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Effectiveness of Technology in an English Grammar and Punctuation Course

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EFFECTIVENESS OF TECHNOLOGY IN

AN ENGLISH GRAMMAR AND PUNCTUATION COURSE

by

Deborah Brandon

A Dissertation
Submitted to the Graduate School,
the College of Arts and Sciences
and the School of Interdisciplinary Studies and Professional Development
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

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May 2019

Published by the Graduate School

THE UNIVERSITY OF
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ABSTRACT

As enrollment in online courses continues to climb, technology also continues to advance to provide students with course designs that promote optimal learning environments. New communication tools continually evolve that help improve learning outcomes in online course designs. The lack of physical class meetings in online classes necessitates a comprehensive focus on course design to optimize learning, including a focus on communication and collaboration opportunities.

Much of the available current research regarding the outcomes of increased online learning investigates the effectiveness of this learning format primarily in the fields of healthcare, foreign language, and the study of English grammar as a second language. Although an abundance of literature exists analyzing online learning and online language learning, research focusing on students learning English grammar and punctuation in technical programs via online class formats was lacking.

A quantitative research method utilizing descriptive statistics, specifically a correlation design, was used for addressing the research questions. A quantitative method was used because the phenomenon of interest could be analyzed objectively. Quantitative analyses utilized the collected numerical data to help explain the relationship between the course design that students chose and their abilities to comprehend and apply English grammar and punctuation based on the technology provided in the course design. In addition, data collected and analyzed using quantitative methods allowed the results to be generalized to a larger population, thus benefitting other educators who teach English grammar and punctuation in online formats.

The statistical tests generated to answer the research questions were successful in providing useful information concerning the effectiveness of the technology used in the course design that was implemented in both class formats. The course design focused on 16 essential elements of communication and was found to be more effective in traditional face-to-face formats of the class. Effectiveness was measured by students' abilities to write grammatically correct paragraphs and by final earned course grades. Traditional students were more likely to learn and effectively apply the 16 essential elements of communication to written paragraphs. Online students appeared to learn the 16 essential elements but had difficulty applying the elements to written communication.

ACKNOWLEDGMENTS

DEDICATION

This dissertation is dedicated to the members of my loving family including my mother, DeeDee Ray; my husband, Don Brandon; my son, Tyler Brandon; Kim, Dale, Dustin, Hanna, Isaac, and Dalton Marmalich; and in loving memory of my father, Wayne Ray. My family has provided the love and support that have allowed me to succeed in my educational endeavors and earn my Ph.D.

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CHAPTER I – INTRODUCTION

Rapidly changing technological advances in education provide the opportunity for students to complete their education in online settings. Multiple factors play a role in students' ultimate successes in online learning classes, factors that differ from traditional classroom settings (Britt, 2015). Course design influences students' experiences in online classes. Course objectives that are methodologically presented in an organized format aid students in following the prescribed plan of study and completing the class. Britt (2015) found that communication plays a major role in ensuring that students understand the course design, use course materials appropriately, and participate in class activities as instructions for completing these tasks are presented to students using both written and verbal communication.

Instructors transitioning from teaching traditional learning classes to teaching in online learning environments must have a clear understanding of how course design and communication differ between the two class formats (Roblyer, Porter, Talbot, & Donaldson, 2009). These two elements are required in differing degrees for each of the class formats (Britt, 2015). To fully understand how these two elements differ in traditional versus online learning classes requires an understanding of the individual characteristics of the two learning formats.

Traditional Learning. Traditional classes, often referred to as face-to-face classes, offer educators the benefit of meeting with students each week in person to discuss course objectives and to communicate and collaborate (Burgess, 2015). Course instructors assume a teacher-centered role by providing class lectures and course instructions and directions. During scheduled class meetings, course instructors can

verbally explain all aspects of the course, ensure that students utilize and complete the course correctly, develop social relationships with students, and create a collaborative learning environment more easily than in an online class setting, all of which benefit students and enhance the overall learning environment (Akcaoglu & Lee, 2016).

Many benefits are afforded to students who choose traditional class learning; however, drawbacks are also evident with this class format. According to MacDonald (2018), many students manage work and family and have busy schedules that do not permit them to attend weekly classes at set times. Some students may live long distances from campus or lack adequate transportation to and from class. Younger students who grew up in the age of technology are accustomed to instantaneous learning and lack the attention span to adequately participate in weekly class meetings (Pearson Education, Inc., 2018). Traditional class lectures often times do not engage and motivate these younger students. The drawbacks associated with traditional learning, in turn, translate to benefits of online learning.

