Yelvington, Weaver & Morris, 2012). The U. S. Department of Education (2013) reported that as of the Fall 2012, online enrollment in higher education increased to an all-time high.

Advantages of Online Teaching: Student Flexibility and Technology

While studies have shown many advantages of the face-to-face format for the first accounting course, the 21st century student desires more flexibility of time and an increased usage of technology (Mupinga, Nora, &Yaw, 2006). One of the pronounced advantages of the online environment is that students can retrieve instruction and content any time and at any place through the use of technology (Chou & Chou, 2011). Barber, Taylor, and Buchanan (2014) assert that the 21st century learner lives in an information age where technological skills are important. Thus, Wong and Tatnall's (2009) work emphasized that universities must integrate innovation and technology into their courses to meet student demands and ensure that they remain active in global competition.

These student needs, coupled with advances in technology, have contributed to the creation of the online teaching platform. Research indicates that the advancement of technology, together with the busy lives of students, has contributed vastly to the development of online courses (Yelvington et al., 2012). Warren and Holloman (2005) stated that the current trend within colleges and universities is to offer more online courses to meet student preferences. Wuensch et al. (2008) stated that students expressed that online courses allowed more convenience and self-pacing than courses offered in the face-to-face environment. The online environment's major strengths include the convenient distribution of information using technology through structured presentations and student flexibility for self-regulated learning (Paechter & Maier, 2010). Cottrell and Robison (2003) emphasized that online courses provide students the opportunity to learn at their own pace, use time more efficiently, and repeat difficult concepts utilizing technology; and they also assist instructors in helping to employ time more efficiently.

Synchronous and Asynchronous Technology

The incorporation of technology using synchronous and asynchronous methods supports similar social benefits offered by face-to-face courses and assists in accommodating students with their busy schedules (Beldarrain, 2006). Beldarrain (2006) further stated that the flexibility of social software assists constructivist environments that search for ways to motivate, foster, and meet the demands of the 21st century student.

Synchronous methods are defined as happening at the same time or "live." These methods parallel the face-to-face environment without the physical human presence. Synchronous communication can be supported using various tools including "live" chat rooms, webinars, instant messaging, and audio or video conferences (Huang & Hsiao,

2012). Jahn, Piesche, and Jablonski (2012) stated that the key benefit of synchronous online tools is that they provide a structured time and place to learn and foster continued collaboration. Synchronous technologies such as chat, video conferencing, and instant messaging allow interactions between students and the instructor in real time (Martin & Parker, 2014). Beldarrain (2006) stated that technology tools as simple as instant messaging and chat can foster the flexibility, interaction, and collaboration of the students in the synchronous setting. Consistently offering synchronous meetings online has resulted in fewer students' dropouts (Pullen & Snow, 2007). Huang and Hsiao (2012) added that synchronous tools also provide opportunities for quick feedback that facilitates connecting the instructor and student.

In contrast, asynchronous methods are defined as not occurring at the same time or are not "live." Asynchronous online communication does not require real-time participation of students and instructor because it is supported by tools such as recorded audio and video lectures, discussion boards, and e-mail (Huang & Hsiao, 2012). For example, Brecht and Ogilby (2008) explained that video lectures covering basic explanations offer the student more flexibility with repeated times for viewing that allow for more complex material to be covered. Brecht and Ogilby (2008) further stated that instructors can easily and quickly create shorter video lectures that are not complete classroom lectures before the course starts or as it progresses, and students can view, pause, and repeat the videos at their own individual learning pace and flexibility. A study by Sargent, Borthick, and Lederberg (2011) disclosed how the three-minute online video in the first accounting course responded to students' needs for learning activities that resulted in decreased drop rates, improved pass rates, enriched student effort, and

enhanced student learning and retention. Smith (2013) found that students in his study preferred asynchronous videos to be both focused on content and brief, not exceeding 15 minutes per video. Another effective tool in a learning management system (LMS), discussion boards, provides students with more time to think about their responses than in-class discussions allow. Ackerman (2008) stated that students who are reserved in class discussions often come alive in discussion boards stimulating the interaction.

High quality online instruction incorporates both synchronous and asynchronous methods and offers students technology use, flexibility, and independent learning. McGinley, Osgood, and Kenney (2012) indicated that online students reported more opportunity of becoming an independent learner. Beldarrain (2006) reiterated that with the emergence of new technologies, instructional designers have opportunities to foster collaboration among a diversified group of learners, creating a genuine learning community. For instance, Agosto, Copeland, and Zach (2013) indicated that students are able to have more flexibility in analyzing problems, learning to apply critical thinking skills, and increasing their technological skills and knowledge through the use of the online technology.

Disadvantages of Online Teaching: Lack of Interaction and Student Integrity Issues

While online instruction has been shown to offer social benefits through synchronous and asynchronous teaching methods, literature also emphasizes the fact that technology in an online environment cannot replace the instructor. Beard et al. (2002) stated that an absence of community with no physical contact can contribute to a lack of interaction between students and instructors in the purely online environment. This can result in less interaction and collaboration between instructors and students. An

accounting course involves numbers and computations requiring interaction between the student and the instructor. It is often more difficult to duplicate the important solution process using online delivery than with live interaction with a professor in a face-to-face setting (Yelvington et al., 2012). Holmberg-Wright and Wright (2012) discovered that 400 business students enrolled and surveyed at an AACSB accredited public university favor the interaction present in the face-to-face classes as opposed to the limited interaction in the online courses. Further, according to a study conducted by Buckley (2002), online students miss the traditional face-to-face contact.

Another major concern about students taking online courses is related to integrity during the exams. King, Guyette, and Piotrowski (2009) stated that cheating has increased among students taking online business courses compared to cheating rates in face-to-face environments. Miller and Jones (2012) indicated in their study that not only was cheating easier in an online versus face-to-face course but it occurred more often in online courses. In a study conducted by Watters, Robertson, and Clark (2011), nearly 50% of the 100 students responding to a survey indicated knowledge of cheating on business course online exams. Therefore, research supports positive and negative aspects of both teaching formats.

The Blended Teaching Format

By merging the face-to-face and online teaching formats, students can profit from having the social benefits of the face-to-face classroom interaction and collaboration combined with the flexibility and extensive use of technology that accrues from the online teaching component. Blended teaching, (also known as hybrid, blended learning instruction, or blended e-learning system), blends the synchronous and asynchronous

tools of the online environment with the face-to-face environment (Chou & Chou, 2011). Agosto et al. (2013) explained that blended learning combines both the face-to-face and online methods. Chen and Jones (2007) stated that although only a small amount of research has been completed comparing face-to-face and blended teaching, increased student learning outcomes for the blended environment have resulted from the initial research. Blended teaching is progressively being implemented in many universities and colleges worldwide (Cheung & Hew, 2011). While students adapt to the online environment, few programs have favored complete elimination of face-to-face teaching (Jeffries & Hyde, 2010). Yuen (2011) indicated that students had a negative attitude to learning online without any face-to-face instruction.

Allen and Seaman (2006) stated that this blended environment provides students additional control of their learning and stimulates more interaction, collaboration and cognitive engagement. Chou and Chou (2011) further stated that the traditional face-to-face and online instruction are the two central environments for learning in higher education, and another instructional setting to alleviate the concerns in the online background is with the blended learning environment. A study conducted by Jones and Chen (2008) indicated that blended environment students believed it was important to have the face-to-face sessions incorporated into the environment and that the classroom sessions' benefits outweigh their personal costs. According to Dowling, Godfrey, and Gyles (2003), blended teaching builds a new method, offering students the convenience and technology of an online course with the social advantage of a face-to-face setting, resulting in increased student flexibility, technology, and satisfaction.

Colleges and universities have investigated blended courses to improve the efficiency and effectiveness of teaching and learning (Cottrell & Robison, 2003). Cottrell and Robison (2003), in a study involving 104 accounting students, concluded that students need the online environment to be supplemented with the benefits of face-to-face instruction that are not physically visible in the online offerings. According to Gerbic (2011), due to the fast expansion of online technologies in higher education, both students and instructors are faced with new challenges that can be accommodated by adopting a new teaching approach like blended learning. Literature shows that face-to-face students want more flexibility and technology tools present in the online environment. On the other hand, the online students desire the elements of the interaction and collaboration that are traditionally found in the face-to-face setting. Literature on blended teaching clearly signifies that instructors will not be replaced with technology but continue to have an essential role in student learning and specifically through course design (Jeffries & Hyde, 2010).

Statement of the Problem

The first accounting course in higher education is an important class in the business curriculum. For many years, this course has been cited by the accounting profession as a critical course deserving the best efforts by instructors in preparing a diverse student population of business and non-business majors (Warren & Young, 2012). Designing this course in higher education has been a difficult task, as the course has been offered in both face-to-face and online formats with varying success. As a result, educators are continuously searching for other teaching methods for the first accounting course that can accommodate student needs and promote high levels of

achievement and satisfaction for a diverse body of students. Therefore, this study explored the utilization of a blended curriculum for a first accounting course in higher education.

Purpose of the Study

This study investigated the effectiveness of the blended instruction method in a first accounting course in higher education. Specifically, the study compared the performance and satisfaction of students in the traditional face-to-face class format with students in the blended format. Using two instructors at one university to teach both traditional face-to-face and blended sections of the course, this study captured quantitative data measuring both student performance and satisfaction between the two teaching methods, and qualitative data focusing on the value of the blended teaching method. The intended outcome is in the potential discovery of additional teaching methods to be used in the first accounting course within higher education today.

Research Questions

The current study involved the use of a blended teaching model employed in a first accounting course within a higher education business school's curriculum. The research questions guiding the study were as follows:

For students enrolled in the "Blended Teaching Method" versus "Face-to-Face Teaching Method" in a first accounting course,

0. Is there a difference in academic performance of students who receive blended instruction versus face-to-face instruction in a first accounting course in higher education?

1. Is there a difference in satisfaction of students who receive blended instruction versus face-to-face instruction in a first accounting course in higher education?
2. What are the advantages and disadvantages of blended instruction in a first accounting course from the perspective of undergraduate students?

Summary of the Study

The goal of this study was to develop and implement a blended teaching method and measure student performance and satisfaction using this method as compared to the face-to-face instruction in a first accounting course in higher education. This blended teaching method combined aspects of the face-to-face and online teaching. The specific instructional approaches to be included in the blended curriculum were chosen to support student learning and assist in helping with student demands of interaction, flexibility, and technology in addition to developing the course into a stimulating, useful and challenging course required by the accreditation board, accounting profession, and employers.

Research Design

This study implemented a quasi-experimental design, followed by a smaller qualitative evaluation of the blended learning sections through focus group interviews. The study incorporated two between-group independent variables: a) teacher with two levels, Instructor A and Instructor B; and b) type of instruction with two levels, traditional face-to-face and blended. The study incorporated time, with two levels, pre-test and post-test, as a within-subjects' independent variable. Further, the study involved the collection of two dependent variables: (a) achievement, measured by a course exam, and (b) satisfaction, measured by a researcher-constructed survey instrument. Finally, additional qualitative data were collected from students in the blended course sections to

learn more about the advantages, disadvantages, and experiences of students in this environment.

The study used four sections of the traditional, face-to-face first accounting course and four sections of the blended first accounting course, all taught during the 2014-15 academic year. The traditional, face-to-face sections were taught during the Fall 2014 semester, and the blended sections were taught during the Spring 2015 semester, by the primary researcher and a second instructor. The blended course was presented to and approved by the curriculum committee during the Fall 2014 as an experimental design course and extended as an official course offering in the Spring 2015 semester.

The participants in this study were undergraduate business and non-business majors. Students were enrolled either in one of the four face-to-face courses (control group) offered during the Fall 2014 semester or one of the four blended courses (treatment group) offered during the Spring 2015 semester through the university registration process. The researcher taught two of the control groups and two of the treatment groups and the other instructor taught the same number of classes of approximately forty students per course.

A pre- and post-test were given to both the control and treatment groups to measure students' performance from each of the teaching methods. In addition, a student demographic sheet was developed and a survey was given to the students to measure the satisfaction with each of the two teaching methods. Also, a random number of students from the four sections of the blended course were selected to participate in a focus group to communicate their perceptions concerning the advantages and disadvantages of the blended teaching method toward the end of the Spring 2015 semester.

Significance of the Study

The Association to Advance Collegiate Schools of Business (AACSB) demands that colleges and universities worldwide maintain high academic standards and practices that retain and produce high-quality students (AACSB, 2013). The Accounting Education Change Commission (AECC) states that the first course in accounting is critical for both business and non-business majors focusing on helping students become independent, active learners versus passive recipients of the accounting information (AECC, 1992). Kavanagh and Drennan (2008) stated that employers are reporting that accounting students lack required accounting skills required by the profession, the foundation of which are taught in a first accounting course.

The first accounting course serves a diverse group of business and non-business students, making it a complicated class to design. Malgwi (2006) stated that accounting majors are more positive and confident about the course than non-majors, but at the same time the course discourages students from majoring in accounting. The challenges offered by the diverse group of students who enroll in first accounting courses, coupled with the demands by students for flexibility and technology, have assisted in the push towards online teaching. However, studies showed that when provided with a course in the online environment, students once again desire the interaction and collaboration found in the face-to-face environment (Holmberg-Wright & Wright, 2012).

Gerbic (2011) has stated that there are mixed views on student learning through online environments, but blended teaching that includes both face-to-face and online components offer technological tools that enhance student learning while providing some of the teacher and peer interactions students desire. With differing views and results

about the effectiveness of on-line, blended, and face-to-face instruction, this study will add to the literature base by comparing traditional, face-to-face instruction to blended instruction in an undergraduate's first accounting course in higher education.

Limitations of the Study

Several limitations exist in the current study.

1. A one-time analysis within one university for a single course with a limited sample was completed in studying the performance and satisfaction of students in a blended teaching environment of a first accounting course. Results from this study may not be generalizable to all universities due to a single university selected for this research.
2. The sample of students was not randomly selected but based on self-selection into all course sections.
3. The times during the day for the courses selected were pre-determined by the registrar. Any unfairness in course times between instructors could be an issue in the results that possibly cannot be captured.
4. The researcher designed the satisfaction survey given to all students in the blended teaching environment, rather than using a predesigned survey, and the researcher also assumed responsibility for conducting the focus group on the advantages and disadvantages of the blended teaching method.
5. The researcher was unable to control the student response rate to the satisfaction survey completed for the blended teaching environment.
6. The focus group interview on the advantages and disadvantages of the blended teaching environment was conducted with a limited number of

students, and while steps were taken to include a random sample, the views of those who were chosen for participation may differ from those not chosen.

7. The study focused on the teaching method as the main issue in affecting student performance in the course. Other factors such as technology and previous online course experience could affect the results from the treatment groups.

Delimitations of the Study

The primary researcher selected another instructor to assist in the development and implementation of the blended teaching course. The two instructors' face-to-face and blended first accounting classes in higher education were selected for this study. The study does not pertain to other higher level accounting courses, graduate school, or to a high school environment. The design of the study was developed and communicated to the other instructor by the researcher. Both instructors will collect the data to be used for analyzing the quantitative and qualitative results.

Chapter Summary

The first accounting course in higher education lacks adequate designs to accommodate the diversity of business and non-business students. Additional exploration of other designs besides the face-to-face and online teaching methods are needed to help engage students, keep pace with other universities in global competition, and comply with the required high standards of accreditation boards, professional accounting organizations, and employers in their need for students to be critical thinkers.

In answering the three research questions, this study involved four major steps: (a) developing and implementing a blended teaching method to be used in the

undergraduates' first accounting course in higher education to help meet demands presented, (b) utilization of two instructors similar in both experience and teaching methodologies to test the design of the blended method against the face-to-face method through a pre- and post-test measurement of performance, (c) survey of students indicating their level of satisfaction with the face-to-face and blended teaching method design, and (d) interviewing students in focus groups on their perceptions of the advantages and disadvantages of the blended course design and teaching methods.

Although there were stated limitations to the study, these were mainly attributable to the research being conducted within the researcher's primary university. This study was intended to present awareness to other institutions of higher education of another potential design that can be implemented and developed to help serve the critical demands of all stakeholders in the study.

Chapter 2 – Literature Review

Chapter Overview

This chapter highlights the literature on different teaching methods relevant to this study involving the first accounting course in higher education. More specifically, the focus of this chapter is to review the literature on the traditional face-to-face teaching method, the rapidly increasing online teaching method, and explore the potential effectiveness of the blended teaching method in an undergraduate first accounting course in higher education. The blended teaching method combines face-to-face and online teaching methods (Wong & Tatnall, 2009). The notion is to use the best and most fitting features of the face-to-face and online teaching methods to help engage, enhance, and maximize the success of the student experience (Larson & Sung, 2009).

The literature on the history of accounting education and the impact and issues of the first accounting course today within higher education are initially discussed. Then, the literature review focuses on higher education and explores the design of the first accounting course today. After the exploration of the literature on the design, the advantages and disadvantages of the traditional face-to-face and the online teaching methods in a first accounting course are researched. Literature regarding synchronous and asynchronous technologies are further studied in addition to effective online strategies. The AACSB (2007) has defined synchronous as instruction delivered by the instructor and received by the student simultaneously and asynchronous as instruction transmitted and received at different times. Finally, the central focus of the literature review revolves around the advantages and disadvantages of the blended teaching method in an undergraduate first accounting course within higher education. The literature is

scrutinized to discuss these areas and find potential gaps underlying the teaching methods involving the first accounting course for undergraduates within higher education.

History of Accounting Education

In 1989 the American Accounting Education Change Commission (AECC) was appointed by the American Accounting Association (AAA) with the support from the biggest public accounting organizations to be the facilitator for change in accounting education (Sundem & Williams, 1992). This appointment resulted from a statement generated by accounting firms and the American Accounting Association (AAA) blue-ribbon committee, which asserted that future accountants were deficient in the skills needed to meet the demands of the emerging, complex, and expansive profession (American Accounting Association, 1986). Although the objective of the newly formed AECC was to change the accounting educational experience, the organization immediately realized that the most influential course in a business school's undergraduate curriculum was the first accounting course (Williams, 2011). Since 1990, the AECC has issued various published statements on accounting education and the first accounting course.

Some of these important published statements issued by the AECC are discussed here. The first, Position Statement Number One, emphasized that the objective of accounting programs was to teach students to learn on their own and utilize the content from the accounting courses throughout their lifetimes with the importance of becoming an active participant versus a passive recipient of information (AECC, 1990). The AECC was laying the foundation in Position Statement Number One. Its focus here was to get

educators involved in helping students learn content, become independent learners, active participants, as well as become career successful individuals.

Next, Position Statement Number Two focused on the importance of the first accounting course in its role to benefit decision-making by investors, accountants, managers, government regulators, and other organizations by using accounting information to improve their decisions (AECC, 1992). It was in Position Statement Number Two that the role and importance of the first accounting course was emphasized to educators. This position statement highlighted the fact that an undergraduate's first accounting course in higher education provides an essential foundation for business students that they carry throughout their lifetime in helping in their business decision-making process. Also, within this second position statement, the AECC initially emphasized the importance of instructors in the first accounting course prioritizing their interaction with students in addition to the interaction among students (AECC, 1992). In this sense, the AECC was broadcasting the importance of interaction within the traditional face-to-face classroom environment.

During these early years since the inception of the AECC, enrollments initially declined in college and university accounting but large increases in enrollment occurred after the accounting scandals within Enron, WorldCom, and Arthur Andersen (Titard, Braun, & Meyer, 2004). Many have attributed the decreasing enrollments to the negative perceptions of the first accounting course and the structure of the course (AICPA, 2001; Albrecht, Clark, Smith, Stocks & Woodfield, 1994; Geiger & Ogilby, 2000).

One other important milestone involving accounting education and the first accounting course occurred in the 1980s when accounting accreditation was established.

The Association for Advancement of Collegiate Schools of Business (AACSB) developed standards for accreditation for higher education business schools (Williams, 2011). Colleges and universities complying with these high standards upon review by the AACSB were awarded the AACSB accreditation for five years. This sparked an interest among many business schools to aspire to become recognized globally and academically through accreditation, by focusing on their business and accounting curricula.

In the two decades since the AECC completed its focused effort on accounting education and the first accounting course, college and university enrollments have increased considerably (Duchac & Amoruso, 2012). However, in the past decade, research in the first accounting course has been waning (Duchac & Amoruso, 2012). Furthermore, most of the research in the field of accounting has been focused on higher level accounting courses, other disciplines, or graduate schools. The AECC emphasized once again that the first accounting course was of major importance to both students and the profession providing a vital foundation for not only academic but also professional success (Duchac & Amoruso, 2012).

Impact and Issues of the First Accounting Course Today

The statements by the AECC have emphasized that the first accounting course deserves special attention because of its impact on many students. First, it serves the interests of both students entering the profession, as well as those who are not (Williams, 2011). It has traditionally been a foundational course in the business curriculum for business students (Duchac & Amoruso, 2012). In fact, the first accounting course is normally taken early in the business students' academic curriculum with the intent of helping students analyze and interpret financial information useful in making business

decisions (Yu, 2011). Most importantly, it introduces and acquaints the undergraduate accounting and non-accounting business students to a new and significant body of knowledge (Turner, Lesseig, & Fulmer, 2006). The first accounting course serves as a major factor in the students' decision to major in accounting (Geiger & Ogilby, 2000). In addition, the first accounting course is an elective or a required course by many other non-business students and is normally taken in a student's sophomore year (Premuroso, Tong, & Beed, 2011). The first accounting course has also been considered a recruiting tool for the profession of accounting (Turner et al., 2006). Employers are expecting that graduates have become independent learners who are experienced at analytical and problem-solving skills, have business awareness, and possess basic skills of accounting (Kavanagh & Drennan, 2008). Such research supports the importance of the first accounting course to this diverse group of students, whether entering the accounting profession or not, and the foundations and employer-required skills students gain from the course.

Professional accounting organizations indicate that the first accounting course serves many diverse students who enroll in the class (AECC, 1992; AICPA, 2013), accentuating the importance of the undergraduate's first accounting course offered in higher education business schools' curriculum today. Williams (2011) indicated that the AECC (1992) has identified the following four groups of students in the first accounting course:

1. Students who will major in accounting and practice in public, private, government, or the teaching profession.

2. Students who will start their own business requiring an understanding of the concepts learned in the first accounting course.
3. Students who will enter other professions including engineering, computer information systems, nursing, actuarial science, and other majors.
4. Students who only are interested in the personal usefulness of the course. (p. 762)

During the previous half century, many issues have influenced the first accounting course (Williams, 2011). The issue of increased budget pressures in higher education, along with a continued shortage of academically qualified accounting faculty having a doctorate degree as required by the Association for Advancement of Collegiate Schools of Business (AACSB) standards, emphasizes even more the impact of the course on students, colleges, and universities today (Williams, 2011).

Face-to-face instruction has been the dominant method for the first accounting course for many years, but issues involving student demands for flexibility and technology including global competition are driving the course to the online environment (Keller & Parry, 2010). However, because of the nature of the course and demand of the social benefits of face-to-face, it is difficult to teach accounting entirely online. Holmberg-Wright and Wright (2012) study indicated that the perceptions of undergraduate and graduate business students enrolled in both face-to-face and online courses suggested that face-to-face interaction was preferred once the students experienced the online environment. Designing the first course in accounting to meet the needs of a diverse group of students who bring negative accounting perceptions into the class is a challenging task for educators of accounting today (Tickell et al., 2012).

The student expression of difficulty and motivation in a first accounting course has remained an issue in many colleges and universities. In many institutions of higher education, the first accounting course is difficult for students to pass causing negative opinions by students of the course (Lay, 2008). There is an increasing problem of academic failure of students in the first accounting course (Joubert et al., 2012; Lay, 2008). Depending on the school and caliber of students, it is not uncommon for students to earn grades of 60 to 70% in the first accounting course (Lay, 2008). Also, motivating students in a first accounting course is another concern of faculty as students have expressed boredom with course concepts (Yu, 2011). Students have expressed a lack of motivation even to read the accounting book (Lay, 2008).

The first accounting course is primarily a skills course learned through the adoption of good study habits, budgeting time, and working hard (Yu, 2011). Yu (2011) further states that hard work and high motivation have been found to be more important in explaining students' performance than cognitive factors.

In all respects, the design of the first accounting course has always been a complex issue (Williams, 2011). Furthermore, the problem is compounded due to the majority of non-accounting majors in the class. The many complexities involved in designing the first accounting course to fit the needs of the diverse group of students required to take the course suggests that additional research in this area is needed.

The Challenge in the Design of the First Accounting Course Today

These impacts and issues involving the first accounting course contribute to making it problematic for instructors to design. In addition, satisfying and motivating this diverse group of students has become another major concern. For a long time, the

profession of accounting has solicited educators to rethink the design of the first accounting course (Warren & Young, 2012).

Tickell et al. (2012) conducted a survey of first accounting course students at a large Australian university over two semesters and found that accounting majors had more positive attitudes about the course than other business majors. Conversely, Geiger and Ogilby (2000) found in their paper and pencil questionnaire administered during the first and last weeks of the first accounting course that both accounting and non-accounting majors had positive attitudes about the first accounting course initially, but both groups were less favorable by the end of the course. This supports the findings from the previous study but indicates that both accounting and non-accounting majors had less interest at the end of the semester. Another study by Malgwi (2006) conducted a survey with college sophomores and found that students who used the first accounting course as a decision whether to major in accounting or not were disheartened by the course.

Sundem and Williams (1992) stated that in designing the first accounting course, educators need to incorporate flexibility and offer technologies that help students become active participants in the process. In addition, the AECC (1992) has accentuated the importance of interaction within the first accounting course classroom in assisting students to become lifelong learners. Tickell et al. (2012) indicated that the design of the first accounting course remains a challenging job for educators.

Existing Teaching Methods

Value of the Dominant Traditional Face-to-Face Teaching Method

For many years, the traditional face-to-face teaching method has been the prevailing design offered to the undergraduates taking the first accounting course in

higher education. This dominant approach relies primarily on delivering knowledge to the students through in-class lecturing, discussions, and reviewing of homework as well as administering all exams in the classroom (Warren & Young, 2012). The traditional approach of lecturing, discussions, reviewing homework, and taking exams in class has its strengths and weaknesses with the technology-savvy 21st century student (Lay, 2008). Research has identified that students' value the social benefits of interaction and collaboration among other students and the instructor within the face-to-face classroom (Beard et al., 2002; Chou & Chou, 2011; Fearon et al., 2012; Paechter & Maier, 2010; Wuensch et al., 2008). The research that follows highlights some important studies validating the advantages of the face-to-face teaching method but also emphasizes important student demands resulting from barriers created within this face-to-face teaching method.

In a study by Wuensch et al. (2008), students at 46 different universities in the United States evaluated the pedagogical characteristics of their most recent face-to-face class in comparison to their online course, using a faculty-developed survey instrument. The study found the following advantages of the face-to-face teaching method:

1. The face-to-face classroom has a more natural social awareness where students have the advantage of observing reactions of the instructor and other students.
2. The flexible arrangement of the classroom contributes to the important interactive role between the instructor and the students.
3. Classroom interactions with classmates in the traditional classroom are immediate, more efficient, and dynamic.

4. Body language and facial expressions in class assist in providing another mechanism for feedback valuable to the instructor.
5. Communication in the face-to-face environment is more efficient and quicker.
6. The assessment process for the student is more reliable with no geographical distance between the instructor and students. (p. 523)

It is evident from Wuensch et al.'s (2008) research that the advantages of the social benefits from the face-to-face communication, interaction, and collaboration play a vital role preferred by students. In addition, these same students expressed that the face-to-face teaching method contributed to not only a more inclusive evaluation of their learning, but a deeper understanding of the course content. Although this study did not indicate specific information about the major of the students, the authors captured several important characteristics of the face-to-face environment. Evidence has shown that students' interaction and communication with the instructor and other students within the classroom are central contributors to the students' learning performance (Chou & Chou, 2011).

Further studies by Paechter and Maier (2010) and McGinley et al. (2012) also supported the value of the social benefits provided from the face-to-face courses in contrast to their online courses. In addition, McGinley et al. (2012) noted that the face-to-face students felt more comfortable that all the necessary tools were available to help in the achievement; and that students' preferred face-to-face instruction when the subject matter involved conceptual knowledge or when a certain skill was to be attained.

The social benefit advantage of the prevailing face-to-face teaching method has the 21st century student feeling more comfortable with the first accounting course, but at

the same time, students are demanding more flexibility in their schedules due to their busy lives and greater use of technology (Wuensch et al., 2008). Colleges and universities search for additional designs to help meet these demands of the students, assist in developing motivation in the first accounting course, and improve students' analytical skills in becoming independent learners as required by employers. In addition, institutions of higher education are faced with global competition as innovation and technology pressures arise within the curriculum (Wong & Tatnall, 2009). These demands have led institutions to explore alternate delivery methods for courses that offer students 24 hours, 7 days per week flexibility to learn on their own schedule (Holmberg-Wright, & Wright, 2012).

While many instructors today express confidence, comfort, and satisfaction in the design of the face-to-face first accounting course, students are not satisfied and present other demands for flexibility and technology. Both accounting and non-accounting majors are expressing concerns with the traditional approach (Warren & Young, 2012). Furthermore, these researchers suggest that the format needs to be reconstructed. Thus another design for the first accounting course in higher education emerged: the online platform.

Emergence and Advantages of the Online Teaching Format

The online teaching platform has emerged as a prevalent alternative to the face-to-face format (Crawford-Ferre & Wiest, 2012). Changes in technology have profoundly changed the teaching methods, tools, and techniques available to instructors. The development of online learning management systems resulted in effective and efficient learning vehicles (Duchac & Amoruso, 2012). The AACSB (2007) has defined the online

environment as one where students work outside the classroom independently, apart from other students, with the aid of technology. Furthermore, learners and instructors are not physically together as they are in a face-to-face setting.