Online Learning. Online learning is a segment of education that has experienced exponential growth over the last decade (Brandon, 2016; Perry & Pilati, 2011). The instructor's role in online learning has shifted from a teacher-centered presence, as is the case in traditional learning, to the role of moderator in a student-centered, virtual environment (Barnard, Paton, & Lan, 2008). Instructors design courses and provide an instructional blueprint for students to follow.

Online classes are preferable for many students because of the conveniences that are associated with this format (Brandon, 2016; Rogo & Portillo, 2015). This learning format alleviates the geographical barriers and time constraints that prohibit students

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from attending classes in a traditional brick and mortar setting (Anderson, 2008; Brandon, 2016; Kowalski, Dolph, & Young, 2014). Because online classes allow learning to take place at any time and any place, more and more students capitalize on the opportunity to obtain higher education degrees (Brandon, 2016; Moloney & Oakley, 2010).

Online classes provide many conveniences and benefits to students; however, negative aspects are also linked to this class format. Students must have costly computing devices and Internet connections to access online courses. Students who live in rural areas may not have high-speed Internet capability, an element required to access online classes (Kumar, 2018). Students become responsible for their learning when choosing online class formats. They receive course materials and a calendar, learn the material, and meet deadlines on their own (Kurt, 2015). Some students, according to Stanford (2016), lack the motivation required to learn independently.

Although course design and communication must be considered in both traditional and online learning environments, these elements prove to be more crucial in online learning environments (Britt, 2015). Because online students do not attend weekly meetings and may never meet classmates and instructors in person, course design and communication are essential.

Course Design. As students meet and receive course information on a weekly basis in a traditional class, course design in supplemental online learning platforms holds a less important role. In online classes, however, course design assumes a top priority for educators. Instructors communicate course schedules and instructional material through online learning platforms (Kurt, 2015). The course design, or the manner in which

course material is presented, plays an intricate role in students' experiences in online classes.

Communication. Communication is defined as the transfer of information and its meaning from one person to another (Cheesebro, O'Connor, & Rios, 2010; Guffey & Loewy, 2013). In an educational setting, communication of course objectives and materials can be verbal or written and can possibly include non-verbal cues (Kurt, 2015).

Multiple channels of communication are necessary to transmit messages and information from instructor to student and from student to student (Kurt, 2015). Because communication plays such a vital role in the learning process, both instructors and students should possess strong communication skills as well as the experience necessary to adequately utilize various channels of communication (Burns, 2014; Wicks et al, 2015). Communication can be defined as either synchronous or asynchronous (Watts, 2016).

Synchronous communication requires coordination among communicators as this type of communication takes place in real-time or in a face-to-face setting (Watts, 2016). Asynchronous communication, on the other hand, entails messages presented in a format that allows communicators to access and view the information at times that meet their individual schedules. Communication is an essential element for both traditional (Kauffman, 2015) and online learning (Moreillon, 2015).

Communication in Traditional Learning. According to Kauffman (2015), traditional seated classes offer educators the benefit of meeting with students each week to discuss course objectives and to communicate and collaborate in a synchronous environment (Kauffman, 2015). This opportunity allows both parties to share ideas and

solve problems. The development of social interactions that aid in the learning process

benefits from a face-to-face environment (Akcaoglu & Lee, 2016). Class material,

course policies, lectures, and feedback are delivered in a predominantly synchronous

environment. Multiple forms of communication, such as videos and instructional games,

supplement in-class lectures and reach students through online learning platforms.

  Communication in Online Learning. Students in a purely online class receive

instruction via online learning platforms. Information is presented to them using both

asynchronous and synchronous methods of communication (Moreillon, 2015). Watts

(2016) identifies multiple asynchronous channels of communication including email,

discussion boards, Google Docs, blogs, etc., that are useful in online learning

environments. Synchronous forms of communication, also relevant for online learning,

include virtual meeting rooms, video conferencing, and educational gaming (Lever-

Duffey & McDonald, 2015). The absence of face-to-face meetings makes the

development of important social interactions in online learning difficult, thus increasing

the need for multiple forms of both asynchronous and synchronous communication

opportunities (Akcaoglu & Lee, 2016).

  Both traditional and online classes possess both benefits and disadvantages and

require varying degrees of course design and communication channels. However, many

programs offer students the option of both traditional and online formats for completing

required courses. The same course may be offered in both formats allowing students to

choose their desired structure. This research study focused on Career and Technical

education (CTE), specifically Business and Office Technology (BOT). Most BOT

programs follow this structure and afford students the opportunities of taking either traditional or online classes for required classes.

Career and Technical Education (CTE). CTE programs are unique in that they provide students the opportunity to learn workplace skills in one or two years (Mississippi Community College Board, 2016). Upon successful completion of their degrees, these students are prepared to enter the workforce with the job-specific skills needed to be competitive and productive in the workplace. According to Wang & King (2009), many organizations rely on workforce-trained students to meet organizational goals and to experience growth, which, in turn, contribute to the growth of the national economy. Communication skills rank high on the list of skills that employers are seeking from workforce-trained students (Guffey & Loewy, 2013; Rios, Sparks, Zhang, & Liu, 2017). Unfortunately, research confirms that employers feel that students, upon leaving college, are lacking the skills to effectively communicate. BOT is a sector of CTE that focuses heavily on providing students adequate communication skills (Mississippi Community College Board, 2016).

Business and Office Technology (BOT). Under the umbrella of CTE is the field of BOT (Mississippi Gulf Coast Community College, 2019). BOT programs provide students with workplace skills in the areas of accounting technology, administrative office technology, business management technology, and medical office technology. Students learn both the job-specific and soft skills required in the workforce from these four fields, including a substantial focus on communication skills. Although both written and verbal communication skills are important, the emphasis of this research project is on

written communication. Written communication skills are the focus of business English courses in BOT (Mississippi Community College Board, 2016).

Business English Courses. All BOT students are required to take a business English course (Mississippi Community College Board, 2016). The traditional topics covered in most business English courses focus on grammar and punctuation. *Mechanics of Communication* is the name of the business English course required of students in multiple southern community colleges. The instructional design used to teach *Mechanics of Communication* at one of the southern community colleges focused on 16 essential elements necessary for communication (Alston, personal communication, 2018). These 16 elements were taught using instructional material covering the eight parts of speech and various punctuation and correct word usage, which are the elements specifically required for grammatically correct written communication (Guffey & Loewy, 2013).

Statement of Problem

As enrollment in online courses continues to climb (Peslak, Kovalchick, Wang, & Kovacs, 2018), technology also continues to advance to provide students with course designs that promote optimal learning environments (Weidlich & Bastiaens, 2018). New communication tools continually evolve allowing online course designs to contain both synchronous and asynchronous forms of communication.

Furthermore, the lack of physical class meetings in an online class may necessitate a comprehensive focus on course design to optimize learning, including communication and collaboration opportunities. Kuo, Walker, Belland, Schroder, & Kuo (2013) uncovered the idea that the social interaction that students receive in their classes improves the overall learning experience they receive and the chances that they will

successfully complete their courses. Kauffman (2015) also discovered that the social aspect students receive in traditional classes is more difficult to replicate in online settings (Kauffman, 2015).

Much of the available current research regarding the consequences of increased online learning investigated the effectiveness of this learning format, primarily in the fields of healthcare (Segal et al, 2013; Pilat, 2016), foreign language (Hong, Hwang, Tai, & Lin, 2017; La Sala, 2018), and the study of English grammar as a second language (Topacio, 2018).

In the field of healthcare, research conducted on nursing students indicated that students obtaining their degrees online possess higher efficiency in learning than do students completing the same instruction in traditional classes, according to Segal et al (2013). Similarly, Pilat (2016) researched and confirmed that an online healthcare training program created by the Royal College of General Practitioners is effective in delivering required training to healthcare professionals. Professionals completing training using the program remain up-to-date in their fields and continually improve patient care.

Hong et al (2017) explored the online learning achievement of students in Taiwan in mastering Chinese radical recognition. Results of the study suggested that a positive correlation exists between students' self-efficacy, flow experience, and learning in online environments. In addition, a study conducted by La Sala (2018) evaluated an online program for students participating in year abroad programs studying the Italian language. This program helped students focus on the writing and grammar aspects that were lacking

in the required year abroad activities. Analysis of the data confirms that students improved their Italian writing as evidenced by their favorable online grades.

In addition, Topacio (2018) researched English as a second language students studying writing to determine if online classes yielded the same results as students completing studies in a traditional class. The study showed that students in the online class found that technology, such as discussion boards and announcement features in online learning platforms, fulfilled the need to connect with instructors.