The most important reason for the progression of the online teaching method in higher education is its capability to offer students flexibility, utilizing technology to deliver self-paced education (Picciano, Seaman, & Allen, 2010). Further, these researchers indicate that students express the three main reasons they take online classes: convenience, convenience, and convenience. This flexibility reduces commute time, transportation and parking costs, and focus on appearance and dress for the student (Lei & Govra, 2010). Drouin and Vartanian (2010), in their survey of undergraduate students, reported that online students tended to be older, working more hours while taking fewer course credit hours, and experienced with computers. The online approach uses technology to deliver lectures, discussions, homework, and exams to the students. The course content material is available online 24/7, offering students opportunities to review lectures, discussions, and homework review many times (Holmberg-Wright & Wright, 2012). In addition, many online systems utilize course management systems such as Blackboard to assist in organizing the course and providing additional resources (Wuensch et al., 2008).

Over the last decade, online education has witnessed increased growth, comprising a significant portion of the courses offered in higher education (Wuensch et al., 2008). In fact, more than one in four students currently takes one course online (Allen & Seaman, 2010). Also, it is reported that more than 6.7 million students have taken one or more online courses as of the Fall 2011 (Allen & Seaman, 2013; Kolowich,

2014). The AACSB (2007) has encouraged and challenged schools of business in higher education to expand online education opportunities. It is debatable whether the online environment provides an equivalent educational experience to the face-to-face environment, but it is the fastest growing method in higher education and the schools of business (Bristow, Shepherd, Humphreys, & Ziebell, 2011).

The primary advantage of the online teaching method is that the student can access his or her course from any place and time through the use of technology (Beldarrain, 2006). In the study by Wuensch et al. (2008) mentioned earlier where students at 46 different universities in the United States evaluated the pedagogical characteristics of their most recent face-to-face class in comparison to their online course, these same students stated the following advantages of the online teaching method from the faculty-developed survey instrument:

1. Student flexibility and convenience were a greater benefit in the online courses in comparison to their face-to-face courses.
2. The existence of the various technological tools was an advantage of the online courses, offering students greater self-pacing.
3. Students felt that there was more of a sense of independent learning. (p. 523)

It is well documented from these students that the online teaching method offered not only the flexibility to accommodate the students' busy lives, but also the utilization of the technology previously missing from the face-to-face environment. In addition, as stressed by the students, online learning offered better techniques to help them become independent learners, a goal set by employers and accounting organizations (AECC, 1990). Likewise, Robinson and Hullinger's (2008) study, which consisted of a sample of

225 online students from three universities, suggested that students felt the online courses generated self-motivation to learn on one's own. Although self-discipline is required of students in the online environment, the independent learning can assist them in developing the qualities required by employers.

The AECC (1992) acknowledged teaching design as an important key element necessary in improving the first accounting course and highlighted the importance of utilizing various technologies within the online environment to assist students in becoming independent learners. The AACSB (2007) stated that in the online environment, the instruction incorporates synchronous and asynchronous instructional tools to assist in the course development and communication links between the instructor and the student.

Synchronous and Asynchronous Technology

In the online course, utilizing synchronous and/or asynchronous forums is another opportunity and challenge for instructors today (Duncan, Kenworthy, & McNamara, 2012). These researchers further stated that a synchronous forum concurrently connects the instructor and students together in real-time communication where students ask questions and receive instant responses. In contrast, the asynchronous forum challenges the instructor to create the social benefits from the interaction and collaboration found in the face-to-face teaching method (Duncan et al., 2012).

In higher education today, the 21st century student has available state-of-the-art technology, Internet usage, and the use of these synchronous and asynchronous forums to assist in helping with their demands for flexibility and technology usage (Keengwe, Georgina, & Wachira, 2010). Additionally, instructors are experiencing technology not

only in school but their homes as the need arises to prepare students to be active learners of the 21st century (Keengwe & Onchwari, 2011).

Synchronous Communication

The movement in online teaching methods includes synchronous forms of communication between the instructor and students (Shak-Nelson, 2013). Synchronous forums can assist in bridging the gap by helping the instructor and students feel connected. This researcher further indicated that a diversity of people including students, office workers, family members, and friends use synchronous tools today because of their ease, real-time access, convenience, and flexibility. An instructor can be many miles away and still employ synchronous technology. In addition, these tools can be activated on many different kinds of devices, including computers, laptops, tablets, and cell phones. Shak-Nelson (2013) also indicates that a visit to the virtual classroom to chat with a live instructor or student is appealing to students'.

Besides the live classroom, the live chat is another synchronous forum. The live chat can be used in a lively and engaged manner than asynchronous tools such as threaded discussions (Shak-Nelson, 2013). Furthermore, live chat can be used for help with homework, immediate instructor feedback, exam preparation, and study groups. Shak-Nelson (2013) suggests that chats, similar to live classrooms, should be driven by learning objectives.

Synchronous communication meets many demands of today's students: increased technology in education, independent learning, and collaboration with the instructor and other students (Jahn et al., 2012). Huang and Hsiao (2012) indicated that synchronous communication, including the live classroom, can assist in building the interactions and

collaboration that are limitations of the asynchronous environment. In addition, supplementing synchronous communication with asynchronous communication constitutes the online teaching method.

Asynchronous Communication

When students are not in a physical classroom synchronously, utilizing different forms of asynchronous communications to supplement their course can be beneficial (Rogers, Graham, Rasmussen, Campbell & Ure, 2008). In a study by Smith (2013), a convenience sample of 80 US graduate education students were surveyed on their opinions and preferences on the value of different methods used for asynchronous communication in an online course. These students first indicated that videos required minimal time to be maximally effective in comparison to the other options. The second most efficient method was the PowerPoint presentations with narration. The least favored form of asynchronous communication were videos of whole-class lectures. These students also stated preference for asynchronous communication such as videos and audio PowerPoints to be brief, approximately 15 minutes in duration. Furthermore, instructor interpretation of the content was of high value to the students. Although this group of students were not undergraduate first accounting students, the study indicated that asynchronous tools can assist the student in the online environment.

Sargent et al. (2011) study emphasized that motivating first accounting course students is a high priority when incorporating asynchronous communication due to the diversity of students enrolled. Their survey of 426 participants further indicated that alleviating poor motivation through the implementation of ultra-short three-minute videos offered anytime, impacted the student positively. Videos also offer the support of

additional time to review material that was missed or not understood within the classroom (Brecht & Ogilby, 2008). Additionally, weaker students have the flexibility of repeated views with rewinding, pausing, and replaying features available. Brecht and Ogilby (2008) also emphasized that videos utilized outside of the classroom allow for more challenging material to be covered within the classroom in the complex first accounting course.

Other Studies Involving Synchronous and Asynchronous Technology

In another study of 272 online executive MBA students at an Australian university enrolled in a required accounting course, results showed that a mix of synchronous (chat room) and asynchronous (discussion boards and videos) forums in an online environment assisted to maximize students' performance (Duncan, Kenworthy, & McNamara, 2012). Furthermore, the researchers indicated that while the synchronous engagement drove the performance results better than the asynchronous forum, both used together positively impacted the student performance. Although this study did not involve undergraduates, it once again speaks of the effectiveness of combining the synchronous and asynchronous communication.

Pullen and Snow's (2007) research studied the synchronous method combined with a diversity of asynchronous activities over a decade focused on the values of the two delivery modes. The following insights were disclosed by their study:

1. Simultaneously using asynchronous and synchronous methods allows support to the student in helping to learn the material and maintain social benefits.
2. Timely synchronous meetings conducted online (chat) or in the classroom live assist in fewer student dropouts.

3. Asynchronous communication offers students additional flexibility of time and place in accessing learning.
4. Students possessing self-discipline to tolerate self-study techniques through asynchronous communication methods require less of the instructor.
5. Peer interaction within the asynchronous environment is more difficult to accomplish. The synchronous chat may magnify the problem as each student is likely studying different sections of the material, thus reducing the potential for concentrated discussion. In addition, even though chat rooms can be useful, student schedules may impact synchronous participation.
6. Videos offered through a learning management system (LMS) in an asynchronous setting can be effective tools for students. (p. 141)

This evidence supports the view that synchronous and asynchronous forums blended together can offer value to the student in the online environment. The synchronous forum can be provided by the chat in an online environment but does not rule out the return to the face-to-face classroom to provide the social benefits. In addition, the asynchronous forum provides the technology that offers student high flexibility of time and place. These values and other effective online strategies can assist to make this teaching method a likely solution for the first accounting course.

Effective Online Strategies

Colleges and universities have quickly transitioned to the online environment within higher education to meet the demands of the diverse student population and keep a competitive edge in the 21st century (Keengwe and Kidd, 2010). Furthermore, these

researchers emphasized that the online environment proposes exciting opportunities through technology usage to help in the engagement of this diverse group of students.

Pelz (2010), a researcher known for excellence in online teaching, stated three principles of effective online pedagogy:

1. Engage students to do most of the work.
2. Interactivity is the heart and soul of effective asynchronous learning.
3. Strive for presence. (p. 127)

In the first principle, Pelz (2010) stated the importance of engaging students in doing work that results in quality time and knowledge of the content. Examples of instructor-supported activities where students can do most of the work include discussions online that are student-led, peer assistance where students help each other, and grading of students' own homework. Furthermore, discussions can entail the students searching and reviewing web resources involving content and facilitating a discussion online. In addition, the peer assistance strategy is effective when a course involves problem-solving. Also, having students grade their own homework against solutions and discussing the errors is another effective strategic pedagogy within the online environment.

In the second principle, Pelz (2010) suggested that interaction must expand past the simple discussions. In this manner, Pelz (2010) identified that quality and quantity of student-instructor and student-student correlated positively with faculty and student satisfaction. Furthermore, in a face-to-face classroom, interaction necessitates listening and talking, whereas online interaction dictates reading and writing. In this manner, interaction is with students, instructor, text, Internet, entire class, small groups, or one-on-

one with another student. Thus, according to Pelz (2010), interaction is more than just discussions. For example, students can collaborate online to develop topics for a paper, collect web resources, and organize the paper all interactively online. Furthermore, posing stimulating questions helps fuel the discussion.

In the third principle, Pelz (2010) emphasized the importance of teaching or social presence within the discussion. The teaching and social presence can be witnessed initially by the instructor and student introductions online that identifies the members of the course as real people and establishes feelings of presence. Pelz (2010) indicated that feelings and emotions in the students' presence, along with evidence of understanding the assignment, help stimulate group commitment. Furthermore, cognitive presence in the discussion helps generate constructive meaning in the discussions community of inquiry.

The Hanover Research Council (2009) emphasized that the online environment utilizes text that replaces the verbal communication found in the face-to-face setting. Although this can make it easier for students to feel as if the instructor is not participating in learning, other activities can be implemented in helping instructor visibility. For example, the Hanover Research Council (2009) suggests that the course contain a section with professional and personal information about the instructor. In addition, timely feedback and return of assignments help visibility too. Also, e-mail communications with individuals and all students contributes to adding the instructor visibility. Furthermore, preparing the syllabus and course schedule with assignment due dates in advance assist in helping students know what to expect from the course and when.

The Hanover Research Council (2009) also commented on best practices in the planning and development of online courses. This group states that it is important that

the education principles drive the technology, not the other way around. Furthermore, the initial step in the planning stage encompasses the development of written course learning objectives. In addition, learning objectives must be measurable. Also, selecting the technological tools for the course is an important step in the planning stage along with any special needs of students.

In addition, other helpful pedagogies might include posting a welcome note online before the course begins by course announcement or e-mail. Also, instructors can include a brief orientation on the learning management system that includes guidelines for web etiquette, online office hours, and a student FAQ section online. Equally important is an integration of a verification method to help ensure academic integrity (Hanover Research Council, 2009).

An online survey conducted by Kim and Bonk (2006) of 562 college instructors and administrators, who primarily belonged to the Multimedia Educational Resource for Learning and Online Teaching (MERLOT), highlighted that group problem-solving and discussion will continue to play a significant role in the online environment. Kim and Bonk (2006) emphasized that a pedagogical shift to a learner-centered approach will prevail. Another researcher, Paff (2015), suggested the creation of an online learning environment where the instructor and students get to know each other, feedback is timely, and it becomes a fun environment. Creating a quality online environment is front and center as this teaching method emerges for the 21st century student (Chao, Saj, & Hamilton, 2010). These effective online strategies assist in making this teaching method a likely solution for the first accounting course. However, other developing issues need to be considered.

Developing Issues within the Online Environment

Today, colleges and universities utilizing an online teaching format employing synchronous and asynchronous forums feel it is a necessity for global competition. Picciano et al. (2010) emphasized the importance of online education in the strategic planning process of higher education. However, these researchers also indicated that obstacles of apprehension continue to exist that are making online education in higher education a concern. In addition, these same researchers conducted national studies of online education over six years and collected data that indicated faculty have mixed feelings regarding the online teaching method. To magnify the situation, students in higher education are voicing additional demands that are creating issues with the online environment.

The online teaching method is still pacifying the students' initial needs for flexibility and technology through synchronous and asynchronous communication, but students are realizing that social benefits are lacking in online courses. Beard et al. (2002) have cited that although there are advantages to the online teaching method, perceived disadvantages linger as students crave more of the face-to-face interaction with the instructor and other students. As a result, these researchers state that the 21st century student, once again, prefers the personal involvement and social benefits found within the classroom.

Although the element of social benefits from the interaction and collaboration is missing from the online teaching environment, instructors are also expressing a concern with student integrity issues within this teaching method. Students have expressed that it is easier to cheat in an online environment (King et al., 2009).

Potential Online Disadvantages

Sense of community. Research previously specified that the arrival of the online teaching method has assisted universities to compete globally, in addition to providing technology usage and expediency for students, but challenges have surfaced as the instructor and student are remote from each other in this instructional environment (Smith, 2013). The key to success in the online environment is the challenge to embed the element of community found in the face-to-face component into the online setting (Reilly, Gallagher-Lepak, & Killion, 2012). The community concept that fosters social learning through interaction and collaboration among students and instructors has been considered a vital feature of higher education for many years (Drouin & Vartanian, 2010). Furthermore, Drouin and Vartanian's (2010) study of 119 face-to-face and 79 online undergraduate students surveyed at a US university disclosed that students in the face-to-face environment felt more connectedness to classmates than the online students. In addition, Smith (2013) highlights that body language and facial expressions are non-existent in the online environment to assist in evaluating interest, misperceptions, and intensity of student learning in the moment.

Research studies of student perceptions of the online teaching method confirm that students miss the interaction and collaboration experienced in the face-to-face environment (Agosto et al., 2013; Holmbert-Wright & Wright, 2012; Mortagy & Boghikan-Whitby, 2010; Sher 2009; Yelvington et al., 2012). Survey research of online accounting students by Yelvington et al. (2012) gauging perceptions indicated that student flexibility had positive results, but lack of face-to-face time and socialization with the instructor and other students presented the foremost disadvantage of online

instruction. Zach and Agosto (2009) found that the higher degree of interaction results in greater student engagement and more successful critical thinking in the online environment.

Mentzer, Cryan, and Teclehaimanot (2007) found in their study that a greater amount of online students did not submit assignments. This study signified that the community built in a more personal face-to-face environment inspired students to complete the required work. Watters and Robertson (2009) surveyed online first accounting students and found satisfaction was good, but students indicated that face-to-face collaboration and interaction would have been advantageous. Horspool and Lange (2012) indicated that students in both learning environments experienced interaction with the instructor, but online students felt a limited amount of peer-to-peer communication. A study by Robertson and Clark (2007) found that students having some face-to-face time had higher exam performance than those students experiencing no contact. This research and others indicates that students in the online environment desire, once again, the interaction, collaboration, and sense of community experienced in the face-to-face environment (Buckley, 2002; Holmberg-Wright & Wright, 2012).

Student integrity issues. Movements toward the online environment propose the necessity for additional research on academic dishonesty compared to the face-to-face teaching method (Miller & Young-Jones, 2012). These researchers studied 639 students in both environments and disclosed that students felt that it was much easier to cheat in the online environment. Youngberg (2012) argued that the ability and ease of students cheating in the online environment was the main reason that the teaching method would not replace on-ground colleges and universities. Even though some researchers have

found lower levels of cheating in online classes (Hart & Morgan, 2010; Stuber-McEwen, Wisely, & Hoggatt, 2009), volunteer biases have been found to influence findings (Miller & Young-Jones, 2012). In their study of responses from undergraduate and graduate students enrolled in both teaching environments, nearly 58% of the students felt it was easier to cheat in online courses.

The Search Continues

In summary, research previously stated has highlighted the value of the social benefits from the interaction and collaboration between the instructor and students found in the face-to-face environment. Also, further research indicated that the 21st century student has expressed demands for flexibility and greater use of technology from this face-to face teaching method creating the online environment. Schrum et al. (2005) stated that students are efficient in their computer literacy. Also, Crawford-Ferre, and Wiest (2012) confirmed that the online environment provides educational opportunities providing both geographic and time flexibility.

In the online teaching method, additional issues have once again taken the forefront as students' desire for social benefits and the instructors' issue of student integrity have emerged. Although student demands have changed, the ideal classroom picture still prevails as the strong desire for lectures with discussions, homework review, and instant feedback (Jackson & Helms, 2011). In addition, Jackson and Helms (2011) mentioned that students prefer web-posted information that includes course syllabus, including course calendar, notes, links to assignments, and possible homework solutions. These researchers further stated that most textbook publishers offer supportive and ancillary information specifically designed for online teaching methods.

In addition, according to Cottrell and Robison (2003), online courses may not be appropriate for students with motivation issues. Holmberg-Wright and Wright (2012) have found that students lacking in motivation or self-discipline have a greater chance of withdrawing without the physical existence of fellow students or the instructor. In addition, Picciano et al. (2010) found that online students are finding time scarce in balancing families, education, and jobs, leading to higher attrition rates. It is evident from this research that the critical search for other teaching designs in the first accounting course be investigated.

The online learning environment has advantages and disadvantages (Gerbic, 2011), but the blended teaching method utilizing online technology and face-to-face settings offers pedagogical tools that can enhance the learning of students.

The Possibility of the Blended Teaching Platform

Previous research has shown that the face-to-face teaching method has dominated higher education, especially in the undergraduate-level first accounting course (Warren & Young, 2012; Yelvington et al., 2012). In addition, the online teaching method has emerged as a fast growing, popular, and highly demanded environment by the technology-savvy 21st century student for additional flexibility in higher education today (Keengwe et al., 2010). Holmberg-Wright and Wright (2012) indicated in their study that undergraduate business students who have taken courses in both environments prefer the face-to-face classroom over the online environment if given a choice. Furthermore, student interaction and collaboration issues have developed in the online environment. Mupinga et al. (2006) specified that the unknown composition of students that can occur in the purely online course makes the characteristics and needs of the students unclear.

The evidence of these studies signifies that the social benefits of the face-to-face classroom provide an ingredient of major importance to the student. Furthermore, Mupinga et al. (2006) stated that instructors also need to be more aware of the diverse learning styles, expectations, and needs to maximize the students' learning experiences within the online environment. This evidence highlights the advantages and disadvantages of the face-to-face and online teaching methods as reported by these researchers, but also echoes the student demands for the possibility of yet another teaching method.

The face-to-face teaching method encompassing a classroom approach where students read the textbook, followed by in-class discussions, reviewing homework, and then assessing students' needs to be supplemented by other designs for the 21st century student today (Lay, 2008). Furthermore, these students have been raised with technology and are familiar with finding information easily and quickly. Capturing the important social benefits of face-to-face teaching together with the highly demanded flexibility and technology usage requires educators to keep thinking and searching. These student demands suggest another possible approach to integrating pedagogy, collaboration, technology, and flexibility; to meet these student needs colleges and universities are exploring a blended teaching platform combining the online and the face-to-face environment. (Keengwe et al., 2010).

Face-to-Face Ingredient Supplemented with an Online Technology Ingredient

A survey by Lay (2008) of the perspectives of 124 first accounting course students enrolled in a face-to-face teaching method, that also utilized the publisher Pearson's My Accounting Lab software program, was conducted over two semesters.

Students were mainly assigned homework using this software. At the end of the semester, approximately 70 percent of the students believed that using the software improved their performance. In addition, the researcher further indicated that the pass rate improved from 72% to 84%. Lay (2008) also indicated that a change is necessary in the design of the first accounting course in accommodating the face-to-face environment with more utilization of technology. Although this study showed student improvement using only the publisher's homework software to supplement a face-to-face environment, it did not access the available publisher audio PowerPoints and videos that could be utilized in an online setting combined with the face-to-face environment resulting in a blended teaching method.

Many learners request the convenience and technology offered by the blended teaching environment but do not want to sacrifice the social benefits, interaction, and collaboration found in the face-to-face classroom (Graham, 2006). The questions of "What can be taught online?" and "How much?" are common and difficult to answer in the blended environment (Hofman, 2006). Furthermore, some curricular topics do not readily lend themselves to an online approach, and one must experiment with the instructional design process to identify the best format of the online portion of the blended teaching method. The university where the present study was conducted removed the fully online first accounting course from the curriculum due to the low enrollment of students (Robert Morris University Registrar, 2015). Responding to student demand, the university reverted to offering the course in a face-to-face environment. For each different course taught, the blended environment requires instructors to question what is important to teach and how much time to devote to it in the

face-to-face component (Garrison & Vaughan, 2008). Furthermore, the challenge presented in higher education consists of how to blend the face-to-face with the online learning environment in the blended course.

Although a number of studies in various subjects have researched the use of technologies for building communities and effectiveness in online courses, these studies are lacking as to how much online component should be built into a blended environment (Bawaneh, 2011; Chou & Chou, 2011; Collopy & Arnold, 2009; Cottrell & Robinson, 2003; Du & Wu, 2013; Francis, 2012; Jeffries & Hyde, 2010; Stacey & Gerbic, 2007; Wong & Tatnall, 2009). A small number of studies have focused on utilizing technology in the face-to-face or the blended teaching environment in the first accounting course (Agosto et al., 2013). Furthermore, research is lacking that defines the optimal ratio of online and face-to-face teaching in a blended environment. Evidence also indicates a gap exists in a first accounting course in measuring student performance, satisfaction, and value in a blended teaching environment. (Lay, 2008).

The Search for Performance, Satisfaction, and Value

In a study by Young and Duncan (2014) reviewing more than 8,000 student survey ratings of face-to-face and online teaching methods, results indicated that face-to-face courses were rated considerably higher than online courses in social benefits, communication, instructional methods, results, and overall course evaluation. It is essential that instructors find innovative ways to communicate, foster social relationships between the instructor and students, and find ways to offer flexibility through the use technology to help engage students in the delivery of a course (Young & Duncan, 2014).

According to Mentzer et al. (2007, Summers, Waigandt, and Whittaker (2005) and others, face-to-face and online students attain comparable outcomes when exam results are used as gauges but differ on affective satisfaction measures (Allen & Seaman, 2011; Hauck, 2006; Horspool & Lange, 2012; Karatas & Simsek, 2009; Mentzer et al., 2007; Summers et al., 2005; Zacharis, 2010). In these studies, Summers et al. (2005) and Mentzer et al. (2007) found greater satisfaction among students in the face-to-face environment versus the online setting. In contrast, Horspool and Lange (2012) found no significant difference in performance or satisfaction from their survey, although face-to-face students expressed more satisfaction with the interaction and collaboration than the online students. Furthermore, Young and Bruce (2011) pointed out the instructor difficulty in creating connections when there is no visibility of students in the online environment. According to Horspool and Lange (2012) and Young and Bruce (2011), student satisfaction and learning can be improved in online courses by additional interaction and collaboration.

In a study by Hiralaal (2012), accounting education students reported in a Likert scale survey improved performance, satisfaction, and value in the blended environment of an accounting course. This research shows a positive direction in the blended teaching method but does not capture the diversity of students within the schools of business in higher education.

It is hopeful that an alternative teaching environment to alleviate the concerns of the face-to-face and disadvantages of the online environment is supported through the blended teaching method (Chou & Chou, 2011).

The Evolution of a Blended Teaching Method in a First Accounting Course

Garrison and Vaughan (2008) concluded that the blended teaching method is at the focus of an evolutionary change of teaching and learning within higher education. These researchers claim that the design is built through a framework of community and inquiry. The idea of community establishes the social benefits and the roles of collaboration and interaction in constructing knowledge. In addition, the idea of inquiry mirrors the process of building meaning through the students' responsibility and choice (Chou & Chou, 2011). Furthermore, it also uses technology to help promote flexibility and engage technology-savvy students. An innovative blended teaching environment can additionally help resolve the online student integrity issues as exams can be proctored during the face-to-face settings (Chou & Chou, 2011).

The blended teaching environment is increasingly being incorporated in higher education today for three primary reasons: (a) enhanced pedagogy, (b) continued access to the classroom along with utilization of technology for additional flexibility, and (c) the possibility of cost-effectiveness (Graham, 2006). Furthermore, many students do not want to sacrifice the social benefits and human connection in the face-to-face classroom but additionally want the convenience that can be offered by technology.

The utilization of a blended teaching method is progressively being adopted within higher education (Cheung & Hew, 2011). In this environment, communication among the instructor and students can occur synchronously or asynchronously (Hew & Cheung, 2012). The technological tools utilized in this blended setting can help meet the diverse technology-savvy population who desire additional flexibility not bound by place or time (Beldarrain, 2006). Furthermore, the blended environment can help provide the

social benefits derived from the interaction with the instructor and peers through the continued face-to-face contact (Beldarrain, 2006).

Redesigning a course for a blended format is not merely about the technology or the transferring of course content to a new means, but the creation of an effective learning environment optimizing student learning (Schaber, Wilcox, Whiteside, Marsh, & Brooks, 2010). Furthermore, these researchers stated that evidence shows that effective learning environments created through the blended environment prioritizes active student learning, searches to motivate students, and accounts for the knowledge, skills, and feelings that students bring into the classroom (Schaber et al., 2010). Prat-Sala and Redford (2010) emphasized the significant role of self-efficacy in comprehending learning approaches and motivation in undergraduates. These researchers further indicated that delivery mode, motivation, and self-efficacy are vital entwined factors in becoming an independent learner. In addition, in the blended environment, flexibility and students' responsibility for learning join together for student success (Kemmer, 2012).

As indicated by Schaber et al. (2010), the major challenge is designing an online learning experience paralleling the same positive outcomes as the experience from the face-to-face classroom. In their study, a focus group revealed that student perceived learning of content was significantly greater in the blended group as opposed to the face-to-face group, with the most effective technological tool being videos followed by in-class collaboration and discussions. In addition, Stacey and Gerbic (2007) emphasized that students' learning can be enhanced by integrating online resources focusing on content with face-to-face methods of course delivery. The technology employed in the course must be reviewed carefully to confirm that it meets the students' needs (Deed &

Edwards, 2011). Love and Fry (2006) indicated that improvements will be accomplished if the online tools complement and support the face-to-face setting rather than act as a replacement for it.

In the blended environment, in some instances the entire course content has been delivered through the online technologies, and in other examples, some of the course content is delivered online and other parts are delivered face-to-face (O'Connor, Mortimer, & Bond, 2011). A blended environment has been argued to be more effective than the face-to-face or pure online teaching methods when learning content (Collopy & Arnold, 2009). In their study of both online and blended courses, these researches also stated that students felt that the face-to-face component was critical in helping them feel knowledgeable with the content versus feeling more alone and isolated in the online environment. Also, Garrison and Kanuka (2004) indicated that blended teaching helps to foster critical thinking skills of students. However, there is a gap in the research as little empirical evidence exists to show that blended teaching environment is valuable to students enrolled in a first accounting course in higher education (Delaney, McManus, & Ng, 2010).

This flexible approach supports the blending of different places and times for learning offering both the convenience of online courses with face-to-face contact (Collopy & Arnold, 2009). Research shows variations in numbers of face-to-face meetings and online sessions in the blended environment. Although experimentation can be done in allocating the number of class sessions between face-to-face and online sessions in a blended environment, the literature emphasizes the importance of the face-to-face element in a teaching method (Chen & Jones, 2007; Chou & Chou, 2011; Du &

Wu, 2013; Fearon et al., 2012; Jeffries & Hyde, 2010; Paechter & Maier, 2010; Wuensch et al., 2008). In contrast, Fearon et al. (2012), Francis (2012), Geiger and Ogilby (2000), Warren and Young (2012), and Williams (2011) emphasized that diverse groups of students, such as those who take the first accounting course, are not engaged in the face-to-face setting, as students reported increased boredom, absenteeism, and lack of interest in majoring in accounting. These conflicting views stress the critical need of changing the balance between fully face-to-face or pure online sessions to a blended method in the first accounting course.

In the study cited above by Du and Wu (2013) students in a two-semester study stated that the blended first accounting course with greater human interaction did not impact their performance, but evaluations indicated that better satisfaction was associated with greater interaction. For this study, the sample size was small, and there was no indication in the study of the amount of time allocated to classroom and online environments in the methodology. Once again, studies of this nature involving the blended environment in a first accounting course are rare, indicating a gap in the literature on blended teaching in a first accounting course.

Another study by Larson and Chung-Hsien (2009) that involved an introductory Management Information Systems course found no significant difference in student performance whether taught face-to-face, online, or in a blended environment. In addition, student satisfaction was higher in both the blended and online settings compared to the face-to-face environment. Considering that these students were computer information systems majors, it would seem likely that students majoring in a technology-based field would perform better and be more satisfied with the technology component of

a blended course. Once again, this teaching method study did not take place in a first accounting course.