Although an abundance of literature exists analyzing online learning and online language learning, research focusing on students learning English grammar and punctuation in technical programs in online class settings was lacking. This research study focused specifically on an English grammar and punctuation class titled *Mechanics of Communication*.

Mechanics of Communication sectioned English grammar and punctuation into 16 essential learning elements and was offered in a traditional format for several decades producing favorable learning results; however, technological advancements (Simonson, Smaldino, Albright, & Zvacek, 2009) and a changing population increased the need for many students to shift to online learning (Challoo, Saldana, Davis, & Kupczynski, 2010). More and more students experience hectic schedules that do not allow for traditional learning at appointed times. Full-time jobs and caring for children and aging parents prohibit the structure required for traditional learning for some students. In addition, some students live in areas where transportation to and from campus is inadequate. This phenomenon is forcing more and more students into an online learning environment. Since 2013, enrollment in *Mechanics of Communication* has shifted from a class with a

high number of students taking the traditional class format to a larger population of students choosing the online format, where technology was used in every aspect.

Purpose of the Study

The purpose of this research study was to investigate the effectiveness of technology in the course design. To achieve the goal, this study explored which course format, traditional face-to-face or online, was the most effective format to teach English grammar and punctuation in a specific college course – *Mechanics of Communication*. Upon completing *Mechanics of Communication*, the goal of the course was for students to write grammatically correct paragraphs. In order to achieve this goal, the course contained 16 essential elements of communication to teach grammar and punctuation.

Therefore, this research study first determined which of the 16 essential elements of communication were influenced more by the class format and then examined the contribution of each element to students' abilities to write grammatically correct paragraphs. The researcher analyzed students' grades on grammar and punctuation tests and quizzes as well as final course grades in both formats. The results of the analyses helped to determine if students taking *Mechanics of Communication* in online formats comprehended the essential elements of communication equally or better than those students who took the course in traditional class formats.

Research Questions

This study was guided by the following research question: Which class format, traditional face-to-face or online, is more effective to teach English grammar and punctuation? The following research questions were investigated:

Research Question 1: Which of the 16 essential elements of written communication are related to class formats?

Research Question 2: What is the relative contribution of the 16 essential elements of written communication to students' abilities to write grammatically correct paragraphs?

<center>Justification</center>

As more and more students chose to take *Mechanics of Communication* in an online format, it was unknown if those students mastered the concepts with the absence of weekly face-to-face class meetings. Furthermore, determining if online students mastered the concepts equally or better than those who chose a traditional class format was important for educators to determine the best class format for teaching the class.

This research was significant because statistics indicated that students are leaving college lacking the necessary skills to communicate in the workforce, as evidenced by employers in the workforce (Guffey & Loewy, 2013; Rios et al, 2017). However, Guffey & Loewy (2013) indicated that employers rank communication skills high on the list of desired workplace skills required for their organizations. According to Guffey & Loewy (2013), two-thirds of the workers who possess a salaried position are required to communicate in writing, and astoundingly only one-third of those workers have mastered this required skill. In addition, Flatley & Rentz (2010) found the same problem and further uncovered that some employers admit that they expect written communication shortfalls from employees. Therefore, determining if the increase in online learning contributed to this phenomenon was necessary, especially in BOT programs that prepare students for the workforce, as written communication plays a predominate role in most organizations (Guffey & Loewy, 2013).

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Most business offices utilize written communication to connect with clients, patients, employees, suppliers, and a host of other professionals and organizations (Guffey & Loewy, 2013). The advancement of technology has increased the need for employees in the workforce to possess adequate written communication skills. Because technology allows communication to take place instantly with people all over the world through various mediums, the possession of the skills needed to quickly generate communication free of grammatical errors by potential employees is critical. Multiple channels of communication are used in the daily operations of many organizations; many applications and programs are available for people to communicate easily and instantaneously. Frequently used channels of written communication include memos, letters, email, business reports, instant messaging, texting, social media, and blogging (Guffey & Loewy, 2013). Therefore, possessing adequate written communication skills is necessary for successful everyday job performance, possible career advancement, and overall job success for potential employees. Taking online classes will provide students more opportunities to learn and use these applications and programs affording the experience needed to use the applications and programs effectively.