Jefferies and Hyde (2010) in their study involving students' experiences over two years using online technologies indicated that the technology was a vital support for balancing time and adding motivation, but students still desired the face-to-face mix in their courses. In addition, Chen and Jones (2007) studied students in an MBA introductory accounting course utilizing both the face-to-face and blended teaching methods. Although the study did not indicate the amount of face-to-face sessions in the blended environment, these researchers found that students in the face-to-face environment were more content with the clarity of instruction, but blended students indicated improvement in analytical skills. The AACSB proposes problem-solving using analytical skills a necessary goal for undergraduate courses (AACSB, 2006). Although this study focused on an MBA class, it highlighted important benefits of both teaching methods. As indicated by Chen and Jones (2007), little research has examined the differences between face-to-face and blended teaching methods in a first accounting course. These researchers further state that the goal of instructors must be to constantly improve their teaching methods to assist in meeting demands, compete globally, and guarantee that their students are acquiring the necessary skills and knowledge.

Chapter Summary

The first accounting course in higher education for undergraduates is not only a key foundational course but a cornerstone class for a diversity of students, both business and non-business majors. The future of the course in the business school's curriculum is assured but the best design is continuously on quest (Williams, 2011). It is important that

accounting educators implement innovative teaching methods to satisfy the needs of the increasingly diverse 21st century student since the first accounting course has an impact on students' subsequent academic, business, and personal decisions (Delaney et al., 2010).

The face-to-face teaching method previously had played the dominant role, followed by the emergence of the highly enrolled online teaching method. The literature signifies that both of these teaching environments have their advantages, but student demands and concerns have educators exploring other designs to meet the needs of the 21st century learner. The result of this route is in the identification of another design utilizing a best practices course aligned to the goals defined by the various accounting professional organizations (Warren & Young, 2012). In addition, a design that encompasses aspects of social benefits, a touch of student flexibility, hands-on technology, and a level of student engagement that sparks motivation missing in other designs.

Research shows that the first accounting course has not had much experience with the design of the blended teaching method. In addition, although there is scarce research comparing face-to-face and the blended teaching methods' effectiveness, early research suggests increased learning results from the blended teaching environment (Chen & Jones, 2007). Furthermore, initial findings show that undergraduate students have a positive view toward the blended teaching method (Ugur, Akkoyunlu, & Kurbanoglu, 2009). The current study intended to dig deeper by implementing and experimenting with a blended teaching method to measure student performance, satisfaction, and value

in comparison to the face-to-face design in an undergraduate's first accounting course in higher education where a gap in the research exists today.

Chapter 3 – Methodology

Chapter Overview

This study measured the effects of a face-to-face teaching method as compared with a blended teaching format on student performance and satisfaction in a first accounting course in higher education. Specifically, the blended teaching method or treatment method combined aspects of the face-to-face and online teaching methods for students enrolled in the business school's undergraduate program first accounting course. In addition, the study investigated the undergraduate students' perspectives of the advantages and disadvantages of blended instruction.

The study was conducted over two semesters using two instructors at one university. The primary researcher taught two face-to-face course sections, or control groups, during the 15-week Fall 2014 semester. The primary researcher taught two course sections as treatment groups, implementing the blended teaching method during the following 15-week Spring 2015 semester. In addition, a second instructor taught two additional equivalent control groups and two additional equivalent treatment groups during the Fall and Spring semesters, respectively.

The goal of the study was to determine if the mode of instruction impacts achievement in accounting as determined by a pre- and post-test and satisfaction through a Likert scale survey. Using two instructors allowed for examination of the effectiveness of the blended instruction across teachers. In addition, a qualitative aspect of the study captured students' perceptions of the advantages and disadvantages of blended instruction (treatment group) as revealed through focus group interviews near the completion of the Spring 2015 semester.

During the two consecutive semesters, the students were exposed to either the face-to-face teaching method (control group) or to the blended teaching method (treatment group) while enrolled in the first accounting course in higher education. To identify the differences in students' academic performance, pre- and post-test assessments were administered at the beginning and end of each of the two semesters to compare results between and within the two methods. The students' satisfaction level with each of the teaching methods were quantified using a Likert scale survey. The results of the analysis performed on the quantitative pre- and post-test data and the feedback received from the students via the surveys and small focus group gave better insights into the research questions.

The remainder of this chapter provides additional information regarding the design of the study, the procedures developed for data collection, and the analyses to be conducted.

Design of the Study

A quasi-experimental design was implemented in this study, followed by a smaller qualitative evaluation of only the blended teaching classes through focus group interviews. The quasi-experimental study incorporated two between-group independent variables: a) instructor, with two levels (instructor 1 and instructor 2); and (b) type of instruction, with two levels (face-to-face and blended). The study incorporated time, with two levels (pre-test and post-test) as a within-subjects' independent variable. Further, the study involved data collection for two dependent variables: a) achievement, measured by a course final exam; and (b) satisfaction, measured by a survey instrument constructed for this study. Finally, additional qualitative data were collected from

students in the blended course sections to learn more about the advantages, disadvantages, and experiences of students in the blended format near the end of the Spring 2015 semester.

The control group in the study received face-to-face instruction during the Fall 2014 semester and the treatment group received the blended teaching method during the Spring 2015 semester. The study used four sections of the traditional, face-to-face first accounting course and four sections of the blended first accounting course, all taught by two instructors during the 2014-15 academic year. The primary researcher's groups included two control and two treatment groups. In addition, the second instructor at the same university taught two control and two treatment groups.

The blended teaching curriculum was presented and approved by the curriculum committee to be offered as an experimental design for the Spring 2015 semester for this study. Additionally, the same number of face-to-face office hours were provided for both the control and treatment groups during each of the two semesters.

Participants

The participants in this study were undergraduate business and non-business majors who enrolled in a first accounting course at a private university in southwestern Pennsylvania during the 2014-2015 academic year. Students enrolled in the traditional face-to-face teaching course (control group) were taught during the Fall 2014 semester while students enrolled in the blended course (treatment group) were taught during the Spring 2015 semester.

When the participants enrolled for both the Fall 2014 and Spring 2015 semesters during the university's registration process, they chose one of the four sections of face-to-

face or one of the four sections of the blended course offered for the first accounting course based on their qualified semester, preferred instructor, time slot, and availability of the class. The students registering for the Spring 2015 semester were not aware that four of the eleven first accounting course sections would be conducted using a blended teaching format. Students became aware of the course format during the first day of class. Students were offered flexibility to transfer to a face-to-face class, but no students transferred.

All the students who registered for one of the four face-to-face courses offered during the Fall 2014 semester (control group) or one of the four blended sections offered during the Spring 2015 semester (treatment group) were invited to participate in the study.

While all four first accounting course sections during the Fall 2014 semester representing the face-to-face control group were offered in the same semester and all four sections during the Spring 2015 semester representing the blended treatment group were offered in the following semester, there is no reason to believe that the students enrolled in the first accounting course differed between the two semesters. There were a total of one hundred forty-eight undergraduate student participants in the face-to-face control group, and an additional one hundred forty-seven student participants in the blended treatment group in the final sample of enrolled student participants. In both semesters, Fall 2014 and Spring 2015, each instructor taught two sections of the class where an equal distribution of the participant sample for the classes was found. The same number of students registered for each course with a similar proportion of business and non-business students enrolling in each course section. In addition, each class had a similar

amount of accounting and non-accounting majors. It was further found that the demographics of the students were similar, regardless of the instructor, format or semester. Thus, the two groups were found to be equivalent.

The four sections (control group) of the first accounting course offered during the Fall 2014 semester and the four sections (treatment group) offered during the Spring 2015 semester were taught by two instructors. All course sections, regardless of whether the face-to-face or the blended teaching method was utilized, were taught using the same content developed together by the two instructors participating in the study.

A copy of the Institutional Review Board approval letter from the IRB chair is included in Appendix A. In addition, a student consent letter for the control and treatment group satisfaction survey can be found in Appendix B. Also, the student consent letter for the treatment focus group can be found in Appendix C.

Instruments

The two instructors collaborated to initially create a pre- and post-test exam by mapping the first accounting course learning objectives in Appendix D to the textbook publisher test item file of questions found in Appendix E that were available online through an instructor protected password. The learning objectives were developed based on the accounting department requirements needed to comply with the accreditation assurance of learning (AOL) standards, business foundation test (BFT) standards for student graduation, and additional instructor request. The two instructors then used the alignment of the course learning objectives and the publisher test item file to create multiple-choice questions for the pre- and post-test. Multiple-choice exams assisted in reducing assessment bias because the results can be more objectively measured than other

assessment forms (Bible, Simkin, & Kuechler, 2007; Douglas, Wilson, & Ennis, 2012). Furthermore, these researchers emphasize that multiple choice exams play an important part in student understanding of basic foundations, where the importance is on developing students' understanding of the basic concepts and principles within a specific discipline. In addition, the CPA exam was administered with the majority of questions in the multiple choice category (AICPA, 2011). These pre- and post-test publisher questions selected by the two instructors were from questions originally generated by a university panel of experts (RMU) who also selected from the same publisher test item file of questions. The exam questions from the panel of experts complied with the assurance of learning (AOL) outcomes assessment by the Association to Advance Collegiate Schools of Business (AACSB) accreditation board, the university business foundation test (BFT) standards required for graduation, and additional important questions selected by instructors in compliance with the various learning objectives. The exam questions that were composed from these course learning objectives were reviewed several times by the two instructors for content and clarity for implementation in both the Fall 2014 and Spring 2015 semesters. The exam used for the pre- and post-test can be found in Appendix F. This post-test qualified as the final exam for both the control and treatment groups. Both the control and the treatment groups were given the same pre- and post-test in order to measure the students' achievement in the face-to-face teaching method versus the blended teaching method. Figure 1 represents the allocation of the Pre-test/Post-test questions by the AOL, BFT, and Researchers requirements.

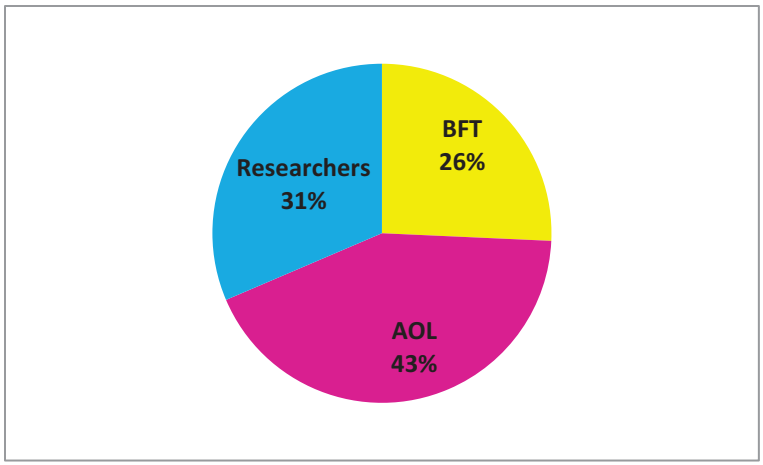

Figure 1. Percentage of pre-test/post-test questions by source: researchers, university business foundation test (BFT), and AACSB's assurance of learning outcome (AOL) assessment.

A student demographic sheet that collected information about the student's current semester, enrolled credits qualifying as full- or part-time, international status, major, academic year, Quality Point Average, attended class time, age, gender, race, employment status, and previous accounting courses completed were compiled for this study. The student demographic sheet accumulated this specific information to confirm equivalence of students within the control and treatment groups. The student demographic sheet can be found in Appendix G.

Third, the researcher developed a student satisfaction survey to record important information regarding the students' satisfaction with the course format, course content, and course communication. These items will be administered to all students in order to examine similarities and differences in student satisfaction between the control and treatment groups. This survey can be found in Appendix H. Additional survey questions focusing on the blended teaching method technological tools were added for the treatment group only. This survey can be found in Appendix I. All the students participating in the control and treatment groups completed these Likert scale surveys

near the end of the semester to measure their satisfaction level with the instructional method used during that semester.

In addition, a random sample of students from each of the treatment groups was assigned to a focus group to communicate their feedback concerning the advantages and disadvantages of the blended teaching method in the first accounting course. This was conducted near the end of the Spring 2015 semester. The questions selected for the interview protocol were paralleled to other first accounting course studies measuring the value of the blended learning method (Du & Wu, 2013; Hiralaal, 2012; Jones & Chen, 2008). The interview questions are included in Table 1 below.

Table 1

Interview Protocol

Question #	Question
1	What did you find beneficial in the blended teaching class?
2	What types of things would you want to change?
3	How did this class compare to other face-to-face classes?
4	How was the interaction/collaboration among the instructor/students?
5	How helpful were the technological tools used during the Friday classes?
6	How accessible were the technological tools used during the Friday class?
7	How did this format affect your personal time?
8	What format of the class do you prefer – the lecturing or the online version? Why?
9	Any other comments regarding the format of blended environment?

Instructional Procedures

Face-To-Face Teaching Methods

The control group was taught using face-to-face instruction during the Fall 2014 semester with each of the two instructors assigned to two face-to-face first accounting classes. The classes met three days per week for 15 weeks on Monday, Wednesday, and Friday. The control group received instruction through classroom lectures, in-class discussions, in-class homework review, and in-class exams. During class lectures, students compiled notes from the teacher's explanation of concepts and utilization of examples. Both instructors administered four identical interim exams during the semester and a post-test final exam that was identical to the non-graded pre-test exam at the beginning of the semester. Throughout the semester, the two instructors aligned instruction to the same course objectives, used the same course materials, and met on a weekly basis to ensure that their classes were mirror images of one another contributing to internal reliability and validity (Wiersma & Jurs, 2009). Even though teaching styles were similar, classroom variations did exist in the classroom techniques used in the lectures.

Class lectures. Both instructors' lectures paralleled the same course objectives. The difference in the lectures was in the manner of presentation. The primary researcher developed notes for each chapter that were distributed to the students as a basis for lectures. The other instructor discussed the material utilizing PowerPoints.

Class discussions. Both instructors conducted open class discussions throughout their classes to reinforce material and promote other students' viewpoints.

Homework review. Both instructors assigned mechanized homework through Pearson's My Accounting Lab Software. These mechanized homework assignments were not reviewed in class unless questions arose from the students.

In-class exams. Initial reviews for the exams were conducted in class by both instructors prior to the exam. Afterward, both instructors monitored all exams in class.

Blackboard. Both instructors used the university's learning management system Blackboard for announcements, notes, assignments, solutions, grades, and e-mail.

Blended Teaching Methods

Chou and Chou (2011) indicated that the face-to-face and online teaching methods are the two main course environments for learning in higher education, but that the blended teaching method helps to lessen the concerns associated with totally online learning. According to Dowling, Godfrey, and Gyles (2003), blended teaching is a new method offering the social advantage of face-to-face instruction with increased student flexibility, technology, and satisfaction associated with online learning.

During the summer of 2014, the primary researcher and the second researcher, another accounting instructor, were awarded a fellowship to develop a blended teaching first accounting course, and the blended course was implemented as the treatment for this study. Blended teaching is an instructional design combining the face-to-face method with the asynchronous and synchronous online method (Chou & Chou, 2011). By combining the advantages of the face-to-face and online teaching methods, students receive the social benefits of the face-to-face classroom including in-person collaboration and interaction and the additional flexibility and use of technology from the online

teaching component. Research indicates that students have an unfavorable attitude to learning online without some face-to-face instruction (Yuen, 2011).

During the 15-week Spring 2015 semester, four first accounting courses were offered in the blended teaching environment on a Monday, Wednesday, and Friday schedule. The researcher taught two of the classes and the other instructor taught the remaining two classes. Students in the blended teaching environment came to campus Monday and Wednesday in a face-to-face class setting for lectures, discussions, in-class homework review, and in-class exams. On Fridays, these same students did not come to class but use publisher and researcher-developed online technologies outside of the classroom to fulfill the additional time required for the third instruction day as part of the blended teaching environment in compliance with accreditation requirements (PDE, 2008). The online component consisted of asynchronous instruction and online quizzes outside of the classroom. All of these course activities for these days paralleled the instruction that took place in the control group classrooms during the prior semester.

Once again, throughout the semester, the two instructors followed the same course objectives, used the same course materials, and met on a weekly basis to not only ensure that their classes were mirror images of one another, but that they paralleled the control group classrooms from the previous semester, ensuring internal reliability and validity (Wiersma & Jurs, 2009). The main difference between the treatment and control group classrooms was the use of online technology in the treatment environment that replaced the Friday in-class sessions of the control group.

The online component of the treatment group consisted primarily of asynchronous technologies. These activities included technological tools such as instructor videos

developed from Screencast-O-Matic and embedded in the LMS Blackboard shell, short videos, and audio PowerPoint presentations from the publisher's My Accounting Lab software program. In addition, short assessments were administered for the students to complete at the end of the Friday online session each week. The publisher-provided videos, audio PowerPoint slides and the instructor-developed videos used in the blended teaching environment during the Spring 2015 semester were not available with the face-to-face students (the control group) during the Fall 2014 semester.

A majority of the information was presented in the publisher's software package called My Accounting Lab. In this package, videos, audio PowerPoints, quizzes, and homework were assigned. These online technological assignments provided in the blended teaching environment instead of the Friday class session during the Spring 2015 semester did not exceed the 50 minutes allocated to the face-to-face Friday session during the Fall 2014 semester.

Even though Wuensch et al. (2008) indicated that online courses allowed for more self-pacing than the face-to-face environment, the online portion of the blended first accounting course was not developed with the self-pacing feature. The primarily reason was that the blended course was not strictly online but partly taught by the instructor in a face-to-face environment. The teaching and learning using the blended method was based on a sequence of steps necessary to be followed for understanding the content in the first accounting course. When students met face-to-face, they had the benefit of the instructor teaching and reinforcing the content. The online environment provided the students the built-in flexibility and technology to learn on their own. The face-to-face environment then provided any necessary clarification important in the first accounting

course providing for a cumulative set of foundational material necessary to now move on to the next step together.

The following online technological instructional materials were piloted during the Fall 2014 semester using a random sample of six students from the researcher's other first accounting course who were not part of the four control groups used in the study. The feedback from the pilot study was used to modify content, format, and structure of the activities to ensure ease of use, quality, and student suggestions. Hiralaal (2012) mentioned in their study of education students taking an accounting course of the importance in conducting a pilot study to identify vagueness, misperceptions, and poorly selected instruments.

Videos. Short five-minute videos from the publisher explaining accounting concepts were used during the Friday online sessions of the blended teaching environment. In addition, short five-minute videos created by the instructor on Screencast-O-Matic software explaining accounting concepts and offering student examples were used during the Friday online session of the blended course. Sargent, Borthick, and Lederberg (2011) determined in their study that the short three-minute online video in a first accounting course enhanced student learning, retention, and performance. Furthermore, these researchers indicate that students will be able to learn at their own pace by pausing, rewinding, and stopping the videos.

Screencast-O-Matic is a free screen and webcam recorder that captures video from a computer screen to save to a video file or share on Screencast-O-Matic.com or YouTube. These videos were instructor-created and posted on YouTube, and then embedded into the LMS Blackboard shell. Their purpose was to explain concepts and

reinforce important information to gain knowledge of both the important accounting foundations and complex material.

Publisher audio PowerPoint presentations. An additional online tool to be used in assisting to communicate content was the textbook publisher's audio PowerPoint presentations. The primary researcher reviewed the PowerPoints to fit the course objectives prior to distributing them for use by both instructors in the online Friday sessions. These PowerPoints were adapted to be brief. Smith (2013) found that students in his study preferred brief asynchronous PowerPoints for content delivery. Brecht and Ogilby (2008) further stated that students can view, pause, and repeat these online tools to accommodate their own learning pace and flexibility.

Quizzes. Assessments of student progress were accomplished through the use of short quizzes provided online through the publisher's software. This will assist the instructor to ensure that the students are completing and understanding the material presented online.

In summary, the instructional methods and technological tools used in this study reflect effective instructional practices according to the literature mentioned as well as the teaching experience of the two researchers. The instructional calendar exhibiting the schedule for the face-to-face sessions and the online sessions was developed and can be found in Appendix J. This schedule mapped to the course objectives shows the Monday and Wednesday activities conducted during both semesters' teaching methods, with the Friday session held face-to-face for the control group and online for the treatment group. This schedule was shown and approved by the curriculum committee in October 2014.

Data Collection Procedures

Pre-Test Data

At the beginning of the Fall 2014 semester, students in each of the two instructors' two control groups were given an in-class pre-test to identify their level of knowledge before exposed to the face-to-face teaching method and concepts taught in the first accounting course. At the beginning of the Spring 2015 semester, students in each of the two instructors' two treatment groups were given the same in-class pre-test to identify their level of knowledge before exposed to the blended teaching method and concepts taught in the course. The instructors informed the students that the purpose of the pre-test was to identify their initial level of knowledge related to the first accounting course, and it was not counted as part of their final grade. The pre-test can be found in Appendix F. The pre-test grading scale ranges from 0 to 30 points.

Post-Test Data

Near the end of the Fall 2014 semester, students in the control group were given an in-class post-test identical to the pre-test given at the beginning of the semester. In addition, near the end of the Spring 2015 semester, students in the treatment group were given the same in-class post-test identical to the pre-test given at the beginning of the semester to assess their level of knowledge. The grading scale is between 0 and 30 points. A copy of the exam can be found in Appendix F.

Satisfaction Data

Near the end of the Fall 2014 semester, the control group participants completed a Likert scale survey regarding their level of satisfaction with the face-to-face instructional method. Near the end of the Spring 2015 semester, the treatment group participants

completed the same satisfaction survey regarding their level of satisfaction with the blended instructional method. In addition, the treatment group also completed another Likert scale survey rating the level of satisfaction with the technology used in the blended teaching environment. The student consent, demographic information, and satisfaction surveys can be found in Appendices B, G, H, and I.

Focus Group Data

A random sample of students meeting the predetermined criteria (Lichtman, 2013) were selected from each of the four treatment groups near the end of the Spring 2015 semester to participate in a focus group to provide their perceptions of the advantages and disadvantages of the blended teaching method. A random sample was chosen as it represents an unbiased sample, and this type of probability sampling provides all members of the population an equal chance of selection in the represented sample (Wiersma & Jurs, 2009). Three students from each of the four blended teaching classes were randomly selected for the focus group with a final total of nine students attending the focus group. The recommended size of the focus group should be around 6 to 12 participants (Lichtman, 2013). According to Lichtman (2013), scheduling 12 or more people is recommended as some participants may agree to participate but do not appear at the given time. The key is that the participants have experience with the topic and, because generalizing in a traditional sense is not the objective, it is irrelevant to confirm that the group represents the population in relation to race, gender, or educational level (Lichtman, 2013). Lichtman allows flexibility in whether or not a second focus group will be necessary. According to Lichtman, the sense of selecting adequate groups will be

evident when the responses can be anticipated and no new information is heard; at this point, saturation has occurred and a sufficient number of groups has been interviewed.

The researcher served as the moderator and another independent researcher was the co-moderator for the focus group. Lichtman (2013) recommends a co-moderator to assist in maintaining the flow and helping to assure that all members participate. The moderator's role was to decide on the included questions, structure, and how to conduct the group (Lichtman, 2013). Therefore, the researcher as the moderator developed the focus group interview questions, decided on the time and place, structure, and conduct the focus group. The co-moderator was available to assist with the flow. The intent is to put the participants at ease, ask questions, probe, and listen to how individuals think and feel about the value of a topic common to all participants for a recommended length of approximately 60 minutes (Lichtman, 2013). A semi-structured approach as recommended by Lichtman (2013) was utilized by the moderator with a list of questions not available to the participants, moderator flexibility, and "why" and "how" type of words (Lichtman, 2013).

The questions for the focus group interview can be found in Table 1. The consent for the focus group participants can be found in Appendix C. The students' responses were audio recorded and transcribed for further qualitative analysis to evaluate the value of the blended teaching method. The purpose of the focus groups was to provide insight into these participants' thoughts and feelings (Lichtman, 2013) about the design of the blended teaching method and its strengths and weaknesses as it pertained to their academic learning in the first accounting course.

Data Analysis

Data Processing

All quantitative data, including student demographic data, pre- and post-test, and satisfaction survey total scores were entered into a computer package. In addition, data from the demographic form, pre- and post-test, and the satisfaction survey total scores will be tabulated into an Excel spreadsheet for each participant from the four control groups from the Fall 2014 semester and the four treatment groups from the Spring 2015 semester. Data checking occurred repeatedly to confirm that data were recorded and entered accurately into the spreadsheet. To maintain the students' anonymity, each participant was assigned a number, but all demographic data, pre- and post-test, and satisfaction survey were entered by student number for all groups.

Once the student demographic data were entered, equivalency of students in both the control and treatment groups was analyzed. Descriptive statistics were calculated for the pre- and post-test and the Satisfaction Survey for each group, then repeated measures ANOVA was run with the variables.

Analysis of Variance

A repeated measures ANOVA analysis was performed with two between factors: instructor with two levels (instructor 1 and instructor 2); and type of instruction with two levels (face-to-face and blended teaching); and one within-subjects factor: time with two levels (pre-and post-test), to examine the impact type of instruction on student achievement. A second, parallel repeated measures ANOVA was conducted using satisfaction as the dependent variable. These analyses showed any impact and interaction

between type of instruction and instructor on student achievement and student satisfaction in face-to-face versus blended first accounting courses.

Focus Group Content Analysis

Finally, the focus group recordings from the random sample of students from each of the four blended classes were transcribed to begin the qualitative data analysis process. Each question and the participants' responses were transcribed on a separate sheet and will not include nonessential words. Hammersly (2010) recommends that utilizing actual transcriptions is more rigorous evidence than field notes offering an accurate representation of the happenings. From the transcription, the data were coded, and themes were identified from the coding. Topics for coding included (a) benefits and weaknesses of the blended teaching method, (b) comparison to purely face-to-face teaching method, (c) interaction/collaboration, (d) helpfulness and accessibility of the technological tools used online, (e) availability of personal time, (f) instructional format preferred, and (g) any other themes that emerge from participants' responses to summarize a qualitative evaluation of the advantages and disadvantages of the blended teaching method. Lichtman's (2013) coding process was followed, which requires the researcher to (a) code chunks, (b) reread data, (c) change codes, (d) add codes, (e) combine codes, and (f) delete codes to arrive at emerging themes. The primary researcher completed this process alone. Lichtman (2013) states that using others to verify an interpretation assumes that some findings are better than others and, unlike statistical analysis, there is nothing that states one set of interpretations is better than another in qualitative data analysis.

Member checking was utilized to confirm the trustworthiness of the responses from the focus group participants on the blended teaching method. According to Saldana (2011), member checking is the process of sharing information with the participants to verify the accuracy of their responses and validate their interpretations. Furthermore, member checking helps authenticate the participants' words by providing credibility and validity to the findings and themes (Lichtman, 2013; Saldana, 2011). Participants were consulted in person or by e-mail by the researcher to share and confirm accurate and truthful representation of their ideas. This additional step helped the researcher ensure that the focus group interview findings were authentic and reliable (Lichtman, 2013; Saldana, 2011). The sole objective was to collect and saturate all data and begin writing to answer the research question (Lichtman, 2013).

Chapter Summary

The diversity of business and non-business students in the first accounting course in higher education causes complications in making the design of the class interesting, challenging, and rewarding to all the students enrolled. Numerous colleges and universities are exploring other designs besides the face-to-face and online teaching methods.

This methodology section focused on the development and implementation of a blended teaching method as compared with a face-to-face method in hopes of discovering an additional teaching method design to be used in the first accounting course within higher education today. In helping to insure the validity and reliability, the study utilized two instructors similar in both experience and teaching methodologies to test the design of the blended method against the face-to-face method.

To answer the three research questions focused on student achievement, satisfaction, and value, this quasi-experimental design sought to measure both teaching methods by student performance on a pre- and post-test, and student level of satisfaction through a researcher-constructed survey. In addition, the qualitative aspect of this methodology explored the perceptions of students through focus group interviews on the advantages and disadvantages of the blended teaching method.

Chapter 4 – Results

Chapter Overview

This chapter presents the results of a quasi-experimental study that investigated the effect of a blended teaching method compared to a face-to-face teaching environment on student performance and satisfaction in a first accounting course in higher education. In addition, this study used qualitative data to investigate students' perceptions of the advantages and disadvantages of the blended teaching method. The blended teaching method combines aspects of the face-to-face and online instructional environments.

The study was completed during two fifteen-week semesters using two instructors at one university. Each instructor taught two face-to-face courses (control group) during the Fall 2014 semester for a total of four classes. These four classes met face-to-face on Monday, Wednesday, and Friday. In addition, each instructor taught two blended teaching courses (treatment group) during the Spring 2015 semester for a total of four classes. These four classes met face-to-face on Monday and Wednesday and utilized online technology on Friday. The goal of the study was to determine if the type of instruction impacted students' achievement as determined by the gain or the difference between the post-test and pre-test on an instructor-constructed achievement test, and students' satisfaction determined by a researcher-constructed post survey for these two groups. In addition, a qualitative analysis captured participants' perceptions of the benefits of the blended teaching method as revealed through a focus group interview with randomly selected blended course students near the end of the Spring 2015 semester. Also, a researcher-constructed survey focused to the blended teaching method only was distributed to the treatment group near the end of the Spring 2015 semester.

The research questions guiding the study were as follows:

1. Is there a difference in academic performance of students who received blended instruction versus face-to-face instruction in a first accounting course in higher education?
2. Is there a difference in satisfaction of students who received blended instruction versus face-to-face instruction in a first accounting course in higher education?
3. What are the advantages and disadvantages of blended instruction in a first accounting course from the perspective of undergraduate students?

Data Collection and Processing

An Excel spreadsheet was created to collect student demographics, pre-test and post-test scores from the 30 multiple-choice questions, and responses to the survey questions. These data were entered into a spreadsheet for each participant from the control group from the Fall 2014 semester and the treatment group from the Spring 2015 semester. Each student signed a consent form and was assigned a code to fulfill the IRB anonymity requirement. Student demographics and survey responses were collected during class at the end of each semester. In addition, the pre-test and post-test scores were obtained from each of the two instructors' final gradebooks for both the control and treatment groups.

A new variable was created to address the first two research questions that focused on performance and satisfaction. The *Gain* variable, computed as the difference between the post-test and pre-test score, was used as the performance measure to

compare the students who received blended instruction to the students who received face-to-face instruction. The *Satisfaction* variable, computed as the average of the common 29 survey questions, was used to evaluate the difference in students' satisfaction between the two instructional methods. The survey was based on a 4-point Likert scale of 4 = Strongly Agree (SA), 3 = Agree (A), 2 = Disagree (D), or 1 = Strongly Disagree (SD).

The third research question was designed to identify the advantages and the disadvantages of the blended instructional method. A focus group interview with nine randomly selected participants from the four blended sections of the treatment group was created as described in the methodology chapter. In addition, the blended teaching participants completed a researcher-constructed survey focused on the blended instructional method.

Sample Descriptive Statistics

The convenience sample for the study was obtained based on student enrollment in the first accounting course at one university during the Fall 2014 and Spring 2015 semesters. Table 2 shows the total number of students originally enrolled, withdrawn, failed to complete the pre- or post-test, and final sample of students enrolled by instructor and group.

Table 2

Final Sample of Student Enrollment

Group	Enrolled		Withdrawn		Failed to complete		Final sample	
	Instructor 1	Instructor 2	Instructor 1	Instructor 2	Instructor 1	Instructor 2	Instructor 1	Instructor 2
Control	80	75	4	1	2	0	74	74
Treatment	78	78	5	3	1	0	72	75
Total	158	153	9	4	3	0	146	149

There were a total of 148 undergraduate student participants in the face-to-face control group and an additional 147 student participants in the blended treatment group in the final sample of enrolled student participants. In both semesters, Fall 2014 and Spring 2015, each instructor taught two sections of the class that contained an equal distribution of the participant sample for the classes. The study was conducted with IRB clearance and university approval.

The overall participant demographics shown in Table 3 were characterized by students between 18 and 24 years old (n = 283, 95.9%), males (n = 215, 72.9%), Caucasian (n = 228, 77.3%), enrolled full time at the university (n = 293, 99.3%), US citizens (n = 247, 83.7%), with student majors of accounting (n = 44, 15.0%), economics (n = 9, 3.1%), finance (n = 22, 7.5%), management (n = 28, 9.5%), marketing (n = 52, 17.6%), and other majors (n = 140, 47.5%), comprising freshmen (n=80, 27.1%), and sophomores (n = 169, 57.3%), with QPAs of 3.5 and up (n = 121, 41.0%), 3.0-3.49 (n = 125, 42.4%), an employment status of working part-time (n = 97, 32.9%), or not working (n = 158, 53.6%), with most students not having accounting in high school (n = 212, 71.2%).

Table 3

Demographic Information on Participants

	Treatment		Control		Total	
	n	*%*	*n*	*%*	*n*	*%*
Semester						
Fall Term 2014	-	-	148	50.17%	148	50.17%
Spring Term 2015	147	49.83%	-	-	147	49.83%

Total	147	49.83%	148	50.17%	295	100%
Age						
18-24	144	97.96%	139	93.93%	283	95.93%
25-34	2	1.36%	6	4.05%	8	2.71%
35-44	-	-	2	1.35%	2	0.68%
45-54	-	-	-	-	-	-
55+	1	0.68%	1	0.67%	2	0.68%
Total	147	100%	148	100%	295	100%
Gender						
Male	103	70.07%	112	75.68%	215	72.88%
Female	44	29.93%	36	24.32%	80	27.12%
Total	147	100%	148	100%	295	100%
Race						
African American	9	6.13%	9	6.10%	18	6.10%
Asian	3	2.04%	4	2.70%	7	2.37%
Hispanic	-	-	3	2.02%	3	1.02%
Caucasian	120	81.63%	108	72.97%	228	77.29%
Other (Arabic)	15	10.20%	24	16.21%	39	13.22%
Total	147	100%	148	100%	295	100%
Student type						
Full time	146	99.32%	147	99.33%	293	99.32%
Part time	1	0.68%	1	0.67%	2	0.68%
Total	147	100%	148	100%	295	100%
International						
Yes	17	11.57%	31	20.95%	48	16.27%
No	130	88.43%	117	79.05%	247	83.73%
Total	147	100%	148	100%	295	100%
Major						
Accounting	34	23.15%	10	6.77%	44	14.91%
Economics	5	3.40%	4	2.70%	9	3.05%

Finance	9	6.12%	13	8.78%	22	7.46%
Management	15	10.20%	13	8.78%	28	9.49%
Marketing	16	10.88%	36	24.32%	52	17.63%
Other	68	46.25%	72	45.65%	140	47.46%
Total	147	100%	148	100%	295	100%
Academic year						
Freshman	72	48.99%	8	5.42%	80	27.12%
Sophomore	62	42.17%	107	72.29%	169	57.29%
Junior	12	8.16%	27	18.24%	39	13.22%
Senior	1	0.68%	6	4.05%	7	2.37%
Total	147	100%	148	100%	295	100%
QPA						
3.5 and up	64	43.55%	57	38.53%	121	41.02%
3.0-3.49	57	38.77%	68	45.94%	125	42.37%
2.5-2.99	24	16.32%	21	14.18%	45	15.25%
2.0-2.49	2	1.36%	2	1.35%	4	1.36%
Below 2.0	-	-	-	-	-	-
Total	147	100%	148	100%	295	100%
Employment status						
Full time	7	4.77%	15	10.14%	22	7.46%
Part time	47	31.97%	50	33.78%	97	32.88%
Student work study	9	6.12%	9	6.08%	18	6.10%
Not working	84	57.14%	74	50.00%	158	53.56%
Total	147	100%	148	100%	295	100%
High school Accounting						
Yes	48	32.66%	35	23.65%	83	28.14%
No	99	67.34%	113	76.35%	212	71.86%
Total	147	100%	148	100%	295	100%

Research Question 1

The first research question compared the performance of the students who received the blended teaching method with the face-to-face instruction. The achievement was measured by a Gain score variable computed as the difference between the post-test and pre-test for each of the two teaching methods. The main factors identified to influence the Gain score variable were the instructor with two levels (instructor 1 and instructor 2) and type of instruction with two levels (face-to-face and blended teaching).

Descriptive statistics were also computed for the variables quantifying the students' performance during the first accounting course. The same instrument was administered for the pre-and post-test. Details about the content validity of the instrument were provided in chapter 3. The instrument consisted of 30 multiple-choice questions, each counting for 1 point, making the test worth a total of 30 possible points. The topics covered on the instrument were (A) accounting foundation (13 items); (B) inventory (3 items); (C) ethics and internal control (2 items); (D) cash, accounts receivable, and long-term assets (3 items); (E) current and long-term liabilities (4 items); corporate structure (4 items); and (F) cash flow D (1 item). The pre-test variable quantifies the level of knowledge students had at the beginning the course. The post-test variable quantifies the students' level of knowledge at the end of the course. The Gain variable quantifies the difference in performance between the two scores (post-test and pre-test). Table 4 presents descriptive statistics of the three variables: pre-test, post-test, and Gain, by instructor, for each method of instruction.

Table 4

Descriptive Statistics for Pre-test, Post-test and Gain Measure

		Face-to-face teaching							Blended teaching					
		Pre		Post		Gain			Pre		Post		Gain	
Instructor	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1	74	16.3	4.0	22.7	3.9	6.39	3.9	72	15.5	4.2	24.7	3.3	9.2	3.6
2	74	14.0	3.7	26.0	2.8	11.9	4.8	75	14.6	4.3	23.2	4.3	8.6	5.7
Total	148	15.2	4.0	24.3	3.8	9.19	5.2	147	15.0	4.3	24.0	3.9	8.9	4.8

Figure 2 shows an increase in score from the pre-test average to the post-test average score for both instructors in the face-to-face teaching method. It also indicates that the pre-test average score was higher for instructor 1 than for instructor 2, but an inverse relationship was observed for the post-test average score, which was higher for instructor 2 than for instructor 1. Furthermore, instructor 2 showed the lowest pre-test average score and the highest post-test average score for this control group.

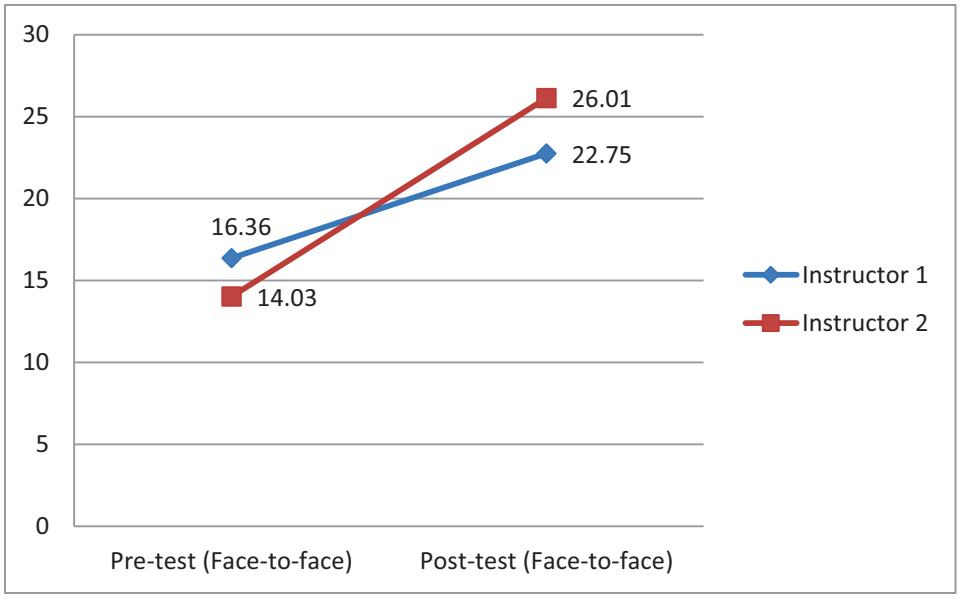

Figure 2. Average pre-test and post-test for face-to-face teaching (control group).

Figure 3 shows an increase in score from the pre-test average to the post-test average score for both instructors in the blended teaching method. The relationship displayed can be associated with an ordinal interaction due to instructor 1's scores being slightly higher than instructor 2.

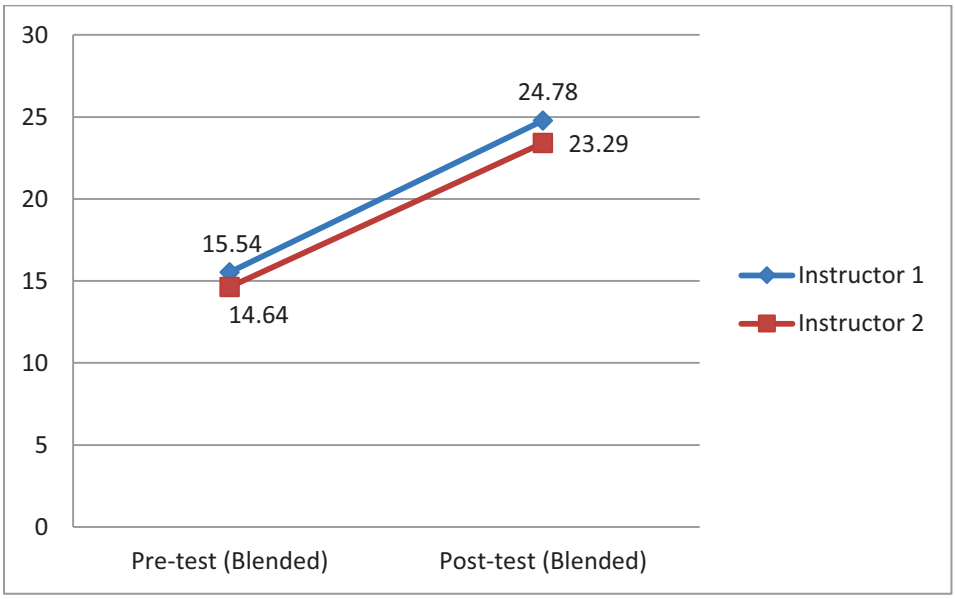

Figure 3. Average pre-test and post-test for blended teaching (treatment group).

Figure 4 shows a box plot of the overall median Gain score by instructor and type of instruction. This box plot indicates that the median Gain score was higher for instructor 2 than for instructor 1 in the Fall semester (face-to-face teaching). Also, that the median Gain score was higher for instructor 1 than for instructor 2 in the Spring semester (blended teaching). In addition, instructor 1 had a higher median Gain score for the treatment group (blended teaching) compared with the control group (face-to-face teaching), whereas, instructor 2 had a higher median Gain score for the control group compared with the treatment group.

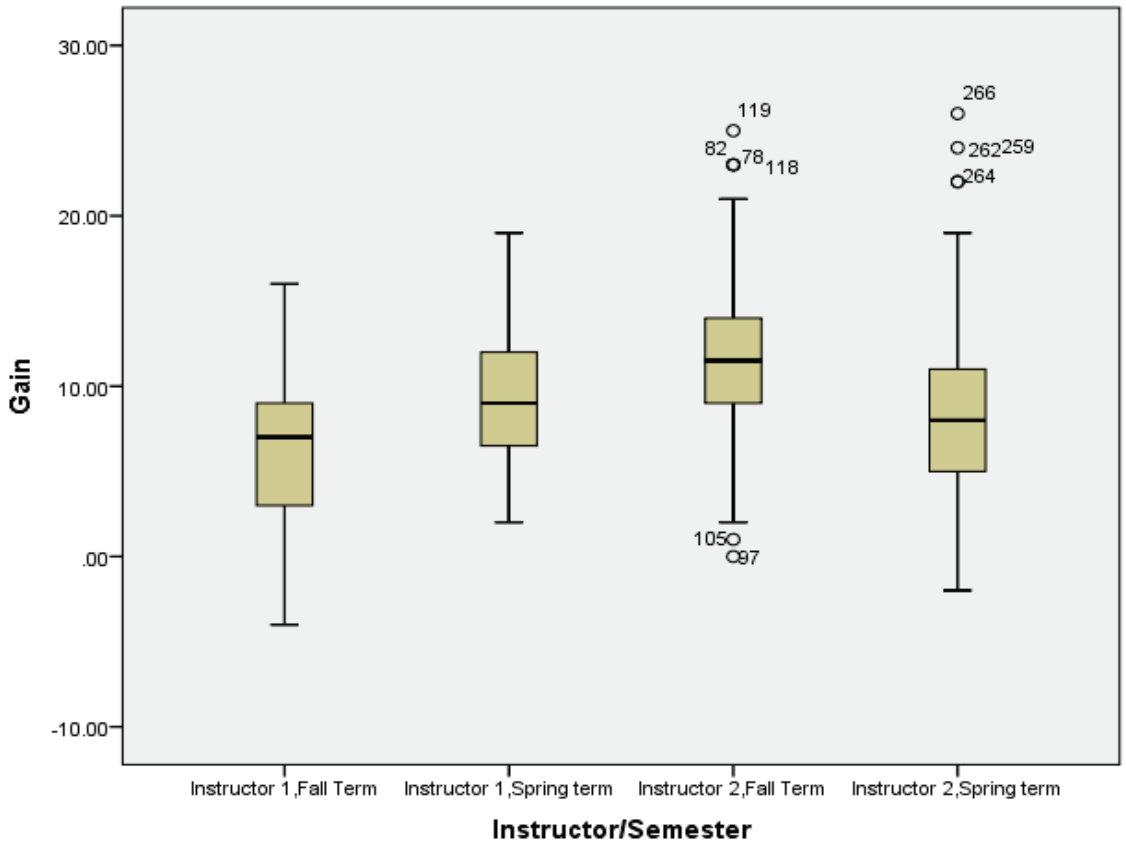

Figure 4. Median Gain by instructor and type of instruction.

A two-way ANOVA with interaction was performed to determine if there was a combined effect of the two factors (instructor and type of instruction) on students' performance. The results of the ANOVA test are presented in Table 5.

Table 5

Results of ANOVA with Interaction for Gain Using Type of Instruction and Instructor as Factors

Effect	Sum of Squares	*Df*	Mean Square	*F*	*p*
Type of instruction	4.430	1	4.430	0.20	0.652
Instructor	460.781	1	460.781	21.21	0.000
Type of instructions*Instructor	703.709	1	703.709	32.40	0.000
Residual	6319.952	291	21.718		
Error (corrected)	7493.206	294			

The ANOVA results showed that the interaction between the instructor and the type of instruction was statistically significant, $F(1,291) = 32.40$, $p = 0.00$[1]. This indicated that the performance of the students quantified through the dependent variable of the Gain score was influenced by the combined effect of the two factors, instructor and type of instruction.

A test of simple effect comparisons was conducted to identify which means were significantly different from the others. Figure 5 shows the means for the average Gain score for each semester by instructor with a 95% confidence interval. The results by instructor indicate for instructor 1 that the blended mean of 9.24 and the face-to-face mean of 6.39 resulted in a difference of 2.85, which was statistically significant (p = 0.00). In addition, for instructor 2, the face-to-face mean of 11.98 and the blended mean of 8.65 resulted in a difference of 3.33 that was statistically significant (p = 0.00). Looking at the data slightly differently by semester, the face-to-face (Fall semester) for instructor 2 resulted in a mean of 11.98 and the face-to-face for instructor 1 was a mean of 6.39 that resulted in a difference of 5.59 that was statistically significant (p = 0.00). In addition, for the Spring semester, the blended for instructor 1 had a mean of 9.24 in comparison to a mean of 8.65 for instructor 2 that resulted in a difference of 0.59 that was not statistically significant (p = .444).

These results indicated that the students' performance was similar in the blended teaching method independent of the instructor teaching the class. Also, the students' performance was different in the face-to-face teaching method between instructors 1 and 2 with instructor 2 showing a higher average Gain score. In addition, the students' performance was different in the face-to-face versus the blended instruction for

[1] α-level 0.05

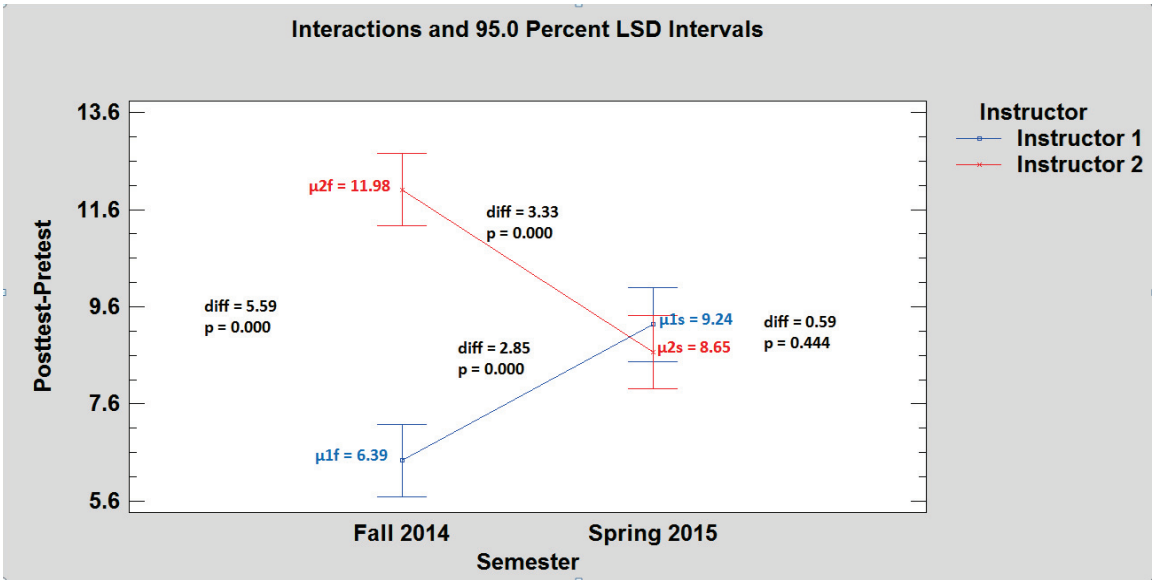

Figure 5. Gain scores based on the interaction between type of instruction and instructor.

instructors 1 and 2 with instructor 1 showing a better performance in the blended and instructor 2 showing a better performance in the face-to-face teaching method.

Research Question 2

The second research question compared the students' satisfaction level with their related instructional teaching method (face-to-face versus blended). The satisfaction was measured with a researcher-constructed Likert scale survey administered once during class at the end of the Fall 2014 and the Spring 2015 semesters. A Satisfaction variable, computed as the average of the common 29 survey questions, was used to evaluate the difference in students' satisfaction between the two instructional methods.

Descriptive statistics for both instructional methods were generated and are presented in Appendix K for the first three sections of the satisfaction survey: course format, course content, and course communication for the control and treatment group separately, and overall. These descriptive statistics were based on a 4-point Likert scale

of 4 = Strongly Agree (SA), 3 = Agree (A), 2 = Disagree (D), or 1 = Strongly Disagree (SD).

A reliability analysis was performed to determine the survey questions to be included in the new variable that quantifies the overall satisfaction of the students. The analysis provided evidence that the survey questions were directly connected to the research question in describing the students' satisfaction level. The analysis resulted in a Cronbach's alpha index[2] of 0.924 that indicated high internal consistency in the reliability of the survey questions. Furthermore, the inter-item correlation matrix for the reliability analysis shown in Appendix M was utilized to identify very low or negative correlation values. Question 23 had a low value with multiple survey questions and was therefore removed from the analysis of 30 questions resulting in the designated 29 questions. This removal increased the Cronbach's alpha index from 0.924 to 0.927 as shown in Appendix N. This resulted in the students' satisfaction calculated as the average of the survey questions from 1 to 22 and 24 to 30.

Table 6 displays descriptive statistics for both instructional methods based on the satisfaction survey with emphasis on participants agreeing or disagreeing with the survey questions. Appendix K provides more in-depth descriptive statistics of the survey's three components: course format, course content and course communication. The synthesized satisfaction results in Table 6 showed that the majority of participants were satisfied with both instructional methods.

[2] Internal consistency of the Cronbach's alpha: <0.5, unacceptable; between 0.5 and 0.6, poor; between 0.6 and 0.7, questionable; between 0.7 and 0.8, acceptable; between 0.8 and 0.9 good; above 0.9, excellent.

Table 6

Descriptive Statistics for the Survey Questions Common to Both Teaching Methods

Question	Group	Agree		Disagree		*M*	*SD*
		n	%	*n*	%		
Course Format							
Q1. The number of class meeting sessions was adequate	Total	281	95.26	14	4.75	3.40	0.58
	Control	146	98.65	2	1.35	3.40	0.52
	Treatment	135	91.84	12	8.16	3.40	0.64
Q2. The course format provided flexibility in my schedule	Total	274	92.88	21	7.12	3.36	0.62
	Control	130	87.84	18	12.17	3.14	0.62
	Treatment	144	97.95	3	2.04	3.59	0.53
Q3. The course format allowed for sufficient student/instructor interaction	Total	278	94.24	17	5.76	3.32	0.58
	Control	143	96.62	5	3.38	3.36	0.55
	Treatment	135	91.83	12	8.16	3.27	0.60
Q4. The course format allowed for sufficient student/student interaction	Total	251	85.08	44	14.92	3.08	0.63
	Control	123	83.11	25	16.90	3.00	0.61
	Treatment	128	87.07	19	12.92	3.16	0.65
Q5. The course format allowed me think independently	Total	274	92.89	21	7.12	3.27	0.61
	Control	132	89.19	16	10.81	3.13	0.62
	Treatment	142	96.60	5	3.40	3.41	0.56
Q6. The course format increased my motivation to learn	Total	218	73.90	77	26.1	2.91	0.74
	Control	110	74.32	38	25.68	2.93	0.69
	Treatment	108	73.47	39	26.53	2.88	0.78
Q7. The course format provided adequate opportunity for participation	Total	258	87.46	37	12.54	3.12	0.62
	Control	133	89.87	15	10.14	3.15	0.60
	Treatment	125	85.03	22	14.97	3.08	0.64
Q8. The overall course format was conducive to learning	Total	264	89.49	31	10.51	3.19	0.64
	Control	134	90.54	14	9.46	3.19	0.59
	Treatment	130	88.43	17	11.56	3.19	0.69
Q9. I had a sense of	Total	245	83.05	50	16.95	3.09	0.73

accomplishment after completing the course	Control	120	81.09	28	18.92	3.03	0.74
	Treatment	125	85.03	21	14.97	3.14	0.71
Q10. I am satisfied with the level of effort that this course format required	Total	267	90.50	28	9.49	3.18	0.62
	Control	134	90.54	14	9.46	3.14	0.60
	Treatment	133	90.47	14	9.52	3.23	0.63
Q11. I am satisfied with my performance in this course format	Total	217	73.56	78	26.44	2.94	0.81
	Control	104	70.27	44	29.73	2.90	0.84
	Treatment	113	76.87	34	23.13	2.99	0.79
Q12. I was satisfied with the instructor's explanation of course requirements	Total	282	95.59	13	4.41	3.41	0.59
	Control	142	95.95	6	4.06	3.45	0.60
	Treatment	140	95.24	7	4.76	3.36	0.57
Course Content							
Q13. The course content was presented clearly	Total	271	91.86	24	8.14	3.31	0.64
	Control	133	89.86	15	10.14	3.28	0.66
	Treatment	138	93.88	9	6.12	3.34	0.61
Q14. The course content was well-organized	Total	278	94.23	17	5.76	3.36	0.61
	Control	138	93.25	10	6.76	3.34	0.62
	Treatment	140	95.24	7	4.76	3.37	0.60
Q15. The course content was understandable	Total	254	86.10	41	13.9	3.13	0.70
	Control	117	79.05	31	20.95	3.00	0.75
	Treatment	137	93.19	10	6.80	3.25	0.62
Q16. The course content kept my interest high	Total	196	66.44	99	33.56	2.78	0.79
	Control	92	62.16	56	37.83	2.76	0.79
	Treatment	104	70.75	43	29.25	2.79	0.80
Q17. My understanding of accounting was improved in this course compared to similar courses	Total	256	86.78	39	13.22	3.19	0.73
	Control	129	87.16	19	12.84	3.18	0.72
	Treatment	127	86.39	20	13.60	3.19	0.75
Course Communication							
Q18. The responsiveness of the instructor was adequate for meeting my needs	Total	283	96.26	11	3.74	3.35	0.56
	Control	144	97.96	3	2.04	3.36	0.55

	Treatment	139	94.56	8	5.44	3.33	0.58
Q19. The instructor made me connected with my classmates	Total	175	59.32	120	40.68	2.70	0.75
	Control	88	59.46	60	40.54	2.70	0.71
	Treatment	87	59.19	60	40.81	2.70	0.79
Q20. I was satisfied with the accessibility and availability of the instructor	Total	281	95.26	14	4.75	3.33	0.58
	Control	141	95.27	7	4.73	3.32	0.59
	Treatment	140	95.24	7	4.76	3.34	0.57
Q21. Feedback on assignments and exams was given in a timely manner	Total	280	94.91	15	5.09	3.37	0.60
	Control	141	95.27	7	4.73	3.34	0.61
	Treatment	139	94.56	8	5.44	3.40	0.59
Q22. I felt comfortable contacting the instructor outside of class	Total	275	93.22	20	6.78	3.36	0.64
	Control	135	91.22	13	8.78	3.32	0.67
	Treatment	140	95.24	7	4.76	3.39	0.60
Q23. I saw the instructor during office hours at least once	Total	85	28.81	210	71.19	2.06	1.02
	Control	45	30.40	103	69.59	2.09	1.00
	Treatment	40	27.22	107	72.79	2.03	1.05
Q24. The instructor showed concern for student progress	Total	279	94.58	16	5.42	3.45	0.60
	Control	140	94.59	8	5.41	3.44	0.60
	Treatment	139	94.56	8	5.44	3.46	0.60
Q25. The instructor was willing to listen to student questions	Total	279	94.58	16	5.42	3.49	0.61
	Control	141	95.27	7	4.73	3.47	0.59
	Treatment	138	93.87	9	6.12	3.51	0.63
Q26. I participated in class	Total	236	80.00	59	20.00	2.97	0.70
	Control	120	81.08	28	18.92	3.01	0.72
	Treatment	116	78.91	31	21.09	2.93	0.68
Q27. I was comfortable asking questions or for clarification	Total	253	85.76	42	14.23	3.11	0.67
	Control	130	87.84	18	12.17	3.17	0.68
	Treatment	123	83.67	24	16.33	3.05	0.66
Q28. I engaged with my classmates during class	Total	169	57.29	126	42.71	2.65	0.85
	Control	89	60.14	59	39.87	2.68	0.84
	Treatment	80	54.43	67	45.57	2.61	0.86

Q29. I engaged with my classmates about course content outside of class	Total	191	64.97	103	35.03	2.71	0.89
	Control	93	63.27	54	36.73	2.69	0.91
	Treatment	98	66.67	49	33.33	2.74	0.87
Q30. I engaged with my classmates more in this class than in other courses	Total	109	36.95	186	63.05	2.29	0.88
	Control	56	37.84	92	62.17	2.32	0.87
	Treatment	53	36.05	94	63.95	2.27	0.89

Course Format

Table 6 showed that more than 92% of the participants from each instructional teaching method were satisfied with the adequacy of class meeting sessions. At least 88% of the face-to-face and 98% of the blended participants felt that their course format provided flexibility. Both groups, or at least 92% of the participants, expressed that the course format allowed for sufficient student/instructor interaction, and at least 83% stated sufficient student/student interaction was present. Approximately 90% of the control group and 97% of the treatment group indicated that the course format promoted independent thinking. Seventy-four percent of each of the group participants specified that their course format increased motivation. A combined total of 83% of the participants from both groups agreed that their course format provided a sense of accomplishment after completing the course. At least 70% of the participants from each group expressed satisfaction with their performance from their course format.

Course Content

Ninety percent of both groups agreed that course content was presented in a clear and organized manner. Understanding of the course content was indicated by 93% of the treatment group and 79% of the control group. Course interest was high for 71% of the treatment group and 62% of the control group participants along with improved

understanding of accounting by at least 87% of all the participants from their exposure to the course content.