Lastly, before given the opportunity to fill and retain these employment opportunities, students who plan to enter the workforce must possess high levels of written communication skills in order to be competitive when job searching (Bharathi, 2016). Students who possess sound writing skills will likely be in the forefront to receive top-paying jobs (Anderson & Bolt, 2013).

Research Delimitations and Assumptions

Research studies are subject to delimitations and assumptions that must be addressed by researchers (Simon & Goes, 2013). Delimitations are included in research reports to verify that the researcher understood the limitations that arose while the research study was being designed. Assumptions, on the other hand, are aspects of the research study that the researcher believed to be true but could not necessarily prove (Simon, & Goes, 2013).

The researcher recognized the following delimitations relating to the study:

1. Students' written communication achievements from only one community college were included in the study. This southern community college was the only college in its state that employs the pedagogical English grammar and punctuation class design being studied. However, the results of the study can be generalized to other institutions offering BOT programs.

2. No prerequisites were required for the class. Students taking the English grammar and punctuation class possessed varying levels of knowledge of the subject material.

3. Students were able to enroll in online class formats without prior training on the basics of succeeding in online classes or on the technological skills required for online learning.

The following assumptions were identified by the researcher regarding the research study:

1. The assumption that students selected the appropriate class formatted based on individual learning styles was presumed.

2. The assumption that students followed the defined class format without varying from the prescribed design was presumed.

3. The assumption that students fully utilized all learning materials provided was presumed.

4. The assumption that students spent the suggested amount of time each week (12 hours) completing course objectives, studying, and taking tests was presumed.

5. The assumption that students completed all coursework on their own, thus adhering to the academic honesty policy prescribed in the course, was presumed.

Definitions of Terms

Definitions of terms are provided to aid readers in understanding the industry-related terminology included in this research study.

Administrative Office Technology. A BOT curriculum that provides students with workforce and technological skills required to gain employment in a general office setting (Mississippi Gulf Coast Community College, 2019).

Accounting Technology. A BOT curriculum that provides students with workforce and technological skills to gain clerical employment in the field of accounting (Mississippi Gulf Coast Community College, 2019).

Business and Office Technology (BOT). The career and technical education sector that focuses on the field of business, including the medical office technology program (Mississippi Gulf Coast Community College, 2019).

Business Management Technology. A BOT curriculum that provides students with workforce, technological, and entrepreneurial skills to gain employment in public or not-for-profit organizations (Mississippi Gulf Coast Community College, 2019).

Career and Technical Education (CTE). An area that provides students who are not seeking a bachelor's degree with the necessary skills to enter the workforce after one- or two-years of coursework (Mississippi Gulf Coast Community College, 2019).

Channels of Communication. The means by which a message is physically delivered to the recipient, including both written channels and verbal channels (Locker, 1997).

English Grammar. The study of the use of language to create grammatically correct written communication (Sinclair, 2010).

Essential Elements of English Grammar and Punctuation. The grammar and punctuation used to create grammatically correct written communication (Alston, personal communication, 2018).

Job-specific skills. The skills required for an employee to excel in a particular job or industry (Doyle, 2019).

Medical Office Technology. A BOT curriculum that provides students with workforce and technological skills to gain employment in the healthcare industry including hospitals, nursing homes, and physicians' clinics. (Mississippi Gulf Coast Community College, 2019).

Online class format. A class format in which students receive course instruction in a purely online, virtual setting (Kauffman, 2015).

Pedagogical Design. The specific design of a course that is centered on the course objectives (Banner, 2014).

Punctuation. The marks and symbols used to create clarity in grammatically correct written communication (Guffey & Seefer, 2008).

Traditional class format. A class format in which students attend weekly meetings in a synchronized learning environment at specified times in a physical classroom (Hudson, n.d).

Written Communication. A form of communication consisting of words, symbols, and meanings that are transmitted through appropriate channels (Cheesebro & O'Connor, 2010).

Workforce skills. The skills obtained through various programs such as technical programs and are focused on the job-specific skills and soft skills required for viable employment opportunities (Association for Career & Technical Education, 2018).

Summary

Chapter I provided an introduction to the research project. The goal of the research project was to determine if the technology included in a pedagogical design used to teach English grammar and punctuation in *Mechanics of Communication* was appropriate for online learning classes as indicated by students' abilities to comprehend and apply the 16 essential elements of communication to written communication. The pedagogical design was implemented in a period in education when traditional classes were the only class formats available for students. As online enrollment in the class continued to increase, determining the effectiveness of the technology used in the course design in this learning environment was crucial. Research investigating the effectiveness of online learning in disciplines such as foreign language, students learning English who are English second language students, and healthcare was plentiful; however, existing research failed to examine the effectiveness of online learning for students enrolled in BOT programs who are learning English grammar and punctuation.