Course Communication

In both groups, 95% indicated satisfaction in the area of communication with responsiveness, accessibility, and availability of the instructor, and prompt feedback on assignments and exams. Finally, more than 95% of the participants in each group, control and treatment, expressed that the instructor showed concern for student progress and the instructor was interested in listening to student concerns. Student engagement with classmates for both groups was at least 55%. The lowest percentage, or at least 36% for both groups, was on the survey question asking whether there was more classmate engagement in this class than in other courses.

The independent variables having impact on the students' satisfaction were the instructor, with two levels (instructor 1 and instructor 2); and type of instruction, with two levels (face-to-face and blended teaching). The students' satisfaction was quantified by the variable computed as the average of the survey questions. A two-way ANOVA with interaction was performed to determine if the students' satisfaction was impacted by the combined effect of the two independent variables (instructor and type of instruction). The results of the ANOVA analysis are shown in Table 7.

Table 7

Results of ANOVA with Interaction for Overall Satisfaction Using the Type of Instruction and Instructor as Factors

Effect	Sum of Squares	*Df*	Mean Square	*F*	*p*
Type of instruction	0.120	1	0.120	0.78	0.378
Instructor	0.004	1	0.004	0.24	0.876
Type of instructions*Instructor	0.004	1	0.004	0.23	0.880
Residual	44.830	291	0.154		
Error (corrected)	45	294			

The results of the ANOVA analysis showed that the interaction between the instructor and type of instruction was not statistically significant $F(1, 291) = 0.23$; $p = 0.880$[3]. This indicated that the students' satisfaction was not influenced by the two factors (instructor and type of instruction). Students were equally satisfied with both instructional methods (face-to-face and blended teaching). This was previously indicated in Table 6.

Figure 6 shows a box plot of the median satisfaction by type of instruction for both instructors combined. This box plot indicates that the median satisfaction score based on the 4-point Likert scale was higher in the Spring versus the Fall semester.

[3] α-level 0.05

Figure 6. Satisfaction scores function of type of instruction (semester).

Figure 7 shows a box plot of the median satisfaction for instructor 1 by type of instruction. This box plot indicates that the median satisfaction score based on the 4-pont Likert scale was higher in the Spring versus the Fall for instructor 1.

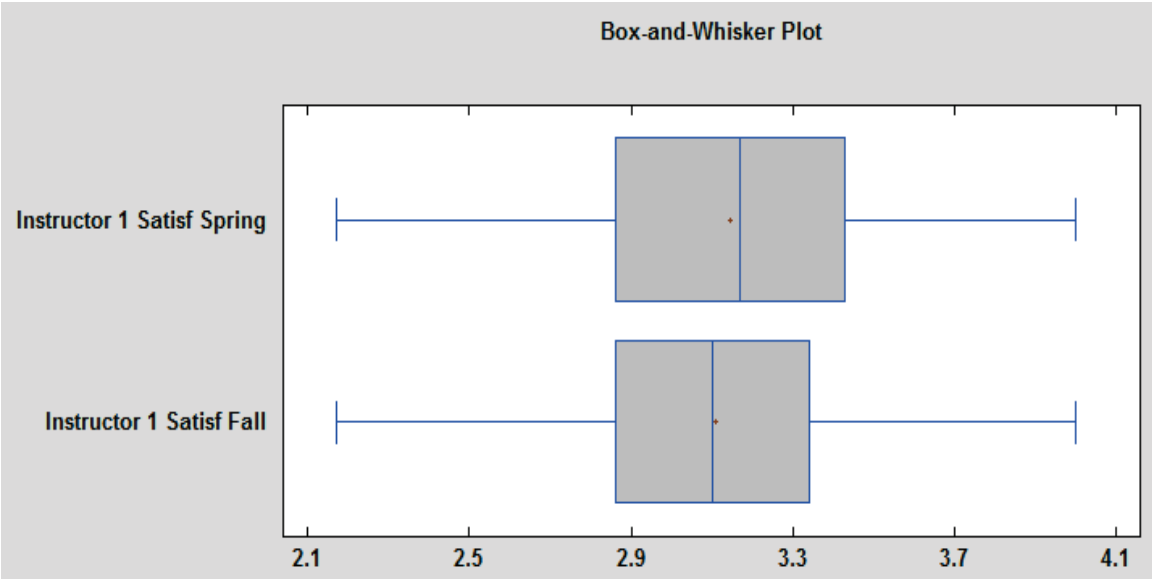

Figure 7. Satisfaction scores for instructor 1 by type of instruction (semester).

Figure 8 shows a box plot of the median satisfaction for instructor 2 by type of instruction. This box plot indicates that the median satisfaction score based on the 4-point Likert scale was higher in the Spring versus the Fall for instructor 2.

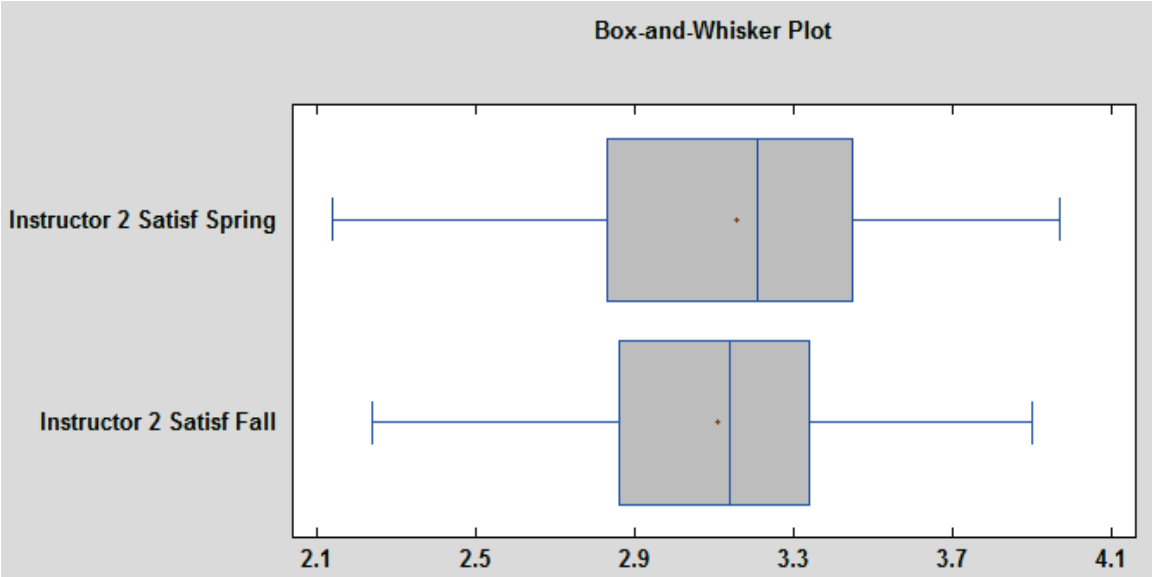

Figure 8. Satisfaction scores for instructor 2 by type of instruction (semester).

Research Question 3

The third research question focused on the advantages and disadvantages of the blended instructional method from the perspectives of nine randomly selected students from the Spring 2015 blended course sections. Six students from the blended environment of instructor 1 and three students from the blended environment of instructor 2 participated in the focus group interview. These focus group interviews occurred near the end of the Spring 2015 semester in the business school conference room. Each participant signed a consent form, and their anonymity was ensured by assigning each a number from one through nine during transcription of the focus group interview.

The overall demographics of the nine focus group participants were characterized by students between 18 and 24 years old (n = 9, 100%), females (n = 5, 55.6%),

Caucasian (n = 9, 100%), enrolled full time at the university (n = 9, 100%), US citizens (n = 9, 100%), with student majors of accounting (n = 3, 33.3%), marketing (n = 1, 11.1%), economics (n = 1, 11.1%), other majors (n = 4, 44.5%), comprising sophomores (n = 9, 100%), with QPAs of 3.0 and up (n = 9, 100%), an employment status of not working (n = 7, 77.8%), with most students not having accounting in high school (n = 6, 66.7%). The focus group mirrored the demographics of the participants in the study.

A list of nine questions was asked of the participants, and the focus group interview lasted for approximately 60 minutes. The questions and responses were audio recorded and later transcribed for further qualitative analysis that provided participant perceptions about the advantages and disadvantages of the blended teaching method. Lichtman's (2013) coding process of organizing and making sense of the data to arrive at emerging themes was followed. The coding process consisted of the researcher identifying key words and phrases from the transcripts that expressed the participants' perceptions of the advantages and disadvantages. These codes were later conveyed to emerging themes in answering the research question.

During the coding and theming process, the researcher conducted member checking through further participant contact in person and by e-mail to confirm accurate and truthful representation. Shortly after the focus group interview, all nine participants were consulted in person to confirm the written transcribed words and phrases about their perspectives of the blended teaching environment. Confirmation was approved by all nine of the participants. Afterwards, a final e-mail was sent to the participants to re-confirm important quoted information that led directly to the themes. Only one of the participants did not confirm by e-mail. Additional research indicated that the student was

no longer enrolled at the university. A confirmation letter was sent to the student's home for verification, but no response was received. This member checking added credibility and validity to the findings and themes, thus ensuring authenticity and reliability (Lichtman, 2013; Saldana, 2011).

The most commonly repeated key words and phrases emerged as eight themes, six related to advantages and two related to disadvantages of the blended instructional format. The results of the coding and theming process from the transcription are shown in Table 8.

Table 8

Blended Teaching Method Themes from Focus Group Participants

Participants	Themes
1, 3, 4, 5, 6, 7, 9	More flexibility of time and place
1, 2, 3, 4, 5, 6, 7, 8, 9	Technological tools easy to use, short in length, helpful, self-paced
1, 2, 4, 5, 6, 7, 8	Technological tools helpful features of pause and rewind
1, 2, 3, 4, 5, 6, 7, 8	Maintained interaction
1, 5, 7, 8	Ability to reach different learning styles
1, 3, 4, 5, 6, 7	Offered the best of face-to-face and online
1, 3, 4, 5, 7	Students felt overwhelmed in the beginning
1, 2, 3, 5, 6, 7	Publisher PowerPoints not as effective as the videos

In answering the third research question, the responses to all nine of the focus group questions were analyzed, and essence-capturing attributes (Saldana, 2011) of the data are summarized in the following paragraphs.

The first focus group interview question asked what the participants found beneficial in the blended teaching class. The advantages expressed by five of the nine

participants (participants 1, 5, 6, 7, 8) were that the videos and PowerPoints were easy to use, short in length, and helpful in learning content. Participant 7 elaborated:

> I really liked the videos and PowerPoints. I immediately found the technology easy to use and very helpful in learning the content. I also really liked that the videos and PowerPoints were short in length. You weren't bored. I think one of the best things to enhance the blended was having flexibility. It was nice to learn at our own time using the technology. The pause and rewind features were helpful too.

Participants 5 and 6 agreed with participant 7 that the technological features of pausing and rewinding were beneficial. In addition, flexibility with time was another advantage disclosed by participants 1, 4, 5, and 7. Furthermore, Participant 5 stated, "It was nice to self-pace when completing the current online Friday lessons."

The second question asked what the participants would want to change. Four of the nine participants stated that no changes were needed in the blended instructional method (participants 3, 4, 7, 8). Although Participants 3 and 4 indicated no changes, both were overwhelmed in the beginning and required self-discipline in order to stay up with the blended portion of the class. More instructor YouTube videos and fewer Publisher PowerPoints were preferred by participants 5 and 6. In addition, these two participants enjoyed hearing the instructor's voice on the videos. Also, these same two participants indicated that although the PowerPoints were more boring, all of the technology was short and helpful.

Next, participants were asked how the blended teaching class compared to other face-to-face classes. The blended instructional method was favored over the face-to-face

environment by seven of the nine participants (participants 1, 3, 4, 5, 6, 7, 9). Participant 5 stated, "Favored it more than the face-to-face classes. The flexibility and technology from the online portion was favored. It was better than always meeting face-to-face." In addition, participants 6 and 7 repeated the flexibility of time and place as an advantage. Also, participants 1, 2, 3, 4, 5, 6, and 7 emphasized the advantage of the technology in offering features of pause and rewind that assisted in clarification, repetition, and reinforcement for the student. Also, participant 7 added a comment: "In the blended you have the best of both worlds from the face-to-face and online methods."

Whether interaction/collaboration among the instructor/students existed was the fourth interview question. Interaction was found to be present in the blended method by participants 2, 3, 6, 7, and 8. Participant 3 mentioned, "I felt connected to students and the instructor in the blended environment. I think when watching your video, even though you weren't in the class, hearing your voice made me feel that you were with us in the online environment." Similarly, participant 8 stated, "I still felt connected to my classmates and the instructor through the face-to-face contact. Also, the online instructor video reinforced that interaction." When asked if any participants did not feel that there was any interaction/collaboration, there were no responses.

The fifth question focused on the helpfulness of the online technological tools. Four of the nine participants (participants 1, 2, 3, and 7) stated that the PowerPoints were the least effective of the technological tools. This was clarified by participant 1, who stated "I personally felt the publisher audio PowerPoints were not as effective as the videos. The PowerPoints covered more material than what we needed to know. But, all the technology was helpful. I liked the pause and rewind features." Participants 3 and 7

indicated that hearing the instructor's voice on the videos was helpful. Also, eight of the nine participants (all except participant 5) commented that the technology was helpful with content, short in length, easy to use, and beneficial due to the features of pause, rewind, and learning at their own pace.

The sixth question investigated how accessible the technological tools were during the Friday class. One participant (participant 9) indicated that the Internet in the dorms was not always reliable or fast. In addition, participant 5 stated, "I think at the beginning, learning to navigate to find everything was a learning experience. It was easy watching you in class but doing it out of class was more difficult. Easy to access but overwhelming at first." In contrast, participant 7 voiced: "I had no trouble getting access or adjusted to the technology. It was all consistently laid out. Definitely easily accessible. There was a lot to learn, but at least we could ask you in the face-to-face environment."

"How did the blended teaching format affect your personal time?" was the next question. Five of the nine participants (4, 5, 6, 7, and 9) commented that there was more flexibility, providing more time to do other things on Friday. Participant 5 stated, "Having a break class on Friday provided flexibility. Accounting is redundant, and the online technology helped with learning the content. Also, it gave me more time to do other things on Friday such as working." Participant 4 added, "Online technology made it easy to review. I liked the flexibility of time and doing things wherever and whenever."

Next, participants were questioned if there was a preference for the classroom lectures or the online version. Participants 1, 3, 4, 5, 6, and 7 emphasized the advantages

of both lectures and the online version. Furthermore, these participants agreed that the classroom lectures helped with face-to-face interaction, and asking questions in the presence of the instructor was beneficial. In addition, these students emphasized that the online component provided flexibility and technology that was easy to use and helpful. Participant 5 voiced, "I think that being able to have the classroom environment and the interaction is good. I wouldn't want fully online. But the online in the blended provided flexibility and technology that was easy to use and helpful." Participant 2 was the only one who liked the face-to-face better due to the interaction.

The ninth and final focus group interview question asked participants for any other comments regarding the format of the blended environment in terms of the advantages and disadvantages. Participants 2 and 9 felt that two face-to-face classes were adequate. In addition, participants 3, 5, and 7 stated that Friday was the best day for class to be held online. Participants 2 and 9 expressed that having only one face-to-face class may be more difficult for students. Participants 7 and 8 emphasized that their motivation increased. Finally, Participant 8 concluded:

> Accounting is not an interesting subject and it is difficult to get motivated for it. I felt the blended environment helped me learn independently and get more interested and motivated. I also felt like others said that it reached out to different types of learners.

In answering research question three, the following themes emerged related to participants' perceptions of the advantages of the blended teaching environment:

1. The blended teaching environment provided students with more flexibility of time and place through the online environment.

2. The blended teaching environment's technological tools were easy to use, short in length, helpful in learning content, and assisted students to self-pace more easily.
3. The blended teaching environment's technological tools provided helpful features of pause and rewind.
4. The blended teaching environment maintained interaction through the face-to-face component and hearing the instructor's voice on the videos.
5. The blended teaching environment helped to reach different student learning styles.
6. The blended teaching environment offered the best of both worlds from the face-to-face and online environments.

Additionally, the following themes emerged as disadvantages of the blended teaching environment:

1. In the beginning of the blended teaching environment students were overwhelmed with too much information.
2. The publisher PowerPoints were not as effective as the videos in the blended teaching environment.

These themes were consistently expressed by a variety of the focus group participants. For example, both the non-working and part-time working participants expressed satisfaction with the flexibility of time and place. In addition, all of the participants felt comfortable using the technology. There were no themes prevalent to a particular background of participants.

Descriptive statistics were generated and are included in Appendix L for survey questions 31 through 51 focusing on the satisfaction level of the blended teaching group only for both instructors. These descriptive statistics were based on a 4-point Likert scale of 4 = Strongly Agree (SA), 3 = Agree (A), 2 = Disagree (D), or 1 = Strongly Disagree (SD).

Table 9 displays descriptive statistics for blended teaching only based on the satisfaction survey with emphasis on students agreeing or disagreeing with the survey questions. Appendix L provides more in-depth analysis based on the initial Likert scale. The synthesized blended teaching satisfaction results show that the majority of the participants were satisfied with the blended teaching method providing support for the focus group themes.

Table 9

Descriptive Statistics for the Survey Questions Related to Blended Teaching

Question	Agree		Disagree		*M*	*SD*
	n	%	*n*	%		
Blended teaching only						
Q31. Compared to other face-to-face courses, I am more satisfied with this Blended Teaching Method	134	91.16	13	8.84	3.35	0.66
Q32. I would recommend the Blended Teaching Method to others for this course	137	93.20	10	6.80	3.37	0.65
Q33. I would recommend the Blended Teaching Method to others for other accounting courses	129	87.76	18	12.24	3.28	0.78
Q34. I would recommend the Blended Teaching Method to others courses outside of accounting	128	87.08	19	12.92	3.23	0.76
Q35. I utilized the technological tools each week	132	89.80	15	10.20	3.28	0.64

Q36. The technological tools provided in the online modules were easy to use	141	95.92	6	4.08	3.39	0.59
Q37. The technological tools helped me learn the content	136	92.51	11	7.48	3.29	0.62
Q38. The technological tools were easy to use	141	95.92	6	4.08	3.34	0.58
Q39. The technological tools motivated me	110	74.83	37	25.17	2.97	0.76
Q40. The use of technological tools increased my interest in course	106	72.11	41	27.89	2.93	0.77
Q41. The online portion met my student demands of flexibility of time	142	96.60	5	3.40	3.42	0.56
Q42. I would have preferred coming to class every Friday instead of using the online modules	14	9.52	133	90.48	1.48	0.83
Q43. I would have preferred coming to class every Friday AND having access to the online modules	9	6.12	138	93.88	1.44	0.67
Q44. The use of online technology in this course encouraged me to learn independently more than coming to class	124	84.35	23	15.65	3.11	0.72
Q45. If I had known this was to be a Blended Teaching class, then I would not have taken it	16	10.88	131	89.12	1.52	0.78
Q46. I am willing to take another course using the Blended Teaching Method	136	92.52	11	7.48	3.35	0.66
Q47. The instructor used Blended Teaching technology appropriately	143	97.28	4	2.72	3.48	0.55
Videos						
Q48. The video used online helped me learn the content	140	95.24	7	4.76	3.20	0.53
Q49. On average, the length of the videos was appropriate	145	98.64	2	1.36	3.25	0.47
Audio PowerPoint Presentations						
Q50. The power points used online were helpful in learning the content	143	97.28	4	2.72	3.32	0.52
Q51. On average, the PowerPoint presentations were appropriate length of time	144	97.96	3	2.04	3.27	0.49

The blended teaching survey from Table 9 showed that at least 91% of the treatment participants indicated satisfaction with the blended teaching method and would recommend this instructional method to others for this course. This was confirmed by seven of the nine focus group participants who favored the blended instructional method over the face-to-face environment. At least 90% of the surveyed participants showed satisfaction with the online technological tools that included the publisher and instructor videos and PowerPoints. Furthermore, these surveyed participants stated that the technology was developed appropriately by the instructor, utilized each week by the students, easy to use, assisted in learning the content, and appropriate in length. Technology-related focus group themes of ease of use, short in length, and helpful in learning the content paralleled this survey result. More than 72% of surveyed students agreed that the technological tools were motivational and increased interest in the course. Once again, this was voiced by focus group participants in which two of the nine participants freely expressed that their motivation increased along with independent learning. In contrast, two of the nine participants of the focus group stated that the PowerPoints were more boring. Ninety-seven percent of the survey respondents stated that the online portion met student demands of flexibility, with further satisfaction in having the Friday session online versus face-to-face. This was strongly evidenced by the focus group as an emergent theme, where the blended teaching environment provided more flexibility of time and place through the online environment. Finally, 93% of the survey participants stated an interest in taking another blended teaching course.

Chapter Summary

This chapter presented the results from a quasi-experimental design that measured the performance and satisfaction of a blended teaching method compared to a face-to-face environment in a first accounting course in higher education. In addition, this chapter presented the advantages and disadvantages of the blended instructional method from the perspectives of participants in the treatment group.

Research question 1 compared the performance of students in the blended teaching environment (treatment group) versus the face-to-face instruction (control group). The performance was measured from the average Gain score on a pre- and post-test constructed for this study for each teaching method by instructor. The results showed an increase in average Gain scores from the pre-test to the post-test for both the control and treatment group for each instructor. In the face-to-face environment, the pre-test average Gain score was lower, and the post-test average Gain score higher for instructor 2. This average Gain resulted in significant interaction for instructor 2 with improvement in the face-to-face teaching method. In the blended instructional method, a linear relationship was found with instructor 1's average pre- and post-test scores slightly higher representing an ordinal relationship.

A two-way ANOVA with interaction confirmed the results by indicating that performance of the students was influenced by the combined effect of the two factors, instructor and type of instruction. From the indication of the influence of these main effects (instructor and type of instruction) on performance, a test of simple effects or a post-hoc comparison was generated to control for a Type 1 error. The post-hoc showed that the interaction between the instructor and the type of instruction was statistically

significant. Overall, both instructional methods showed improvement, indicating that the instructor played a key role. Instructor 1 had a higher average Gain score for the treatment group (blended teaching), and instructor 2 had a higher average Gain score for the control group (face-to-face). For some instructors, the face-to-face teaching method results in better performance as indicated by instructor 2; for other instructors, the blended instructional method results in better performance as indicated by instructor 1.

Research question 2 compared the satisfaction of students in the blended instruction versus the face-to-face instructional method. The satisfaction was measured from a researcher-constructed Likert scale survey administered to both the control and treatment groups. Descriptive statistics from the survey were generated for both instructional methods. These descriptive statistics were based on participants strongly agreeing, agreeing, disagreeing, or strongly disagreeing with the survey data on course format, content, and communication. A reliability analysis was performed that resulted in a Cronbach's alpha of 0.927. This number indicated that the survey questions were directly connected to the research question in describing the students' satisfaction with high internal consistency in the reliability.

A two-way ANOVA analysis with interaction was performed to determine if the students' satisfaction was impacted by the combined effect of the two independent variables (instructor and type of instruction). The results of the ANOVA showed that there was no significant interaction. This indicated that the students' satisfaction was not influenced by the two factors (instructor and type of instruction). Students were equally satisfied with both instructional methods (face-to-face and blended teaching).

Research question 3 focused on the advantages and disadvantages of the blended instruction from the perspective of nine randomly selected students in a focus group interview. These students were randomly selected from each of the four blended classes taught by the two instructors. The interview was taped, transcribed, and coded to arrive at emerging themes in answering the research question. Eight themes emerged that resulted in six advantages and two disadvantages of the blended instructional method.

A researcher-constructed blended teaching survey was also given to the blended classes of both instructors to compare to the perspectives of the focus group participants. Descriptive statistics from the survey were generated based on participants strongly agreeing, agreeing, disagreeing, or strongly disagreeing with the survey data focused on the blended instructional method. Students in the focus group and the survey responses both indicated that the blended teaching environment provided students with more flexibility of time and place through the online environment. Students in both the focus group and survey responses stated that the technological tools were easy to use, short in length, helpful in learning content, with participant emphasis on motivation and increased interest in the course. Participants for both the focus group interview and survey expressed preference of taking the first accounting course in a blended environment over the face-to-face instructional method. The disadvantages expressed by both the focus group and survey participants focused on the initial abundant amount of information that caused students to feel overwhelmed initially in the blended environment. Furthermore, the focus group expressed that the PowerPoints were not as effective as the videos utilized in the online portion of the blended environment.

The final chapter presents the analysis and conclusions for the three research questions that focused on performance, satisfaction, and the advantages and disadvantages of the blended teaching method. In addition, the chapter provides recommendations of the study, limitations, future research ideas, and final thoughts of the researcher.

Chapter 5 – Discussion of Findings and Conclusion

Chapter Overview

This chapter discusses the findings of the current study, organized by research question. The first portion of the chapter examines the findings of research question one, which investigated the performance of the students exposed to the blended teaching method compared to students in the face-to-face environment, using Gain scores on a researcher-constructed measure of achievement. The next section addresses the findings of research question two, which investigated the satisfaction of students in the blended teaching method compared to students in the face-to-face environment using survey data. The third research question is addressed in the third section of this chapter, and discusses themes that were unveiled from a focus group consisting of students in the blended courses on their perspectives of the advantages and disadvantages of the blended teaching environment. In addition, information from a survey of the blended-course participants provided supplementary data about the value of the blended instructional method. The chapter concludes with recommendations from the current study, broader recommendations for blended courses, limitations of the current study, future research ideas, and a final summary.

The focus of this study was the first accounting course in higher education. Across universities, this course includes both business and non-business majors and is mostly offered in a face-to-face environment, with use of the online teaching method rapidly increasing (Yelvington et al., 2012). Literature has indicated difficulties with these two class formats to meet this diverse group of students' needs (Beard et al., 2002; Buckley, 2002; Francis, 2012; Tickell et al., 2012; Warren & Young, 2012).

Furthermore, designing the first accounting course to be challenging, interesting, and useful regardless of class format generates much difficulty for accounting instructors.

A blended teaching design that combined aspects of both the face-to-face and online environments (Stacey & Gerbic, 2009) was implemented for this study. Using a quasi-experimental design, this blended teaching method was compared to a face-to-face method. The dependent variables utilized were gains in student achievement measured using a researcher-constructed pre- and post-test, and student satisfaction measured using post- scores on a researcher-constructed questionnaire. The independent variables were type of instruction with two levels, blended and face-to-face, and instructor with two levels (instructor 1 and instructor 2). In addition, the study further explored students' perspectives of the value of the blended instructional method through collection of additional survey data and focus group data.

This study was completed during the Fall 2014 and Spring 2015 semesters using two instructors at one university. Each instructor taught two face-to-face first accounting courses (control group) during the Fall 2014 semester and two blended first accounting courses (treatment group) during the Spring 2015 semester, with equivalent groups in each semester. The course was offered in a face-to-face environment on Monday, Wednesday, and Friday during the Fall 2014 semester. In addition, it was offered face-to-face on Monday and Wednesday, and online Friday for a blended instructional method during the Spring 2015 semester. On Fridays, the students used publisher and researcher-developed online technologies outside of the classroom to comply with the 50-minute time commitment and accreditation requirements (PDE, 2008). These online technological instructional materials were piloted during the Fall 2014 semester using a

random sample of six students from a different section of the researcher's first accounting course who were not part of the study. Hiralaal (2012) mentioned in his study of education students taking a first accounting course the importance in conducting a pilot study to identify vagueness, misperceptions, and poorly selected instruments. The feedback from the pilot study was analyzed and suggestions and recommendations were incorporated into the final questionnaire to validate the clarity of the questions to be used in this study.

The sample consisted of business and non-business majors who enrolled in a first accounting course at one private university in southwestern Pennsylvania (RMU Registrar, 2014). There were a total of 148 undergraduate student participants in the face-to-face control group during the Fall 2014 15-week semester. In addition, there were a total of 147 student participants in the blended treatment group during the Spring 2015 15-week semester, as displayed in Table 2. In each semester, the two instructors taught two sections of the course. The demographics of the participant sample for each of the instructor's classes were similar. The participant demographics can be found in Table 3. The study was conducted with IRB approval, university approval, and participant consent. The IRB approval letter can be found in Appendix A.

The two instructors' styles of teaching for all groups were similar. In addition, the two instructors aligned instruction to the same course objectives found in Appendix D, used the same course material, and met on a weekly basis to ensure that their classes were mirror images of one another throughout the Fall 2014 and Spring 2015 semesters, contributing to internal reliability and validity (Wiersma & Jurs, 2009).

There is not one set method recommended in the literature for designing a blended course. In fact, research shows the possible meeting sessions of the face-to-face formats in blended environments are quite variable (Allen et al., 2007). In addition, deciding the blend of face-to-face and online instructions requires a balancing act for both students and instructors (Christensen, 2003). In the current study, the main difference between the treatment and control group was the use of online technology in the treatment group (blended teaching) that replaced one in-class session per week. Specifically, for the control groups (face-to-face teaching), in-class sessions were held three times a week; for the treatment groups (blended teaching), in-class sessions were held twice a week, with weekly online sessions replacing the Friday in-class session. The research questions guiding the study were as follows:

For students enrolled in the "Blended Teaching Method" versus "Face-to-Face Teaching Method" in a first accounting course,

1. Is there a difference in academic performance of students who receive blended instruction versus face-to-face instruction in a first accounting course in higher education?
2. Is there a difference in satisfaction of students who receive blended instruction versus face-to-face instruction in a first accounting course in higher education?
3. What are the advantages and disadvantages of blended instruction in a first accounting course from the perspective of undergraduate students?

Research Question 1 – Performance

This section presents the findings and interpretations of the first research question that compared the performance of students in the blended teaching method versus the face-to-face environment from a pre- and post-test instrument. This researcher-constructed achievement test consisting of 30 multiple-choice questions is found in Appendix F. Multiple-choice exams assist to reduce assessment bias because the results are more objective than other assessment forms (Bible et al., 2007; Douglas et al., 2012). Furthermore, the CPA exam consists of a majority of multiple-choice questions (AICPA, 2011) so students need to be familiar with this item type when being assessed on accounting content.

The 30 multiple-choice questions were originally generated by a university panel of experts. In addition, the questions complied with the accreditation assurance of learning (AOL) outcomes assessment by the Association to Advance Collegiate Schools of Business (AACSB) accreditation board, the university business foundation test (BFT) standards for student graduation, and additional important questions mapped to the course learning objectives found in Appendix D. The Hanover Research Council (2009) highlighted the importance of measuring the course learning objectives. Figure 1 presents the allocation of the pre-and post-test questions by the AOL, BFT, and researcher's requirements, showing content validity evidence for the instrument.

Participant achievement was measured by the Gain score computed as the difference between the post-test given at the end of the semester and pre-test at the beginning of the semester for both the control (face-to-face) and treatment (blended) group by instructor. Descriptive statistics quantifying the students' performance by the

independent variables of instructor with two levels (instructor 1 and instructor 2); and type of instruction with two levels (face-to-face and blended teaching) can be found in Table 4. Table 10 summarizes the means for each group.

Table 10

Average Pre-, Post-, and Gain Scores by Method of Instruction and Instructor

	Face-to-face teaching			Blended teaching		
Instructor	*Pre*	*Post*	*Gain*	*Pre*	*Post*	*Gain*
1	16.36	22.75	6.39	15.54	24.78	9.24
2	14.03	26.01	11.98	14.64	23.29	8.65
Total	15.20	24.38	9.19	15.08	24.02	8.94

The group means found in Table 10 shows an increase in score from the pre-test average that quantified the level of knowledge students had at the beginning of the course, to the post-test average that quantified the level of knowledge students had at the end of the course for all groups. This indicated that the average achievement scores increased from the pre-test to the post-test for both instructors using both teaching methods.

All groups started out with similar average pre-test scores. For the control group (face-to-face), the results showed that instructor 2 had the lowest pre-test average score ($M = 14.03$; $SD = 3.76$) and the highest post-test average score ($M = 26.01$; $SD = 2.85$), resulting in the largest average Gain score of any class ($M = 11.98$; $SD = 4.89$). This average Gain score for instructor 2 was much higher than instructor 1's average Gain score ($M = 6.39$; $SD = 3.99$) for the face-to-face teaching method.

For the treatment group (blended), the results in Table 10 showed both instructors had similar average post-test scores but instructor 1 had the higher average Gain score between the post-test and the pre-test ($M = 9.24$; $SD = 3.67$) compared to instructor 2's ($M = 8.65$; $SD = 5.76$). The relationship displayed for the treatment groups was an ordinal interaction, due to instructor 1's scores being slightly higher than instructor 2's both at pre-test and post-test. In general, the results suggested that there were small differences between the groups at pre-test, and there were differential gains based on instructor and type of instruction.

A two-way ANOVA was used to compare the average Gain scores from pre-to post-test. The analysis showed significant interaction between the instructor with two levels (instructor 1 and instructor 2) and type of instruction with two levels (face-to-face and blended teaching), $F(1,291) = 32.40$, $p = 0.00$. These two independent variables had a combined effect on student performance. This indicated that the performance of the participants quantified through the dependent variable of the Gain score was influenced by the combined effect of the two independent variables of instructor and type of instruction.

A test of simple effect comparisons identified if the difference in means was statistically significant. Figure 5 showed the average Gain score for each semester by instructor with a 95% confidence interval. These results showed that the face-to-face teaching method was not better all the time, nor was the blended teaching method better all the time. This indicated that neither the blended nor the face-to-face instructional method was better for all students. The performance was dependent on the instructor teaching the first accounting course. Thus in this study, the performance of the students

varied and depended on the instructor. Instructor 1's students performed better in the blended instructional method, and instructor 2's students performed better being taught face-to-face.

When comparing results of this study to others' research, Delaney et al.'s (2010) research that involved one instructor in a first accounting course in a blended environment confirmed better perceived overall performance from their survey questionnaire completed by the blended students. Studies conducted by Dowling et al. (2003) and Jones and Chen (2008) also found improved student performance for the blended course. However, these studies differed from the present study in that they did not occur in the first accounting course, involved one instructor and a smaller sample size, and utilized either a survey or the final exam to measure performance.

This study's results revealed that the students' performance was directly influenced by the instructor assigned to teach the first accounting course. Instructor 1 obtained higher average Gain scores during the Spring 2015 semester (treatment group); whereas instructor 2 obtained higher Gain scores than instructor 1 during the Fall 2014 semester (control group).

Other studies have also found mixed results when comparing the student performance between the face-to-face and blended teaching instructional methods (Du, 2011). Larsen and Chung's (2009) research demonstrated that there was no significant difference among face-to-face, blended, and online delivery modes. Their study focused on a management information systems course with one instructor, a much smaller sample size, and utilized averaged final grades as the outcome variable. Furthermore, these same researchers concluded that other factors such as instructor/student interaction, student

motivation, and course design possibly play a more critical role than teaching environment in the students' performance. These researchers further stated that if the instructor utilizes the best teaching practices, then the teaching method will not be the foremost factor in the performance of the student.

Keller, Hassell, Webber, and Johnson's (2009) research confirmed this same result and reported no significant difference between final grades with a managerial accounting course with one instructor that compared the student performance of a face-to-face environment with a blended teaching method. This study used a much smaller sample size with the average final grade as the measure of the performance.

Summary of Research Question 1

In answering research question 1, the results of this study revealed that the academic performance of students who received blended instruction and face-to-face instruction in a first accounting course in higher education all exhibited positive gains from pre- to post-test, regardless of the instructor or type of instruction. Face-to-face was not better all the time; blended was not better all the time. The performance of the student varied by the instructor teaching the course from the results of the achievement test. The academic performance for instructor 1 was better in the blended instructional method; the academic performance for instructor 2 was better in the face-to face environment. The previous studies that showed no difference in performance utilized only one instructor. The current study utilized two instructors and found differential results within the instructors.

Research Question 2 – Satisfaction

The findings and interpretations for the second research question comparing the satisfaction of students in the blended teaching method versus the face-to-face environment from a researcher-constructed survey instrument are presented in this section. The post survey instrument consisting of 30 questions administered to all students in both the control and treatment groups at the end of the Fall 2014 and the Spring 2015 semesters can be found in Appendix H.

A reliability analysis was performed from the participant responses that indicated high internal consistency. Question 23, which focused on students seeing the instructor during office hours, was identified with a low or negative correlation value and was discarded from the results, and the remaining 29 questions resulted in a Cronbach's alpha index of 0.927.

Appendix K displays the descriptive statistics for the satisfaction survey's responses to the resulting 29 questions that utilized a Likert scale for both instructional methods. These descriptive statistics were generated for the first three sections of the satisfaction survey: course format, course content, and course communication for the control and treatment groups separately, and overall. The descriptive statistics were based on a 4-point Likert scale of 4 = Strongly Agree (SA), 3 = Agree (A), 2 = Disagree (D), or 1 = Strongly Disagree (SD).

In addition, Table 8 provides descriptive statistics for both the control and treatment groups with emphasis on participants' responses either agreeing or disagreeing with the same survey questions focused on course format, content, and communication.

The results indicated that the majority of participants were satisfied with both instructional methods.

A satisfaction variable, computed as the average of the 29 survey questions was used to measure the difference in students' satisfaction between the two instructional methods. A two-way ANOVA analysis was performed to determine if the students' satisfaction was impacted by the two independent variables (instructor and type of instruction). The results of the ANOVA analysis showed that the interaction between the instructor and type of instruction was not statistically significant F (1, 291) = 0.02; p = 0.880. This confirmed that the students' satisfaction was not influenced by the two factors (instructor and type of instruction). The results of the two-way ANOVA on satisfaction scores also showed that there were no main effects for type of instruction F (1, 291) = 0.78; p = 0.378 or instructor F (1, 291) = 0.02; p = 0.876.

The satisfaction for both instructors and each of the instructional methods is also displayed in the box plots in Figure 6 showing the overall distribution of satisfaction for both instructors combined by control (Fall semester) and treatment group (Spring semester), Figure 7 presents the distribution of satisfaction scores for instructor 1 by the two groups, and Figure 8 displays the distribution of satisfaction scores for instructor 2 by the control and treatment group. These box plots also indicate that the students' satisfaction was similar for all groups, and was not influenced by the two factors of instructor and type of instruction.

Consistent participant satisfaction for both instructional methods was supported by both the survey descriptive results and the two-way ANOVA, with an additional graphical representation in the box plots. Students in the face-to-face environment

(control group) were equally satisfied as students in the blended instructional method (treatment group) for both instructors. This is in contrast to the study by Geiger and Ogilby (2000), who indicated in their research with a student questionnaire that both accounting and non-accounting majors revealed increased boredom, diminished perceptions, and dissatisfaction while taking the first accounting course in a face-to-face environment. Furthermore, in their study, these researchers investigated eight first accounting course instructors in two universities and found variation in student perceptions with different individual instructors. This study indicated the importance of the instructor affecting students' satisfaction in the first accounting course. In another study by Hiralaal (2012), undergraduate education students expressed agreed satisfaction in a questionnaire from the blended environment over the face-to-face that involved one instructor in a first accounting course.

Course Format

The satisfaction survey results in Table 6 showed that the majority of participants in both instructional methods (face-to-face and blended) expressed mutual satisfaction with the course format. The participants from both groups were satisfied with sufficient student/instructor and student/student interaction in their respective instructional methods. Paechter and Maier (2010) stated that the interaction in the face-to-face environment was a major strength of that teaching method. Beard et al. (2002) indicated that a valued learning environment is created from the interaction between students and instructors in the face-to-face environment. Research has identified that students value the social benefits of interaction and collaboration among other students and the instructor within the face-to-face classroom (Beard et al., 2002; Chou & Chou, 2011;

Fearon et al., 2012; Wuensch et al., 2008). In addition, the AECC (1992) stressed the importance of interaction in the face-to-face environment of the first accounting course. The blended instructional method combines that face-to-face component with the online environment, providing the interaction demanded in the face-to-face environment (Agosto et al., 2013). In addition, Jones and Chen (2008) indicated that students believed it was important to incorporate face-to-face sessions into the blended environment to help promote interaction and provide student satisfaction. In both of these instructional methods (face-to-face and blended), it was evident from the students' satisfaction that the interaction ingredient was present.

The participants from both groups noted satisfaction with student flexibility in their teaching environment as indicated in the survey in Table 6. Previous research found increased student demands for flexibility from the face-to-face environment (Yelvington et al., 2012). From these student demands, Chou and Chou (2011) indicated that students in the online environment have the luxury of flexibility of time and place. In the present study, the treatment group (blended) provided flexibility with the Friday online session. On the other hand, the face-to-face participants in this study attended class on Friday but still expressed satisfaction with flexibility. Perhaps the reason for this satisfaction was that the majority of the students were freshmen and sophomores, and this new environment provided more flexibility over their longer attended days in high school.

Each of the instructors' groups expressed satisfaction with the promotion of independent learning, increased motivation, a sense of accomplishment, and improved performance after course completion from the course format. The Accounting Education Change Commission (AECC) stated that the first accounting course is critical in helping

business and non-business majors become independent learners versus passive recipients of the accounting information (AECC, 1992). Furthermore, the AECC was laying the foundation to get educators involved in helping students learn content, become independent learners, and active participants. In addition, employers are expecting accounting graduates to possess basic skills of accounting and be able to think independently (Kavanagh & Drennan, 2008). Previous studies indicated that online students reported more opportunity to become an independent learner (Agosto et al., 2013; McGinley et al., 2012). The blended environment in this study provided a component of the online environment in the Friday session where students had the opportunity to utilize independent thinking. For the face-to-face students, perhaps the indication by Geiger and Ogilby (2000) of the important role that instructors play in helping students become motivated, independent learners who feel a sense of accomplishment was evident from this control group. Yu (2011) stated that motivation has been found to be important in explaining students' performance. Research indicates an increased problem of academic student failure in the first accounting course (Joubert et al., 2012; Lay, 2008). In this study, it was evident that both instructors played a key role in student satisfaction in these important areas for both the face-to-face and blended instructional methods.

There was satisfaction from both groups for course format in the adequacy of class meeting sessions. As previously indicated by Allen et al. (2007), the possible meeting sessions of the face-to-face component in a blended environment are quite variable. Furthermore, deciding the blend of face-to-face and online instructions requires a balance for both students and instructors (Christensen, 2003). In this study, students

had the advantage of long weekends to complete the Friday online session. For the control group, perhaps the satisfaction of the class meeting sessions on Monday, Wednesday, and Friday was adequate considering that most of the students recently completed high school where required student attendance was five days per week. Or, student satisfaction with the course could be more tied in to the instructor than other factors like class format, as was suggested by Larsen and Chung (2009) and seen by Geiger and Ogilby (2000).

Course Content

The course content section of the survey was another mutual satisfaction area from the majority of participants in both instructional methods (face-to-face and blended) as shown in Table 6. The participants from both groups expressed satisfaction with course content identified as clear, organized, understandable, and maintaining high student interest. Yu (2013) stated that motivating students and maintaining their interest with course content is another concern for faculty as expressions of boredom have prevailed. In addition, Malgwi (2006) conducted a survey with college sophomores and found that the first accounting course was boring and disheartening for students, causing them to change their major. These results were not mirrored in the current study. In the face-to-face environment, the instructors played a key role in designing the course to be clear, organized, understandable, and capturing student interest. Recall that both instructors during each semester met weekly to insure identical course content, and mirror images of their classes. Both instructors in the current study have taught the first accounting course successfully for a number of years, and historically, both instructors receive high student ratings in the university evaluations. While students were highly

satisfied with the instructors in the current study, it is possible that they would be less satisfied with the content of the first accounting class if it were taught by different instructors.

In the blended environment, short videos were developed for the content for the Friday session. In a study by Smith (2013), a convenience sample of 80 surveyed students indicated short videos as their preference in asynchronous communication to help maintain content interest in the online environment. Furthermore, short audio PowerPoints not exceeding 15 minutes was the second most efficient method. In addition, Brecht and Ogilby's (2008) study of 426 surveyed participants indicated ultra-short videos alleviated poor motivation and instilled interest. These technological tools were implemented in the online component of the blended environment to promote the content in a clear, organized, and understandable manner. In addition, the promotion of student interest through the short technological tools, offering flexibility of time and place, along with features of pause and rewind were added ingredients in the online component of the blended environment contributing to participant agreed satisfaction. Brecht and Ogilby (2008) further stated that the flexibility of repeated views with the pausing, rewinding, and replaying features assist students in learning the content.

Course Communication

The final part of the survey on course communication indicated satisfaction from the majority of students in both the control and treatment groups. This section noted students from both groups were satisfied with instructor responsiveness, accessibility, availability, prompt feedback on assignments and exams, concern for student progress, and listening to student questions. This study utilized a publisher-developed software

program, My Accounting Lab, for the assignments for both groups, and quizzes for the online component of the blended environment. The publisher software generated instant feedback for the students after the completion of these assignments and quizzes. All exams for both the treatment and control group were given in class and both instructors utilized the same policy of returning exams within a week of administering. One of the advantages of the face-to-face environment is the immediate feedback from the instructor (Chou & Chou, 2011). The Hanover Research Council (2009) stated that timely feedback and return of assignments, quizzes, and exams contributed to adding instructor visibility in the online environment. This was evident not only in the blended environment, but the face-to-face method received the same feedback causing the agreed satisfaction for both groups. Also, an added design was to have all the exams for both groups completed in class. King et al. (2009) expressed that it is easier to cheat in an online environment. In addition, both instructors developed office hours for their groups to meet accessibility and availability standards established by the school of business.

Holmberg-Wright and Wright (2012) found that students lacking in motivation or self-discipline have a greater chance of performing poorly or withdrawing without the physical existence of fellow students or the instructor. In addition, Picciano et al. (2010) found that purely online students are finding time scarce in balancing families, education, and jobs, leading to higher attrition rates. These studies provided additional support for the students' satisfaction in this study for both the face-to-face and blended instructional methods.

Summary of Research Question 2

In responding to research question 2, the students in the face-to-face versus the blended instructional methods in a first accounting course in higher education exhibited no difference in satisfaction. The research further indicated that a majority of the students for both groups (face-to-face and blended) expressed agreed satisfaction in the course format, content, and communication from the results of the survey. This evidence indicated that both groups (control and treatment) were equally satisfied and that satisfaction was not dependent on instructor (1 or 2) or type of instruction (face-to-face or blended) in the first accounting course. Larson and Chung (2009) further concluded that satisfaction in their study compared favorably with the face-to-face, blended, and online instructional methods.

Research Question 3 – Advantages and Disadvantages of the Blended

The third research question is addressed in this section by presenting the findings and interpretations from the perspectives of a focus group with blended students and a researcher-constructed survey on the advantages and disadvantages of blended instruction in a first accounting course. The focus group consisted of nine randomly selected students from the four sections of the treatment group as described in the methodology chapter. The nine questions asked of the participants in the focus group can be found in Table 1. Their responses were member checked, coded and later conveyed to emerging themes in answering research question 2. In addition, all of the blended teaching participants answered 21 post survey questions focused to the blended instructional method including the technological tools employed by the instructors. The survey can be found in Appendix I.

Appendix L shows the descriptive statistics for the satisfaction survey's responses to the 21 questions that utilized a Likert scale for the blended instructional method. These descriptive statistics were generated for the first three sections of the survey focusing on the blended teaching method only, the videos, and the audio PowerPoints utilized in the online session on Friday for the blended environment. The descriptive statistics were based on a 4-point Likert scale of 4 = Strongly Agree (SA), 3 = Agree (A), 2 = Disagree (D), or 1 = Strongly Disagree (SD).

In addition, Table 9 provides descriptive statistics for the treatment group with emphasis on participants' responses either agreeing or disagreeing with the blended teaching method, the videos, and the audio PowerPoints utilized within this instructional method. The results indicated that the majority of participants were satisfied with the blended instructional method, including the technological tools utilized online by the students.

Blended Teaching Only

Results from the satisfaction survey questions presented in Table 9 show that participants were more satisfied in the blended instructional method compared to other face-to-face courses. This was supported by the seven of the nine participants in the focus group. These seven focus group participants stated that the flexibility of time and place with the technology from the online component was an advantage of the blended environment. One of the evident advantages of the online environment is the flexibility of time and place utilizing technology in retrieving instruction and content (Chou & Chou, 2011). The participants in the focus group also emphasized that the online component was better than always meeting face-to-face. In addition, a majority of the

surveyed participants indicated preference in not coming to class on Friday. There have been a few programs that have favored complete elimination of face-to-face teaching while students adapt to the online environment (Jeffries & Hyde, 2010). However, other authors have disputed this suggestion. Yuen (2011) indicated that students had a negative attitude to learning online without any face-to-face instruction. Cottrell and Robison (2003) stated from their study of questionnaire responses that students need the technological tools of the online environment to be supplemented with the benefits of face-to-face instruction. Participants from the focus group emphasized the advantage of the face-to-face presence with the component of the technology from the online environment. The focus group stated no preference of classroom lectures over the online component, but the advantage of both blended together.

Technological Tools

The survey questions in Table 9 related to the technological tools resulted in mutual satisfaction with the instructor development and student usage of the technology. Surveyed participants indicated their utilization of the technological tools each week, ease of use, helpfulness in learning content, inspiring interest in the course with added motivation from the online technology. The survey participants stated the online session utilizing the technological tools helped with independent learning. All nine of the focus group participants voiced the same satisfaction with the technological tools' ease of use and helpfulness in content learning. Focus group participants also expressed increased motivation and opportunity for independent learning with the technological tools. Robinson and Hullinger's (2008) study of online students from three universities

suggested that students felt the online courses utilizing technological tools generated self-motivation to learn on one's own.

Videos and Audio PowerPoints

The survey question in Table 9 related specifically to the videos and PowerPoints resulted in student satisfaction with both content learning and appropriateness of length of time from these technological tools. When students are not in a physical classroom synchronously, utilizing different forms of asynchronous communications to supplement their course can be beneficial (Rogers et al., 2008). In a study by Smith (2013), a convenience sample of 80 US graduate education students expressed in a survey their preferences on the value of different methods used for asynchronous communication in an online course. These students first indicated that videos required minimal time to be maximally effective. The second most efficient method was the PowerPoint presentations with narration. These students also stated their preference for the length of videos and PowerPoints not to exceed 15 minutes in duration. In this current research, many of the publisher videos implemented were less than five minutes. Sargent et al. (2011) in their survey of 426 participants indicated alleviating poor motivation through the implementation of ultra-short three-minute videos offered anytime impacted the student positively. The focus group participants stated the advantage of the pause and rewind features of the technological tools in helping learn the content. Brecht and Ogilby (2008) stated that weaker students have the flexibility of repeated views with rewinding, pausing, and replaying features. The focus group confirmed these survey responses. One participant elaborated:

> I really liked the videos and PowerPoints. I immediately found the technology easy to use and very helpful in learning the content. I also really liked that the videos and PowerPoints were short in length. You weren't bored. I think one of the best things to enhance the blended was having flexibility. It was nice to learn at our own time using the technology. The pause and rewind features were helpful too.

Other Notes from the Survey and Focus Group

The focus group participants stated that self-discipline was required and these students felt overwhelmed in the beginning with all the technological tools. Participants indicated that the face-to-face environment helped students become acquainted with the technological tools utilized in the online environment. In contrast, some focus group members had no trouble adjusting to the online technology noting consistency in the design. Beard et al. (2002) indicated that students in the online environment crave the social aspects of the face-to-face to help with clarification issues. McGee and Reis (2012) also emphasized the importance of clear communication to students of the course design, process, and expectations within the blended instructional method.

In addition, four of the nine focus group participants stated that the PowerPoints were the least effective of the technological tools. This was clarified by one participant who stated, "I personally felt the publisher audio PowerPoints were not as effective as the videos. The PowerPoints covered more material than what we needed to know. But, all the technology was helpful. I liked the pause and rewind features."

The focus group participants were satisfied with the interaction in the blended instructional method. One participant mentioned, "I felt connected to students and the

instructor in the blended environment. I think when watching your video, even though you weren't in the class, hearing your voice made me feel that you were with us in the online environment." Pullen and Snow's (2007) research that studied synchronous and asynchronous combined activities indicated that utilizing both methods together allowed support in helping students learn the content and maintain social benefits.

The surveyed participants also voiced recommending the blended teaching to other students for the first accounting course, other accounting courses, and courses outside of accounting. In addition, the surveyed participants stated that they would take another course in the blended environment.

Focus group participants also concluded that two face-to-face classes were adequate and that Friday was the best day for the online component. This provided flexibility not only to working students who wanted to work additional hours on Friday, but to athletes who missed class due to athletic obligations on Friday. In addition, it made additional room space available for the university on Friday. Lei and Govra (2010) emphasized that the additional flexibility can reduce commute time, transportation and parking costs, and provide more opportunities for students to learn to prioritize time. Furthermore, this format assists universities with parking issues and room availability. Research shows variation in numbers of face-to-face meetings and online sessions in the blended environment. Although experimentation can be done in allocating the number of class sessions between face-to-face and online sessions in a blended environment, the literature emphasizes the importance of the face-to-face element in a teaching method (Chen & Jones, 2007; Chou & Chou, 2011; Du & Wu, 2013; Fearon et al., 2012; Jeffries & Hyde, 2010; Paechter & Maier, 2010; Wuensch et al., 2008). In contrast, Fearon et al.

(2012), Francis (2012), Geiger and Ogilby (2000), Warren and Young (2012), and Williams (2011) stated that diverse groups of students in the first accounting course are not engaged in the face-to-face setting, as students reported increased boredom, absenteeism, and lack of interest in majoring in accounting. One participant in the focus group concluded by saying:

> Accounting is not an interesting subject and it is difficult to get motivated for it. I felt the blended environment helped me learn independently and get more interested and motivated. I also felt like others said that it reached out to different types of learners.

Summary of Research Question 3

In replying to question 3, themes emerged on the advantages and disadvantages of the blended instructional method from both the focus group participants and the survey responses. The focus group participants voiced that the blended instructional method offered the flexibility of time and place through the technological tools that were easy to use, short in length, helpful in learning content, with self-pacing helpful features of pausing and rewinding. The instructor's voice heard on the online videos helped to maintain the interaction demanded from the online environment. In addition, the blended environment helped to reach different learning styles through both the face-to-face and online environment. In contrast, students were initially overwhelmed with this new environment that required discipline. Also, the PowerPoints utilized in the online component were not as effective as the videos but still easy to use, short in length, helpful in learning content, and with student favored features of pausing and rewinding.

The survey participants also recommended the blended instructional method to other students for the first accounting course, other accounting courses, and courses outside of accounting with agreement in taking another course in the blended environment. Also, focus group participants concluded that the two face-to-face classes were adequate and that Friday was the best day for the online component. Hiralaal (2012) study in action research explored 55 fourth year education students' experiences in a first accounting course offered in a blended environment. The results from the questionnaire used in the study indicated that students felt performance improved, with increased motivation, and independent learning with a deeper understanding of the content. Responses also highlighted immediate feedback from online assessments, readily available hyperlinks to websites provided online, greater student/student and student/instructor interaction, and increased convenience with the flexibility of time and place.

Finally, one participant in the focus group summarized the final theme perfectly: "In the blended you have the best of both worlds from the face-to-face and online methods."

Recommendations of the Study

One recommendation is that universities should offer the first accounting course in their schedule of courses each semester in both the face-to-face and blended environments. There was no evidence to preclude the blended instructional method from being offered to students. The blended environment is beneficial for instructors who feel comfortable utilizing technology in the online component. On the other hand, some

instructors do not feel comfortable introducing and using technological tools. These instructors should focus on the comfort of the face-to-face environment.

Another recommendation would be to use instructor developed videos mapped directly from the course learning objectives to the course content. A pilot study utilizing student feedback to identify vagueness with the instructor videos prior to implementation in the course would be beneficial and is supported by (Hiralaal, 2012). The instructor videos must be easy to use, helpful in learning content, short in length, maintain student interest, be motivational, and build upon the face-to-face interaction. At the same time the technology provides flexibility resulting in student satisfaction as indicated by the survey, focus group, and other researchers. (Brecht & Ogilby, 2008; Robinson & Hullinger, 2008; Sargent et al., 2014; Smith, 2013). Yu (2011) emphasized the importance of hiring and training accounting faculty to address the flexibility and technological needs of the students. Smith (2013) stated the importance of the instructor's voice and interpretation of the content to be of high value to the students. Literature on blended teaching clearly signifies that instructors will not be replaced with technology but continue to have an essential role in student learning and specifically through course design (Jeffries & Hyde, 2010).

A third recommendation would be to experiment with the combination of face-to-face and online components of the blended instructional method's design. Students in the focus group and survey indicated satisfaction with the mix of two-days face-to-face and one-day online. In addition, students expressed that having Friday for the online portion provided additional satisfaction with flexibility. Participants also indicated the value of the interaction in the face-to-face component with the continuance of that interaction with

additional flexibility through technology in the online part of the blended environment. According to Dowling, Godfrey, and Gyles (2003) the blended environment builds a new method, offering students the convenience and technology of an online course with the social advantage of a face-to-face setting. Therefore, this recommendation suggests that instructors experiment with different designs of the blended instructional method utilizing different days of the week for the online and face to face sections, perhaps offering the first accounting course in a blended environment during a Tuesday/Thursday schedule. Blended teaching may help promote the student's independent learning as was evidenced by students in both the focus group and survey from the online component of the blended environment in this study. Blended teaching would also help to satisfy employers and other accounting organizations request for students to become more analytical and independent learners in their thinking (AACSB, 2007; AECC, 1992; Kavanagh & Drennan, 2008). Also, as indicated by Yuen (2011), students had negative attitude to learning online without any face-to-face instruction. In addition, Cottrell and Robison (2003) stated that students need the technological tools of the online environment to be supplemented with the benefits of face-to-face instruction.

For a long time, the profession of accounting has solicited educators to rethink the design of the first accounting course (Warren & Young, 2012). A final recommendation would be to continue using a survey and larger focus group to gain more student insight into the design of the blended environment. This may include students at other universities, and faculty who have taught in a blended environment. This was a one-time study within one university. A recommendation for continued student input is

recommended as the survey and focus group in this study provided valuable information on the satisfaction, advantages, and disadvantages of the blended instructional method.

Recommendations for Blended Learning

In constructing a blended instructional method in a first accounting course, several recommendations are proposed. Literature on blended teaching clearly signifies that instructors will not be replaced with technology but continue to have an essential role in student learning and specifically through course design (Jeffries & Hyde, 2010). McGee and Reis (2012), in developing a blended course, stressed the importance for instructors to redesign the entire course and identify course objectives first. These course objectives must be in alignment with the content and assessments. Next, the technological tools must be carefully chosen. Previous research indicated students' preferences for technological tools developed with ease of use, helpfulness in learning content, inspiring interest, and motivating student independent learning (Brecht & Ogilby, 2008; Robinson & Hullinger, 2008; Sargent et al., 2011; Smith, 2013). Stacey and Gerbic (2007) emphasized that students' learning can be enhanced by integrating online resources focusing on content along with the face-to-face course delivery. Deed and Edwards (2007) stated that the technology employed in the course must be reviewed carefully to confirm that it meets the students' needs. Love and Fry (2006) indicated that courses will be improved if the online tools complement and support the face-to-face setting rather than act as a replacement for it. In the current study the researcher required training as to how to implement technology to optimize the online learning environment and still comply with different requirements cited by various organizations (AACSB, 2007; PDE, 2008). The university's online training department and the center for

teaching excellence are resources for this training. In addition, a recommendation is made to offer the class initially three days per week with one of the days online for students to adjust. Afterwards, utilizing other combinations of the face-to-face and online components is recommended. Another recommendation is to use an initial class at the beginning of the semester to introduce the technology to the student to alleviate students from being overwhelmed as expressed by several of the focus group participants. One final recommendation is to proctor exams in the face-to-face classroom due to the integrity issues online cited by the literature (King et al., 2009; Miller & Young-Jones, 2012; Youngberg, 2012).

In advocating blended teaching in the first accounting course, Graham (2006) stated that the primary reasons for implementing the blended instructional method was to enhance pedagogy, continue access to the face-to-face environment with the utilization of technology for additional flexibility, and possible cost-effectiveness for the university and student.

Accounting was cited in the literature as a difficult subject with high failure rates (Joubert et al., 2012; Lay, 2008; Osgerby, 2012). It is recommended that universities and more specifically instructors begin to search and use best practices in teaching with the support of online training and centers for teaching excellence. Larsen and Chung (2009) emphasized in their study the importance of instructor best practices in positively assisting student performance and satisfaction.

Limitations of the Study

Several limitations exist in the current study.

1. A one-time analysis within one university for a single course with a limited sample was completed in studying the performance and satisfaction of

students in a blended teaching environment of a first accounting course. Results from this study may not be generalizable to all universities due to a single university being selected for this research. In addition, the results of this study may not be generalizable to other courses that are reliant on affective knowledge rather than procedural knowledge.

2. The sample of students was not randomly selected but based on self-selection into all course sections.
3. The researcher designed the satisfaction survey given to all students in the blended teaching environment, rather than using a predesigned survey, and the researcher also assumed responsibility for conducting the focus group on the advantages and disadvantages of the blended teaching method.
4. The focus group interview on the advantages and disadvantages of the blended teaching environment was conducted with a limited number of students, and only one focus group of 9 students (6% of the total number of participants) was utilized. While steps were taken to include a random sample, the views of those who were chosen for participation may differ from those not chosen.
5. The study focused on the teaching method as the main issue in affecting student performance in the course. Other factors such as technology and previous online course experience could affect the results from the treatment groups.

6. The researcher created the online technological tools consisting of instructor YouTube videos, publisher videos and PowerPoints. The quality of other technological tools used in the online component may alter results.
7. Both instructors met weekly to mirror image their groups, but there was no validity check through an outside observation to confirm.

Recommendations for Future Research

Professional accounting organizations indicated that the first accounting course serves many diverse students who enroll in the class, and that the first accounting course is the most influential course in a business school's undergraduate curriculum (AECC, 1992; AICPA, 2013). In all respects, the design of the first accounting course has always been a complex issue (Williams, 2011). For a long time, the profession of accounting has solicited educators to rethink the design of the first accounting course (Warren & Young, 2012). Redesigning a course for a blended format is not merely about the technology or the transferring of course content to a new means, but the creation of an effective learning environment that optimizes student learning (Schaber et al., 2010). These design issues prompt many areas for recommended future research. The following questions could be examined: Can students perform better in the blended instructional method across all instructors in a first accounting course? Can this research be translated across other universities? What groups of students will benefit most from the blended instructional method? These questions identify other areas of recommendations for future research on the blended environment as follows:

- The effect of a blended teaching method on student performance in a first accounting course by measuring the final grades.

- The effect of a blended teaching method on student performance and satisfaction in a first accounting course comparing publisher versus instructor videos.
- The effect of a blended teaching method on student performance and satisfaction in a first accounting course comparing majors versus non-majors.
- The effect of a blended teaching method on student performance and satisfaction in a first accounting course comparing different demographics.
- The effect of a blended teaching method on student performance and satisfaction in a first accounting course comparing students in a four-year institution with a community college.
- The effect of a blended teaching method on student performance and satisfaction in a first accounting course comparing students in two different higher education institutions.
- A qualitative study to help define the optimal design of a blended teaching method from the perspective of first accounting students in higher education.
- A qualitative study to help define the optimal technological tools of a blended teaching method from the perspective of first accounting students in higher education.
- The effect of a blended teaching method on student performance and satisfaction in higher level accounting courses in higher education.

Conclusions

This research studied the development and implementation of a blended instructional method as an additional design used within one university by two instructors teaching the first accounting course in higher education. The research further

investigated the students' performance and satisfaction from this blended instructional method compared to a face-to-face environment taught by the same two instructors. Furthermore, the study revealed the advantages and disadvantages of the blended environment from the perspectives of the undergraduate students enrolled.

From the results of this research, there is no major advantage to offer blended teaching, but also there is no disadvantage to offer this instructional method. The students' performance outcome was based on instructor. Some instructors' students perform better in a face-to-face environment and other instructors' students perform better with a blended teaching method. In addition, the results indicated that there was equal satisfaction with both the face-to-face and the blended instructional method. The satisfaction was not based on the instructor or type of instruction. Finally, in searching for the advantages and disadvantages of the blended instructional method, students expressed advantages with aspects of the blended teaching method.

The search for other designs for the first accounting course has been ongoing to satisfy the demands of students, employers, and accounting organizations. The value of this study was to fill a gap in the current literature regarding the measurement of performance, satisfaction, and value of a blended instructional method compared to a face-to-face environment in a first accounting course in higher education. The results indicated that the blended instructional environment has potential for meeting these demands. This study represented a one-time analysis. The design of the blended instructional method was a first time implementation for this university in a first accounting course. Adjustments in the design might be able to identify significant

differences between the face-to-face and blended environments. The excitement from this study motivates the researcher to continue additional further research in this area.

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Appendix A:

First Accounting Course IRB Approval Letter

M E M O R A N D U M

TO: Gregory Krivacek

School of Education and Social Sciences

FROM: Frederick G. Kohun, Ph.D.

Chair, Institutional Review Board

Robert Morris University

DATE: December 4, 2014

SUBJECT: IRB #2014111045–The Effect of a Blended Teaching Method on Student Performance and Satisfaction in a First Accounting Course in Higher Education

The above-referenced protocol has been approved through an expedited review procedure by the Institutional Review Board. This protocol meets all the necessary requirements and is hereby designated as exempt under section 45 CFR 46.101 (b)(2). Expedited protocols are approved for a period of three years. If you wish to continue the research after that time, a new application must be submitted.

Approval Date: December 4, 2014

Expiration Date: December 3, 2017

Please know that this IRB will be closed in the IRB database after 3 years.

cc: Dr. Mary Hansen

/lpn

Appendix B:

First Accounting Course Consent Form for Control and Treatment Group Satisfaction Survey

CONSENT FORM

Dear Participant,

I, Gregory J. Krivacek, an accounting instructor at Robert Morris University, invite you to participate in a research study that involves the investigation of an effective instructional method in accounting. In your class, one of two instructional methods will be implemented to determine the effectiveness of the methodology on student performance, satisfaction, and attitudes towards the instructional methods. As a participant, you will be asked to complete a pre-test and a post-test at the beginning and end of the semester. In addition, you will be asked to complete a satisfaction survey at the end of the semester, which is an instrument to measure student satisfaction in the two instructional methods. If you do not feel comfortable answering any survey item, you may skip the question without penalty. The results will be confidential but not anonymous because of linking the pre and post-test to the surveys. The entire process will take approximately 45 minutes at the beginning of the course and one hour at the end of the course.

Your participation in the study will not affect your grade or achievement in the course in any way. The completion of the coursework is required of all students, but the participation in the study is strictly voluntary and your identification and results will be held confidential for use by the researcher only. Your information will not be shared with others. Students under the age of 18 are not invited to participate in the study. You may withdraw from the study at any time without penalty. There is minimal risk involved with this study. Again, the only purpose of the study is to investigate the best instructional strategy for teaching accounting at a university. There is no compensation for participation, but you will be contributing to the improvement of instruction at the institution in a first accounting course.

If you have any questions or concerns, I can be reached at 412-397-6093 or krivacek@rmu.edu.

By signing this consent form, you are agreeing to participate in the study, but may withdraw from the study at any time with or without notice.

If you have any questions regarding human subject research, contact the IRB by e-mailing: IRB@rmu.edu

_____ _____

Participant Print Name & Sign Date

_____ _____

Researcher Date

Your participation is much appreciated.

Best regards,
Gregory J. Krivacek

Appendix C:

First Accounting Course Consent Form for Treatment Group Focus Group

Consent to Act as a Participant in a Research Study

I, Gregory J. Krivacek, an accounting instructor at Robert Morris University, invite you to participate in a focus group research study that involves the investigation of an effective instructional method in accounting. The purpose of this research project is to explore the attitudes of students' who used the blended teaching method in the first accounting course during the Spring, 2015 semester at the university level. A random sample of students from each of the two instructors' four blended teaching classes will be selected for this study and questions will be asked of the students' perspective on the advantages and disadvantages of the blended teaching method at the end of the Spring, 2015 semester. There will be two focus groups in total composed of approximately six students in each group. Their answers will be voice recorded to ensure accurate documentation. This research project is being conducted by Robert Morris University. There are no anticipated adverse risks associated with your participation in this study nor are there any benefits associated with your participation in this study.

Your participation in the study will not affect your grade or achievement in the course in any way. The completion of the coursework is required of all students, but the participation in the study is strictly voluntary and your identification and results will be held confidential for use by the researcher only. Your information will not be shared with others. Students under the age of 18 are not invited to participate in the study. You may withdraw from the study at any time without penalty. There is minimal risk involved with this study. Again, the only purpose of the study is to investigate the best instructional strategy for teaching accounting at the university. There is no compensation for participation, but you will be contributing to the improvement of instruction at the institution in a first accounting course.

If you have any questions or concerns, I can be reached at 412-397-6093 or krivacek@rmu.edu. By signing this consent form, you are agreeing to participate in the study, but may withdraw from the study at any time with or without notice.

If you have any questions regarding human subject research, contact the IRB by e-mailing: IRB@rmu.edu

Name: _____ (print)

Name: _____ (signature) Date: _____

Researcher:_____ Date: _____

Appendix D:

First Accounting Course Learning Objectives

KEY: C=Full Coverage
LC=Limited or Light coverage
NC=No coverage
LO= Learning Objectives
Yellow=BFT Business Foundations Test
Turquois=Pre/post from Researchers
Pink=AACSB Outcomes Assessment Accreditation

Chapter 1: Business, Accounting and You

LO1 Understand the nature of business and the role of accounting in business **C (Select from BFT)**

LO2 Know how a business operates **C (Used AOL)**

LO3 Know the different types and forms of businesses **C (Used AOL)**

LO4 Know the key accounting principles and concepts **C (Select from BFT)**

LO5 Know how accounting functions in a business **C**

LO6 Understand and be able to prepare basic financial statements **C (Used AOL Questions)**

Chapter 2: Analyzing and Recording Business Transactions

LO1 Define accounts and understand how they are used in accounting **C**

LO2 Explain debits, credits, and the double entry system **C**

LO3 Demonstrate the use of the general journal and the general ledger to record business transactions **C**

LO4 Use a trial balance to prepare financial statements **C**

Chapter 3: Adjusting and Closing Entries

LO1 Understand the revenue recognition and matching principles **C (Used AOL)**

LO2 Understand the four types of adjustments and prepare adjusting entries **C**

LO3 Prepare financial statements from an adjusted trial balance **C**

LO4 Prepare closing entries and a post-closing trial balance **C**

Chapter 4: Accounting for a Merchandising Business

LO1 Describe the relationships among manufacturers, wholesalers, retailers, and customers **C**

LO2 Define periodic and perpetual inventory systems **C**

LO3 Journalize transactions for the purchase of inventory **NC**

LO4 Journalize transactions for the sale of inventory **NC**

LO5 Understand shipping terms **C**

LO6 Prepare a multi-step income statement and a classified balance sheet **C**

LO7 Compute the gross profit percentage ~~and the net income percentage~~ **C**

Chapter 5: Inventory

LO1 Describe the four different inventory costing methods **C**

LO2 Compute inventory costs using FIFO, LIFO, and average costs methods and journalize inventory transactions **C**

LO3 Compare the effects of the different costing methods on the financial statements **C**

LO4 Value inventory using LCM rule **NC**

LO5 Illustrate the reporting of inventory in the financial statements **C**

LO6 Determine the effect of inventory errors on the financial statements **LC**

LO7 Use the gross profit method to estimate ending inventory **NC**

LO8 Compute the inventory turnover and days-sales-in-inventory **NC**

Chapter 6: Ethics, Internal Control and IFRS

LO1 Understand the importance of US GAAP and how it differs from accounting standards in other countries (IFRS) **C** **(Used AOL)**

LO2 Understand the importance and role of internal control **LC**

LO3 Define fraud and describe the different types of fraud in business **LC**

LO4 Know what a Certified Public Accountant (CPA) is and does **NC**

LO5 Know the legal and ethical responsibilities of an accountant including the requirements of the Sarbanes-Oxley Act (SOX) **NC**

LO6 Know the difference between book value and market value of stockholders' equity **NC**

Chapter 7: Cash and Receivables

LO1 Discuss internal controls for cash and prepare a bank reconciliation **C**

LO2 Report cash on the balance sheet **C**

LO3 Identify the different types of receivables and discuss related internal controls for accounts receivable **C**

LO4 Use the direct write off and allowance methods to account for uncollectible accounts **C (Allowance method use % of sales only)**

LO5 Report account receivable on the balance sheet **C**

LO6 Account for notes receivable **C**

LO7 Calculate the current ratio, quick ratio, accounts receivable turnover, and receivable collection period **NC**

Chapter 8: Long-Term Assets

LO1 Describe the differences between fixed assets, intangible assets, and natural resources **C**

LO2 Calculate and record the cost of acquiring fixed assets **C**

LO3 Calculate and record the depreciation of fixed assets **C (SL and DDB only)**

LO4 Account for repairs to fixed assets **C**

LO5 Account for the disposal of fixed assets **LC**

LO6 Account for intangible assets **LC**

LO7 Account for natural resources **NC**

LO8 Account for other assets **NC**

LO9 Report long-term assets on the balance sheet **LC**

L10 Calculate the return on assets and the fixed asset turnover **NC**

Chapter 9: Current Liabilities and Long-Term Debt

LO1 Distinguish among known, estimated, and contingent liabilities **NC**

LO2 Account for current liabilities of a known amount **LC**

LO3 Account for liabilities of an uncertain amount **NC**

LO4 Account for contingent liabilities **NC**

LO5 Account for long-term debt LC **(Par Value Only)** **(Choose)**

LO6 Report liabilities on the balance sheet **LC** **(Choose)**

LO7 Compute the debt ratio and interest coverage ratio **NC**

Chapter 10: Corporations: Paid in Capital and Retained Earnings

LO1 Review the characteristics of a corporation **C**

LO2 Describe the two sources of stockholder's equity and the different classes of stock **C**

LO3 Journalize the issuance of stock C

LO4 Account for cash dividends C

LO5 Account for stock dividends and stock splits **NC**

LO6 Account for treasury stock C

LO7 Report stockholder's equity on the balance sheet LC

LO8 Evaluate return on stockholder's equity NC

Chapter 11: The Statement of Cash Flows (Teach this along with chapters 1-3)

LO1 Identity the purposes and importance of the statement of cash flows **LC** **(Used AOL)**

LO2 Differentiate between cash flows from operating, investing, and financing activities **LC**

LO3 Prepare the statement of cash flows using the indirect method **NC**

LO4 Prepare the statement of cash flows using the direct method **NC**

LO5 Evaluate a company's performance with respect to cash **NC**

Note: The learning objectives used in this document were taken from:

Waybright, J., & Kemp, R. (2012). *Financial Accounting* (2nd ed). Englewood Cliffs, NJ: Prentice Hall.

Appendix E:

First Accounting Course Example of Publisher Test Item File

Financial Accounting, 2/E
Robert Kemp, *University of Virginia*
Jeffrey Waybright, *Spokane Community College*
ISBN-10: 0132771586 • ISBN-13: 9780132771580
©2013 • Prentice Hall • Cloth, 816 pp
Published 01/24/2012

Test Item File (Download only) for Financial Accounting, 2/E
Waybright & Kemp
ISBN-10: 0132771845 • ISBN-13: 9780132771849
©2013 • Online • Live
More info
1. **download word files (ZIP)** (0.5MB)

This compressed file contains the word documents of the Test Item file for Kemp/Waybright, Financial Accounting, 2/e

Financial Accounting, 2e **(Kemp/Waybright)**
Chapter 1 Business, Accounting, and You

8) A tax preparation business is primarily a:
A) merchandising operation.
B) service operation.
C) not-for-profit operation.
D) manufacturing operation.
Answer: B
Diff: 2
Learning Objective: 1-1
EOC Ref: Vocabulary
AACSB: Analytic Skills
AICPA Business: Strategic/Critical Thinking
AICPA Functional: Decision Modeling

10) Which of the following types of organizations would produce goods?
A) Merchandising business
B) Service business
C) Both Merchandising and Manufacturing business produce goods
D) Manufacturing business
Answer: D
Diff: 1
Learning Objective: 1-1
EOC Ref: Vocabulary
AACSB: Reflective Thinking
AICPA Business: Strategic/Critical Thinking
AICPA Functional: Decision Modeling

Appendix F:

First Accounting Course Pre-Post-test

Student: _____ **Instructor:** _____
Assignment:
Date: _____ **Course:** Financial Accounting Pre-Post-Test
Semester: _____ **Book:** Kemp/Waybright: Financial Accounting, 2e

1) Net income is defined as:
   a) Revenue less expenses
   b) Revenue plus expenses
   c) Revenue less assets
   d) Expenses less revenue
   Ch.1 LO4
2) Tax preparation business is primarily a:
   a) Service operation
   b) Merchandising operation
   c) Not-for-profit operation
   d) Manufacturing operation
   Ch.1 LO1, 3
3) Which of the following types of organization would primarily sell goods?
   a) Both merchandising and manufacturing businesses sell goods
   b) Service business
   c) Merchandising business
   d) Manufacturing business
   Ch.1 LO1, 3 Ch. 4 LO1
4) Which of the following types of organizations would produce goods?
   a) Service business
   b) Manufacturing business
   c) Merchandising business
   d) Both merchandising and manufacturing business produce goods
   Ch.1 LO1, 3 Ch. 5 LO1
5) Which type of organization has stockholders?
   a) Corporations
   b) Sole proprietorships
   c) Partnerships
   d) Limited liability companies
   Ch.1 LO1, 3

6) Which of the following financial statements illustrates the accounting equation?
   a) Income statement
   b) Statement of retained earnings
   c) Balance sheet
   d) Statement of cash flows
   Ch.1 LO6
7) Which of the financial statements includes a listing of assets owned by the company?
   a) Income statement
   b) Statement of cash flows
   c) Balance sheet
   d) Statement of retained earnings
   Ch.1 LO6
8) If revenues are recognized and recorded when earned, the company is using the:
   a) Adjustment basis of accounting
   b) Accrual basis of accounting
   c) Cash basis of accounting
   d) The expense basis of accounting
   Ch.3 LO1
9) If a business records expenses when paid, the company is using the:
   a) The expense basis of accounting
   b) Cash basis of accounting
   c) Accrual basis of accounting
   d) Adjustment basis of accounting
   Ch.3 LO1
10) The matching principle in accounting requires the matching of:
   a) Revenue earned with the liabilities used to produce the revenue
   b) Revenue earned with the expenses incurred to produce the revenue
   c) Revenue earned with the assets used to produce the revenue
   d) Revenue earned with the assets used less the liabilities incurred
   Ch.3 LO1
11) U.S. GAAP's overriding principles of accounting are written by the:
   a) IRS
   b) SEC
   c) FASB
   d) IASB
   Ch.6 LO1

12) The process CPAs use to confirm that financial reports conform to GAAP is known as a(n):
    a) Review
    b) Examination
    c) Audit
    d) Confirmation
    Ch.6 LO1
13) Patents, franchises, and trademarks are:
    a) Expensed
    b) Amortized
    c) Depreciated
    d) Depleted
    Ch.8 LO1
14) Buildings, vehicles, and desks are:
    a) Expensed
    b) Depleted
    c) Depreciated
    d) Amortized
    Ch.8 LO1
15) Which of the following matches the correct cost allocation terms with the given assets?
    a) Plant Assets Depreciation, Intangible Assets Depletion, Natural Resources Amortization
    b) Plant Assets Amortization, Intangible Assets Depletion, Natural Resources Depreciation
    c) Plant Assets Depreciation, Intangible Assets Amortization, Natural Resources Depletion
    d) Plant Assets Depletion, Intangible Assets Depreciation, Natural Resources Amortization
    Ch.8 LO1
16) The amount that a borrower must pay back to the bondholders on the maturity date is the:
    a) Principal
    b) Stated value
    c) Market value
    d) Interest
    Ch.9 LO5

17) The rate of interest that is printed on the bond is called the _____ rate of interest.
   a) Maturity
   b) Stated
   c) Market
   d) Variable
   Ch.9 LO5

18) The rate of interest that investors are willing to pay for similar bonds of equal risk at the current time is the _____ rate of interest.
   a) Variable
   b) Maturity
   c) Market
   d) Stated
   Ch.9 LO5

19) When a company issues bonds, what are they doing?
   a) The company is guaranteeing the products they sell
   b) The company is loaning money to third parties
   c) The company is selling part of itself
   d) The company is borrowing money from third parties
   Ch.9 LO5

20) Stock that is held by stockholders is called:
   a) Open stock
   b) Authorized stock
   c) Outstanding stock
   d) Issued stock
   Ch.10 LO1

21) Which right do preferred stockholders receive before common stockholders?
   a) Preemptive rights
   b) Divided rights
   c) Selling rights
   d) Voting rights
   Ch.10 LO2

22) If there is only one class of stock outstanding, such stock would be classified as:
   a) Authorized stock
   b) Preferred stock
   c) Issued stock
   d) Common stock
   Ch.10 LO2

23) Stockholders' equity consists of:
   a) Paid – in capital and retained earnings
   b) Common stock and preferred stock
   c) Contributed capital and paid – in capital
   d) Legal capital and paid in capital
   Ch.10 LO7

24) The purpose of the statement of cash flows is to show:
   a) The expenses that were paid
   b) The profits that were earned
   c) How cash was received and used during the period
   d) The revenue earned
   Ch.11 LO1

Appendix G:

First Accounting Course Control & Treatment Group Demographics

Instructions: Please answer all questions in this questionnaire to the best of your ability. Your opinions will remain confidential. Bubble in your answers (with pen or pencil) that best represents your opinion for each question. If a question is unclear, please ask for clarification. Thank you for your help!

1. **Are you currently a**
   - ☐ Full-Time student (12 or more credits)
   - ☐ Part-time student (less than 12 credits)

2. **Are you an international student?**
   - ☐ Yes
   - ☐ No

3. **What is your major?**
   - ☐ Accounting
   - ☐ Economics
   - ☐ Finance
   - ☐ Management
   - ☐ Marketing (includes Hospitality & Tourism & Sport Mgt.)
   - ☐ Other (list)_____

4. **Based on your academic credits, are you a**
   - ☐ Freshman
   - ☐ Sophomore
   - ☐ Junior
   - ☐ Senior

5. **What is your QPA? _____**

6. **When did you attend the class?**
   - ☐ 8:45
   - ☐ 9:45
   - ☐ 10:45
   - ☐ 1:45

7. **What is your age? _____**

8. **What is your Gender?**
   - ☐ Male
   - ☐ Female

9. What is your Race?

- ☐ Caucasian
- ☐ African American
- ☐ Asian
- ☐ Hispanic
- ☐ Native American Indian
- ☐ Other (list) _____

10. What is your employment status? Check all that apply.

- ☐ Full-Time
- ☐ Part-Time
- ☐ Student Work Study
- ☐ Not Working

11. Did you take Accounting in high school or at another college/university?

- ☐ Yes
- ☐ No

Appendix H:

First Accounting Course Control & Treatment Group Satisfaction Survey

For the following questions, consider only the FORMAT of the course (e.g., three day a week on-ground class; three day a week hybrid class).

Indicate your level of Agreement with the following:

Course Format	Strongly Disagree	Disagree	Agree	Strongly Agree
1. The number of class meeting sessions was adequate.	○	○	○	○
2. The course format provided flexibility in my schedule.	○	○	○	○
3. The course format allowed for sufficient student/instructor interaction	○	○	○	○
4. The course format allowed for sufficient student/student interaction.	○	○	○	○
5. The course format allowed me to think independently.	○	○	○	○
6. The course format increased my motivation to learn.	○	○	○	○
7. The course format provided adequate opportunity for participation.	○	○	○	○
8. The overall course format was conducive to learning.	○	○	○	○
9. I had a sense of accomplishment after completing the course.	○	○	○	○
10. I am satisfied with the level of effort that this course format required.	○	○	○	○
11. I am satisfied with my performance in this course format.	○	○	○	○
12. I was satisfied with the instructor's explanation of course requirements.	○	○	○	○

For the remainder of the questions, consider the course as a whole and indicate your level of agreement with the following:

Course Content	Strongly Disagree	Disagree	Agree	Strongly Agree
13. The course content was presented clearly.	○	○	○	○
14. The course content was well-organized.	○	○	○	○
15. The course content was understandable.	○	○	○	○
16. The course content kept my interest high.	○	○	○	○
17. My understanding of accounting was improved in this course compared to similar courses.	○	○	○	○
Course Communication				
18. The responsiveness of the instructor was adequate for meeting my needs.	○	○	○	○
19. The instructor made me connected with my classmates.	○	○	○	○
20. I was satisfied with the accessibility and availability of the instructor.	○	○	○	○
21. Feedback on assignments and exams was given in a timely manner.	○	○	○	○
22. I felt comfortable contacting the instructor outside of class.	○	○	○	○
23. I saw the instructor during office hours at least once.	○	○	○	○
24. The instructor showed concern for student progress.	○	○	○	○
25. The instructor was willing to listen to student questions.	○	○	○	○
26. I participated in class.	○	○	○	○
27. I was comfortable asking questions or for clarification.	○	○	○	○
28. I engaged with my classmates during class.	○	○	○	○
29. I engaged with my classmates about course content outside of class.	○	○	○	○
30. I engaged with my classmates more in this class than in other courses.	○	○	○	○

Appendix I:

First Accounting Course Treatment Group ONLY Satisfaction Survey

Indicate your level of agreement with the following:

Blended Teaching Only	Strongly Disagree	Disagree	Agree	Strongly Agree
31. Compared to other face-to-face courses, I am more satisfied with this Blended Teaching Method.	○	○	○	○
32. I would recommend the Blended Teaching Method to others for this course.	○	○	○	○
33. I would recommend the Blended Teaching Method to others for other accounting courses.	○	○	○	○
34. I would recommend the Blended Teaching Method to others for other courses outside of accounting.	○	○	○	○
35. I utilized the technological tools each week.	○	○	○	○
36. The technological tools provided in the online modules were easy to use.	○	○	○	○
37. The technological tools helped me learn the content.	○	○	○	○
38. The technological tools were easy to use.	○	○	○	○
39. The technological tools motivated me.	○	○	○	○
40. The use of technological tools increased my interest in the course.	○	○	○	○
41. The online portion met my student demands of flexibility of time.	○	○	○	○
42. I would have preferred coming to class every Friday instead of using the online modules.	○	○	○	○
43. I would have preferred coming to class every Friday AND having access to the online modules.	○	○	○	○
44. The use of online technology in this course encouraged me to learn independently more than coming to class.	○	○	○	○

45. If I had known this was to be a Blended Teaching class, then I would not have taken it.	○	○	○	○
46. I am willing to take another course using the Blended Teaching Method.	○	○	○	○
47. The instructor used Blended Teaching technology appropriately.	○	○	○	○
Videos				
48. The videos used online helped me learn the content.	○	○	○	○
49. On average, the length of the videos was appropriate.	○	○	○	○
Audio PowerPoint Presentations				
50. The power points used online were helpful in learning the content.	○	○	○	○
51. On average, the PowerPoint presentations were appropriate length of time.	○	○	○	○

Appendix J:

First Accounting Course Instructional Procedures Schedule Blended Teaching

Week	M Face-to-Face	W Face-to-Face	F Online
1 1/12	Syllabus	Pre-test	**Chapter 1: Business, Accounting, and You (LO 1-6)** **Audio PowerPoints: (LO 1-3) (8 minutes)** **Quiz 1: (LO 1-3) (10 minutes)** **Audio PowerPoints: (LO 4-6) (12 minutes)** Review LO5 E1-16A & E1-19A on the audio PowerPoint from the Book Page 45 & 46 **(10 minutes)** **Quiz 2: (LO 4-6) (10 minutes)**
2 1/19	Martin Luther King Holiday	Chapter 1	**Chapter 1: continued…** **Videos: (LO 1-6) (16 minutes)** Accounting Principles & Concepts LO 1, 2, 3, 4 Accounting Equation: Impact on Stockholders' Equity LO 5 Financing and Investing Activities on the Accounting Equation LO 5 Operating Activities on the Accounting Equation LO 5 The Accounting Equation LO 5 Introduction to Financial Statements LO 6 **Demo Docs Example (LO 1-6) (17 minutes)** **Chapter 2: Analyzing and Recording Business Transactions (LO 1-4)** **Audio PowerPoints: (LO 1 ONLY) (7 minutes)** **Quiz 1: (LO 1 ONLY) (10 minutes)**
3 1/26	Chapter 2	Chapter 2	**Chapter 2: continued…** **Audio PowerPoints: (LO 2-4) (13 minutes)** Review LO3 E2-17A on the audio PowerPoint from the Book Page 104 **(4 minutes)** Review LO4 S2-12 on the audio PowerPoint from the Book Page 102 **(4 minutes)** **Videos: (LO 1-4) (5 minutes)** Rules of Debits and Credits LO 1, 2 Journalizing Transactions LO 3 Preparation of a Trial Balance LO 4 **Demo Docs Example (LO 1-4) (9 minutes)** **Blackboard Chapter 1 LO 1, 2, 4, 5, 6 & Chapter 2 LO 1**

			Quick Review Video (5 minutes) **Quiz 2: (LO 2-4) (10 minutes)**
4 2/2	Chapter 3	Chapter 3	**Chapter 3: Adjusting and Closing Entries (LO 1-4)** **Audio PowerPoints: (LO 1-2) (10 minutes)** Review LO2 P3-42A on the audio PowerPoint from the Book on Page 176 **(10 minutes)** **Videos: (LO 1-2) (20 minutes)** Cash Basis versus Accrual Basis of Accounting LO 1, 2 Accrued Expenses LO 1, 2 Prepaid Expenses LO 1, 2 Unearned Revenue LO 1, 2 **Week 4 Chapter 3: continued…** **Quiz 1: (LO 1-2) (10 minutes)**
5 2/9	Chapter 3	Review Exam 1 Chapters 1-3	**Chapter 3: continued…** **Audio PowerPoints: (LO 3-4) (7 minutes)** Review LO4 E3-38B on the audio PowerPoint from the Book Page 175 **(6 minutes)** **Videos: (LO 1, 2, 4) (9 minutes)** Fixed Assets and Depreciation LO 1, 2 Road Map to Adjusting Entries LO 1, 2 Unearned Revenue Adjusting Entries LO 1, 2 Closing Entries LO 4 **Demo Docs Example (LO 1-4) (18 minutes)** **Quiz 2: (LO 3-4) (10 minutes)**
6 2/16	Exam 1 Chapters 1-3	Chapter 4	**Chapter 4: Accounting for a Merchandising Business (LO 1-2, 5-7)** **Audio PowerPoints: (LO 1-2, 5-7) (12 minutes)** Review LO5 EX. 4-15A on the audio PowerPoint from the Book Page 229 **(3 minutes)** Review LO7 S4-13 on the audio PowerPoint from the Book 228 **(3 minutes)** **Videos: (LO 1-2, 5-7) (5 minutes)** Merchandise Income Statement and Transactions LO 1-2, 5-7 **Demo Docs Example (LO 1-2, 5-7) (10 minutes)** **Blackboard Chapter 4 LO 6, 7 Sale/Cost Example Video (7 minutes)** **Quiz 1: (LO 1-2, 5-7) (10 minutes)**
7 2/23	Review Exam 1 Chapter 5	Chapter 5	**Chapter 5: Inventory (LO 1-3, 5-6)** **Audio PowerPoints: (LO 1-3, 5-6) (13 minutes)** **Videos: (LO 1-3, 5-6) (4 minutes)** Concepts of Inventory LO 1-3, 5-6 **Quiz 1 (LO 1-3, 5-6) (10 minutes)** **Chapter 6: The Challenges of Accounting:**

			Standards, Internal Control, Audits, Fraud, and Ethics (LO 1-3) **Blackboard Chapter 6 LO 1-3 Audits, Standards, Internal** **Control, Fraud, and Ethics Video (13 minutes)** **Quiz 1: (LO 1-3) (10 minutes)**
8 3/2	Review Exam 2 Chapters 4-6	Exam 2 Chapter 4-6	**Chapter 7: Cash and Receivables (LO 1-6)** **Audio PowerPoints: (LO 1-3) (9 minutes)** **Demo Docs Example (LO 1) (9 minutes)** **Videos: (LO 1, 2) (11 minutes)** Concepts of Bank Reconciliation LO 1, 2 Performing a Bank Reconciliation LO 1-2 **Blackboard Chapter 7 LO 1 Internal Controls for Cash & Bank Reconciliation (11 minutes)** **Quiz 1: (LO 1-3) (10 minutes)**
9 3/9	Spring Break	Spring Break	Spring Break
10 3/16	Review Exam 2 Chapter 7	Chapter 7	**Chapter 7: continued…** **Audio PowerPoints: (LO 5, 6) (2 minutes)** **Videos: (LO 4) (3 minutes)** Concepts of Allowance for Bad Debts LO 3, 4 **Quiz 2: (LO 4-6) (10 minutes)** **Chapter 8: Long-Term Assets (LO 1-6, 9)** **Audio PowerPoints: (LO 1-6, 9) (13 minutes)** Review LO2 E8-18A on the audio PowerPoint from the Book Page 457 **(4 minutes)** Review LO5 P8-49A on the audio PowerPoint from the Book Page 466 **(4 minutes)** **Video's: (LO 1-3) (4 minutes)** Depreciation Methods LO 1-3 **Quiz 1: (LO 1-6, 9) (10 minutes)**
11 3/23	Chapter 8	Chapter 8	**Chapter 9: Current Liabilities and Long-Term Debt (LO 2,5,6)** **Audio PowerPoints: (LO 2, 6) (8 minutes)** **Demo Docs (LO2) Current Liabilities ONLY (8 minutes)** **Blackboard Chapter 9 LO 2, 5, 6 Liabilities Video (15 minutes)** **Blackboard Chapter 9 LO 2, 5, 6 Question/Answer on** **Liabilities Video (9 minutes)** **Quiz 1: (LO 2, 5, 6) (10 minutes)**
12 3/30	Review Exam 3	Exam 3 Chapters	Easter Holiday

	Chapters 7 & 8	7 & 8	
13 4/6	Review Exam 3 Chapter 9	Chapter 10	**Chapter 10: Corporations: Paid-in Capital and Retained Earnings (LO 1-4, 6-7)** **Audio PowerPoints: (LO 1, 2, 3) (8 minutes)** **Demo Docs (LO2, 3) Common & Preferred Stock ONLY (11 minutes)** **Quiz 1: (LO 1, 2, 3) (10 minutes)** **Audio PowerPoints: (LO 4, 7) (2 minutes)** **Blackboard Chapter 10 LO 4 Dividend Dates Video (9 minutes)** **Quiz 2: (LO 4, 6, 7) (10 minutes)**
14 4/13	Review Exam 4 Chapter 9 & 10	Exam 4 Chapters 9 & 10	**Chapter 11: The Statement of Cash Flows (LO 1-2)** **Audio PowerPoints: (LO1 & 2) (8 minutes)** Review LO1,2 S11-4 on the audio PowerPoint from the Book Page 622 **(7 minutes)** **Blackboard Chapter 11 LO 1, 2 Operating, Investing, & Financing Sections Video (15 minutes)** **Blackboard Chapter 11 LO 1, 2 Question/Answer on Statement of Cash Flow Section Video (10 minutes)** **Quiz 1: (LO 1 & 2) (10 minutes)**
15 4/20	Review Exam 4 Review for the Final Exam	Survey	**Review Final Exam** **Chapter 11 Pearson My Accounting Lab Multimedia Library-** **Other Extras-Accounting Cycle Tutorial-Review Tutorial for the Final Exam (50 minutes)**
16 4/27	Open Office Hours	Final Exam	

WWW.PEARSONMYLABANDMASTERING.COM

The following FRIDAY ONLINE technologies are located by first signing into the Pearson My Accounting Lab Software (ABOVE LINK), clicking into the ACCT 2030 Course, clicking on the Multimedia Library on the left side, then stating the Chapter, All Learning Objectives, and Select All in the appropriate boxes on the

Page, and click on Find Now, then click on the following software as indicated by the Course Calendar:

Audio PowerPoint

Video

DemoDocs Example

Other Extras-Accounting Cycle Tutorial

WWW.PEARSONMYLABANDMASTERING.COM

NOTE: The FRIDAY ONLINE Quizzes are located in Pearson My Accounting Lab Software (ABOVE LINK) by clicking on the Assignments Tab at the top left side, then click on the appropriate Week's Quiz as designated on the Calendar. There are 10 minute time limits and due dates each Sunday night for each of the Quizzes.

WWW.RMU.EDU/BLACKBOARD

The following FRIDAY ONLINE technology is located by first signing into Blackboard (ABOVE LINK), clicking into the ACCT 2030 Course, clicking on the Instructor Videos Tab on the left side, and finding and clicking the appropriate Week's Video as designated on the Calendar:

Instructor Videos (These Instructor Videos are highlighted in RED on the Calendar)

Appendix K:

Descriptive Statistics for the Survey Sections Related to Course Format, Course Content and Course Communication for Both Treatment and Control Groups

Question	Group	Strongly Agree		Agree		Disagree		Strongly Disagree		*M*	*SD*
		n	%	*n*	%	*n*	%	*n*	%		
Course Format											
Q1. The number of class meeting sessions was adequate	Total	132	44.75	149	50.51	14	4.75	0	-	3.40	0.58
	Control	61	41.22	85	57.43	2	1.35	0	-	3.40	0.52
	Treatment	71	48.30	64	43.54	12	8.16	0	-	3.40	0.64
Q2. The course format provided flexibility in my schedule	Total	128	43.39	146	49.49	20	6.78	1	0.34	3.36	0.62
	Control	39	26.35	91	61.49	17	11.49	1	0.68	3.14	0.62
	Treatment	89	60.54	55	37.41	3	2.04	0	-	3.59	0.53
Q3. The course format allowed for sufficient student/instructor interaction	Total	110	37.29	168	56.95	17	5.76	0	-	3.32	0.58
	Control	59	39.86	84	56.76	5	3.38	0	-	3.36	0.55
	Treatment	51	34.69	84	57.14	12	8.16	0	-	3.27	0.60
Q4. The course format allowed for sufficient student/student interaction	Total	69	23.39	182	61.69	42	14.24	2	0.68	3.08	0.63
	Control	26	17.57	97	65.54	24	16.22	1	0.68	3.00	0.61
	Treatment	43	29.25	85	57.82	18	12.24	1	0.68	3.16	0.65
Q5. The course format allowed me think independently	Total	103	34.92	171	57.97	19	6.44	2	0.68	3.27	0.61
	Control	37	25.00	95	64.19	14	9.46	2	1.35	3.13	0.62
	Treatment	66	44.90	76	51.70	5	3.40	0	-	3.41	0.56
Q6. The course format increased my motivation to learn	Total	58	19.66	160	54.24	68	23.05	9	3.05	2.91	0.74
	Control	29	19.59	81	54.73	37	25	1	0.68	2.93	0.69
	Treatment	29	19.73	79	53.74	31	21.09	8	5.44	2.88	0.78
Q7. The course format provided adequate opportunity for participation	Total	73	24.75	185	62.71	35	11.86	2	0.68	3.12	0.62
	Control	38	25.68	95	64.19	14	9.46	1	0.68	3.15	0.60
	Treatment	35	23.81	90	61.22	21	14.29	1	0.68	3.08	0.64

Q8. The overall course format was conducive to learning	Total	90	30.51	174	58.98	28	9.49	3	1.02	3.19	0.64
	Control	42	28.38	92	62.16	14	9.46	0	-	3.19	0.59
	Treatment	48	32.65	82	55.78	14	9.52	3	2.04	3.19	0.69
Q9. I had a sense of accomplishment after completing the course	Total	84	28.47	161	54.58	42	14.24	8	2.71	3.09	0.73
	Control	38	25.68	82	55.41	23	15.54	5	3.38	3.03	0.74
	Treatment	46	31.29	79	53.74	19	12.93	3	2.04	3.14	0.71
Q10. I am satisfied with the level of effort that this course format required	Total	85	28.81	182	61.69	25	8.47	3	1.02	3.18	0.62
	Control	36	24.32	98	66.22	12	8.11	2	1.35	3.14	0.60
	Treatment	49	33.33	84	57.14	13	8.84	1	0.68	3.23	0.63
Q11. I am satisfied with my performance in this course format	Total	75	25.42	142	48.14	64	21.69	14	4.75	2.94	0.81
	Control	37	25	67	45.27	36	24.32	8	5.41	2.90	0.84
	Treatment	38	25.85	75	51.02	28	19.05	6	4.08	2.99	0.79
Q12. I was satisfied with the instructor's explanation of course requirements	Total	134	45.42	148	50.17	12	4.07	1	0.34	3.41	0.59
	Control	74	50	68	45.95	5	3.38	1	0.68	3.45	0.60
	Treatment	60	40.82	80	54.42	7	4.76	0	-	3.36	0.57
Course Content											
Q13. The course content was presented clearly	Total	117	39.66	154	52.20	22	7.46	2	0.68	3.31	0.64
	Control	57	38.51	76	51.35	14	9.46	1	0.68	3.28	0.66
	Treatment	60	40.82	78	53.06	8	5.44	1	0.68	3.34	0.61
Q14. The course content was well-organized	Total	124	42.03	154	52.20	15	5.08	2	0.68	3.36	0.61
	Control	61	41.22	77	52.03	9	6.08	1	0.68	3.34	0.62
	Treatment	63	42.86	77	52.38	6	4.08	1	0.68	3.37	0.60
Q15. The course content was understandable	Total	85	28.81	169	57.29	34	11.53	7	2.37	3.13	0.70
	Control	36	24.32	81	54.73	26	17.57	5	3.38	3.00	0.75
	Treatment	49	33.33	88	59.86	8	5.44	2	1.36	3.25	0.62
Q16. The course content kept my interest high	Total	50	16.95	146	49.49	82	27.80	17	5.76	2.78	0.79
	Control	27	18.24	65	43.92	50	33.78	6	4.05	2.76	0.79
	Treatment	23	15.65	81	55.10	32	21.77	11	7.48	2.79	0.80

Q17. My understanding of accounting was improved in this course compared to similar courses	Total	103	34.92	153	51.86	30	10.17	9	3.05	3.19	0.73
	Control	50	33.78	79	53.38	15	10.14	4	2.70	3.18	0.72
	Treatment	53	36.05	74	50.34	15	10.20	5	3.40	3.19	0.75
Course Communication											
Q18. The responsiveness of the instructor was adequate for meeting my needs	Total	114	38.78	169	57.48	10	3.40	1	0.34	3.35	0.56
	Control	57	38.78	87	59.18	2	1.36	1	0.68	3.36	0.55
	Treatment	57	38.78	82	55.78	8	5.44	0	-	3.33	0.58
Q19. The instructor made me connected with my classmates	Total	42	14.24	133	45.08	110	37.29	10	3.39	2.70	0.75
	Control	19	12.84	69	46.62	57	38.51	3	2.03	2.70	0.71
	Treatment	23	15.65	64	43.54	53	36.05	7	4.76	2.70	0.79
Q20. I was satisfied with the accessibility and availability of the instructor	Total	113	38.31	168	56.95	13	4.41	1	0.34	3.33	0.58
	Control	56	37.84	85	57.43	6	4.05	1	0.68	3.32	0.59
	Treatment	57	38.78	83	56.46	7	4.76	0	-	3.34	0.57
Q21. Feedback on assignments and exams was given in a timely manner	Total	126	42.71	154	52.20	13	4.41	2	0.68	3.37	0.60
	Control	59	39.86	82	55.41	5	3.38	2	1.35	3.34	0.61
	Treatment	67	45.58	72	48.98	8	5.44	0	-	3.40	0.59
Q22. I felt comfortable contacting the instructor outside of class	Total	129	43.73	146	49.49	17	5.76	3	1.02	3.36	0.64
	Control	63	42.57	72	48.65	11	7.43	2	1.35	3.32	0.67
	Treatment	66	44.90	74	50.34	6	4.08	1	0.68	3.39	0.60
Q23. I saw the instructor during office hours at least once	Total	39	13.22	46	15.59	103	34.92	107	36.27	2.06	1.02
	Control	18	12.16	27	18.24	53	35.81	50	33.78	2.09	1.00
	Treatment	21	14.29	19	12.93	50	34.01	57	38.78	2.03	1.05
Q24. The instructor showed concern for student progress	Total	148	50.17	131	44.41	16	5.42	0	-	3.45	0.60
	Control	73	49.32	67	45.27	8	5.41	0	-	3.44	0.60
	Treatment	75	51.02	64	43.54	8	5.44	0	-	3.46	0.60
Q25. The instructor was willing to listen to student questions	Total	161	54.58	118	40.00	15	5.08	1	0.34	3.49	0.61
	Control	76	51.35	65	43.92	7	4.73	0	-	3.47	0.59
	Treatment	85	57.82	53	36.05	8	5.44	1	0.68	3.51	0.63

Q26. I participated in class	Total	59	20.00	177	60.00	50	16.95	9	3.05	2.97	0.70
	Control	34	22.97	86	58.11	23	15.54	5	3.38	3.01	0.72
	Treatment	25	17.01	91	61.90	27	18.37	4	2.72	2.93	0.68
Q27. I was comfortable asking questions or for clarification	Total	79	26.78	174	58.98	37	12.54	5	1.69	3.11	0.67
	Control	46	31.08	84	56.76	15	10.14	3	2.03	3.17	0.68
	Treatment	33	22.45	90	61.22	22	14.97	2	1.36	3.05	0.66
Q28. I engaged with my classmates during class	Total	47	15.93	122	41.36	101	34.24	25	8.47	2.65	0.85
	Control	24	16.22	65	43.92	47	31.76	12	8.11	2.68	0.84
	Treatment	23	15.65	57	38.78	54	36.73	13	8.84	2.61	0.86
Q29. I engaged with my classmates about course content outside of class	Total	52	17.69	139	47.28	70	23.81	33	11.22	2.71	0.89
	Control	26	17.69	67	45.58	36	24.49	18	12.24	2.69	0.91
	Treatment	26	17.69	72	48.98	34	23.13	15	10.20	2.74	0.87
Q30. I engaged with my classmates more in this class than in other courses	Total	30	10.17	79	26.78	133	45.08	53	17.97	2.29	0.88
	Control	15	10.14	41	27.70	68	45.95	24	16.22	2.32	0.87
	Treatment	15	10.20	38	25.85	65	44.22	29	19.73	2.27	0.89

Appendix L:

Descriptive Statistics for the Survey Sections Related to the Treatment Group Only

Question	Strongly Agree		Agree		Disagree		Strongly Disagree		*M*	*SD*
	n	%	*n*	%	*n*	%	*n*	%		
Blended teaching only										
Q31. Compared to other face-to-face courses, I am more satisfied with this Blended Teaching Method	66	44.9	68	46.26	12	8.16	1	0.68	3.35	0.66
Q32. I would recommend the Blended Teaching Method to others for this course	67	45.58	70	47.62	8	5.44	2	1.36	3.37	0.65
Q33. I would recommend the Blended Teaching Method to others for other accounting courses	65	44.22	64	43.54	12	8.16	6	4.08	3.28	0.78
Q34. I would recommend the Blended Teaching Method to others courses outside of accounting	58	39.46	70	47.62	14	9.52	5	3.40	3.23	0.76
Q35. I utilized the technological tools each week	56	38.10	76	51.70	15	10.20	0	-	3.28	0.64
Q36. The technological tools provided in the online modules were easy to use	64	43.54	77	52.38	5	3.40	1	0.68	3.39	0.59
Q37. The technological tools helped me learn the content	55	37.41	81	55.10	10	6.80	1	0.68	3.29	0.62
Q38. The technological tools were easy to use	57	38.78	84	57.14	5	3.40	1	0.68	3.34	0.58
Q39. The technological tools motivated me	36	24.49	74	50.34	33	22.45	4	2.72	2.97	0.76
Q40. The use of technological tools increased my interest in course	34	23.13	72	48.98	37	25.17	4	2.72	2.93	0.77
Q41. The online portion met my student demands of flexibility of time	67	45.58	75	51.02	5	3.40	0	-	3.42	0.56
Q42. I would have preferred coming to class every Friday instead of using the online modules	9	6.12	5	3.40	33	22.45	100	68.03	1.48	0.83
Q43. I would have preferred coming to class every Friday and having access to online modules	3	2.04	6	4.08	44	29.93	94	63.95	1.44	0.67

Q44. The use of online technology in this course encouraged me to learn independently more than coming to class	43	29.25	81	55.10	19	12.93	4	2.72	3.11	0.72
Q45. If I had known this was to be a Blended Teaching class, then I would not have taken it	5	3.40	11	7.48	39	26.53	92	62.59	1.52	0.78
Q46. I am willing to take another course using the Blended Teaching Method	64	43.54	72	48.98	9	6.12	2	1.36	3.35	0.66
Q47. The instructor used Blended Teaching technology appropriately	75	51.02	68	46.26	4	2.72	0	-	3.48	0.55
Videos										
Q48. The video used online helped me learn the content	37	25.17	103	70.07	6	4.08	1	0.68	3.20	0.53
Q49. On average, the length of the videos was appropriate	39	26.53	106	72.11	2	1.36	0	-	3.25	0.47
Audio PowerPoint Presentations										
Q50. The power points used online were helpful in learning the content	51	34.69	92	62.59	4	2.72	0	-	3.32	0.52
Q51. On average, the PowerPoint presentations were appropriate length of time	43	29.25	101	68.71	3	2.04	0	-	3.27	0.49

Appendix M:

Inter-Item Correlation Matrix for the Reliability Analysis

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Q1	1.000	.428	.484	.408	.394	.376	.357	.514	.349	.371
Q2	.428	1.000	.316	.397	.459	.335	.300	.421	.385	.356
Q3	.484	.316	1.000	.467	.335	.368	.415	.515	.327	.321
Q4	.408	.397	.467	1.000	.372	.301	.439	.445	.327	.314
Q5	.394	.459	.335	.372	1.000	.447	.335	.440	.443	.463
Q6	.376	.335	.368	.301	.447	1.000	.428	.525	.575	.473
Q7	.357	.300	.415	.439	.335	.428	1.000	.541	.433	.402
Q8	.514	.421	.515	.445	.440	.525	.541	1.000	.509	.545
Q9	.349	.385	.327	.327	.443	.575	.433	.509	1.000	.636
Q10	.371	.356	.321	.314	.463	.473	.402	.545	.636	1.000
Q11	.281	.182	.257	.208	.377	.434	.271	.396	.533	.558
Q12	.378	.248	.503	.264	.307	.358	.360	.495	.367	.477
Q13	.372	.327	.353	.288	.361	.405	.309	.512	.409	.407
Q14	.315	.277	.334	.344	.351	.371	.325	.510	.401	.428
Q15	.277	.293	.219	.273	.335	.329	.292	.440	.344	.330
Q16	.320	.266	.206	.286	.373	.633	.358	.502	.559	.459
Q17	.401	.278	.272	.342	.376	.473	.380	.505	.525	.407
Q18	.278	.305	.402	.257	.300	.283	.304	.408	.353	.301
Q19	.204	.236	.296	.415	.214	.238	.288	.304	.328	.264
Q20	.255	.276	.404	.303	.338	.268	.370	.430	.315	.291
Q21	.303	.268	.376	.211	.261	.233	.280	.377	.287	.354
Q22	.389	.339	.372	.269	.298	.370	.318	.419	.412	.365
Q23	***.038***	.039	***.040***	.041	***-.007***	.237	.103	.094	.186	.103
Q24	.265	.259	.387	.205	.252	.375	.303	.421	.321	.281
Q25	.286	.283	.310	.183	.242	.255	.247	.416	.252	.236
Q26	.181	.111	.150	.144	.171	.245	.212	.158	.246	.233
Q27	.243	.188	.285	.294	.266	.345	.291	.368	.318	.309
Q28	.211	.143	.136	.338	.145	.257	.280	.156	.220	.122
Q29	.202	.050	.089	.186	.067	.214	.123	.163	.234	.145
Q30	.175	.079	.097	.223	.097	.253	.120	.121	.239	.092

	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
Q1	.281	.378	.372	.315	.277	.320	.401	.278	.204	.255
Q2	.182	.248	.327	.277	.293	.266	.278	.305	.236	.276
Q3	.257	.503	.353	.334	.219	.206	.272	.402	.296	.404
Q4	.208	.264	.288	.344	.273	.286	.342	.257	.415	.303
Q5	.377	.307	.361	.351	.335	.373	.376	.300	.214	.338
Q6	.434	.358	.405	.371	.329	.633	.473	.283	.238	.268
Q7	.271	.360	.309	.325	.292	.358	.380	.304	.288	.370
Q8	.396	.495	.512	.510	.440	.502	.505	.408	.304	.430
Q9	.533	.367	.409	.401	.344	.559	.525	.353	.328	.315
Q10	.558	.477	.407	.428	.330	.459	.407	.301	.264	.291
Q11	1.000	.407	.351	.289	.405	.444	.474	.287	.195	.260
Q12	.407	1.000	.582	.504	.380	.327	.417	.513	.268	.478
Q13	.351	.582	1.000	.731	.564	.434	.490	.479	.285	.484
Q14	.289	.504	.731	1.000	.533	.424	.452	.427	.328	.469
Q15	.405	.380	.564	.533	1.000	.501	.449	.372	.207	.315
Q16	.444	.327	.434	.424	.501	1.000	.614	.333	.333	.268
Q17	.474	.417	.490	.452	.449	.614	1.000	.357	.293	.351
Q18	.287	.513	.479	.427	.372	.333	.357	1.000	.354	.691
Q19	.195	.268	.285	.328	.207	.333	.293	.354	1.000	.459
Q20	.260	.478	.484	.469	.315	.268	.351	.691	.459	1.000
Q21	.211	.437	.454	.434	.300	.201	.229	.391	.281	.472
Q22	.296	.569	.528	.471	.301	.347	.387	.576	.287	.603
Q23	.037	.122	.063	.046	.010	.200	.041	.144	.340	.183
Q24	.215	.487	.412	.408	.271	.276	.299	.465	.283	.509
Q25	.153	.445	.394	.394	.228	.241	.296	.461	.231	.533
Q26	.254	.254	.113	.073	.092	.256	.196	.172	.176	.185
Q27	.286	.377	.380	.342	.294	.461	.382	.400	.293	.421
Q28	.123	.069	.087	.176	.045	.241	.150	.093	.502	.172
Q29	.110	.059	.083	.080	-.021	.228	.129	.039	.343	.127
Q30	.071	.116	.146	.133	.037	.293	.159	.161	.524	.180

	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q1	.303	.389	.038	.265	.286	.181	.243	.211	.202	.175
Q2	.268	.339	.039	.259	.283	.111	.188	.143	.050	.079
Q3	.376	.372	.040	.387	.310	.150	.285	.136	.089	.097
Q4	.211	.269	.041	.205	.183	.144	.294	.338	.186	.223
Q5	.261	.298	-.007	.252	.242	.171	.266	.145	.067	.097
Q6	.233	.370	.237	.375	.255	.245	.345	.257	.214	.253
Q7	.280	.318	.103	.303	.247	.212	.291	.280	.123	.120
Q8	.377	.419	.094	.421	.416	.158	.368	.156	.163	.121
Q9	.287	.412	.186	.321	.252	.246	.318	.220	.234	.239
Q10	.354	.365	.103	.281	.236	.233	.309	.122	.145	.092
Q11	.211	.296	.037	.215	.153	.254	.286	.123	.110	.071
Q12	.437	.569	.122	.487	.445	.254	.377	.069	.059	.116
Q13	.454	.528	.063	.412	.394	.113	.380	.087	.083	.146
Q14	.434	.471	.046	.408	.394	.073	.342	.176	.080	.133
Q15	.300	.301	.010	.271	.228	.092	.294	.045	-.021	.037
Q16	.201	.347	.200	.276	.241	.256	.461	.241	.228	.293
Q17	.229	.387	.041	.299	.296	.196	.382	.150	.129	.159
Q18	.391	.576	.144	.465	.461	.172	.400	.093	.039	.161
Q19	.281	.287	.340	.283	.231	.176	.293	.502	.343	.524
Q20	.472	.603	.183	.509	.533	.185	.421	.172	.127	.180
Q21	1.000	.509	.050	.416	.418	.148	.284	.101	.172	.102
Q22	.509	1.000	.116	.512	.512	.215	.454	.183	.205	.235
Q23	.050	.116	1.000	.139	.083	.254	.176	.277	.341	.407
Q24	.416	.512	.139	1.000	.559	.195	.376	.130	.080	.144
Q25	.418	.512	.083	.559	1.000	.130	.348	.065	.026	.110
Q26	.148	.215	.254	.195	.130	1.000	.478	.365	.276	.208
Q27	.284	.454	.176	.376	.348	.478	1.000	.425	.246	.342
Q28	.101	.183	.277	.130	.065	.365	.425	1.000	.450	.586
Q29	.172	.205	.341	.080	.026	.276	.246	.450	1.000	.531
Q30	.102	.235	.407	.144	.110	.208	.342	.586	.531	1.000

Appendix N:

Item-Total Statistics for Reliability Analysis

Question	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's alpha if Item Deleted
Q1	89.3912	128.164	.534	.	.921
Q2	89.4320	128.704	.454	.	.922
Q3	89.4762	128.359	.522	.	.921
Q4	89.7109	127.851	.507	.	.921
Q5	89.5204	128.046	.517	.	.921
Q6	89.8844	124.533	.634	.	.919
Q7	89.6735	127.518	.544	.	.921
Q8	89.5986	125.251	.689	.	.919
Q9	89.7041	124.305	.658	.	.919
Q10	89.6088	126.799	.599	.	.920
Q11	89.8469	125.802	.495	.	.922
Q12	89.3844	126.995	.618	.	.920
Q13	89.4830	126.059	.633	.	.920
Q14	89.4354	126.765	.609	.	.920
Q15	89.6667	127.342	.489	.	.921
Q16	90.0136	123.618	.637	.	.919
Q17	89.6020	125.012	.605	.	.920
Q18	89.4558	127.396	.579	.	.920
Q19	90.0884	125.774	.543	.	.921
Q20	89.4558	127.211	.612	.	.920
Q21	89.4218	128.395	.494	.	.921
Q22	89.4320	125.925	.640	.	.920
Q23	***90.7347***	***128.660***	***.250***	***.***	***.927***
Q24	89.3435	127.858	.539	.	.921
Q25	89.2993	128.511	.478	.	.922
Q26	89.8197	129.172	.365	.	.923
Q27	89.6837	126.190	.589	.	.920
Q28	90.1429	127.154	.399	.	.923
Q29	90.0748	128.247	.323	.	.925
Q30	90.5000	127.049	.388	.	.924