Chapter I also defined the research questions, delimitations, and assumptions. The chapter ended with identification of the researcher's justification for the study, the research methodology, and the definition of terms.

CHAPTER II – LITERATURE REVIEW

Introduction

The purpose of this study was to investigate if the technology implemented in a pedagogical design for a business English course entitled *Mechanics of Communication,* a course that covers English grammar and punctuation, was effective in teaching online formats of the class as indicated by students' abilities to comprehend and apply the 16 essential elements of communication to written communication. The course was designed during a period before online learning surfaced. With the growth experienced in online learning over the last decade, a course design including technology that was effective for traditional learning needed to be evaluated to determine the effectiveness of the technology in an online learning format. In addition, research from employers in the workforce indicated that students are leaving college lacking the skills necessary to create error-free written communication (Guffey & Loewy, 2013; Rios et al, 2017).

The literature review encompassed all significant aspects of the study. The theoretical frameworks that shape the study were discussed first. The research then expanded to include Career and Technical Education programs, specifically Business and Office Technology, and discussed how these programs contribute to workforce development and workforce skills, particularly written communication skills. Finally, course design and communication techniques used for teaching written communication skills in online classes were discussed.

Theoretical Frameworks

The basis of all research studies is the theoretical frameworks that ground them (Grant, 2014). These frameworks provide the blueprints that guide the researcher

through the research process; Grant (2014) indicated that these theories are the foundation for expressing the problem, stating the purpose of the study, justifying the study, and defining the research questions. The theoretical frameworks that supported this study included online learning theory, social cognitive theory, communication theory, and the three primary learning theories – behaviorism, constructivism, and cognitivism. Each theory provides its unique contribution to the research study.

Online Learning Theory

According to Anderson (2008), online learning theory serves as the foundation for online learning research. Supporters of this theory believe that learning occurs in online classes when students use the Internet to link to educational courses. The link to the Internet allows students to access learning materials, complete course goals, and achieve the desired educational outcomes. For students to successfully achieve these goals, educators must design courses in a manner that meet these learning goals, and multiple forms of interaction must occur. Educators must create a variety of instructional materials that meet the needs of a diverse student population possessing different learning styles. These materials must be provided to students in an organized, understandable manner. The following elements define optimal online learning environments according to online learning theory: learner-centered, knowledge-centered, assessment-centered, and community-centered (Anderson, 2008).

Learner-Centered Learning. A learner-centered approach to online learning entails multiple factors. Initially, the instructor of the class must consider the characteristics regarding the students who will be enrolled in the class (Anderson, 2008;

Harrell, 2013). Harrell (2013) identified factors such as individual learning styles, ages, background in the subject area, and technological experiences that should be considered.

In addition to student characteristics, a learner-centered approach to learning requires students to utilize instructional materials provided by course instructors to construct meanings and learning outcomes (Maasin-Ceballos & Ceballos, 2018). Instructors act as facilitators, and students use assignments and learning activities to construct meaning of course objectives and formulate learning.

Knowledge-Centered. According to Anderson (2008), online classrooms should provide students the opportunity to expand personal knowledge of the course content. In addition to the perspectives represented in the course materials provided by instructors, students should also expand knowledge by linking the course objectives to the specific viewpoints or the recognized standards in the individuals' particular fields of study.

Assessment-Centered. An assessment-centered online class, as described by Anderson (2008), should include both formative and summative assessments, both of which provide benefits to instructors and students. Formative assessments entail instructor feedback provided periodically during the class in order to ensure that students are learning the course material appropriately; feedback from formative assessments helps instructors and students to identify problems during the learning process as these problems arise. All problems can be corrected quickly so that students' learning experiences are optimized (Dixson & Worrell, 2016). Summative assessments are completed at the end of the class to assess students' overall achievements in the course. Quality assessments, both formative and summative, are imperative in online learning due to the lack of face-to-face class meetings (Anderson, 2008).

Community-Centered. A community-centered online learning environment refers to the social aspect that is a key component in the learning process (Kuo, Walker, Belland, Schroder, & Kuo, 2014). Online learning, void of the social interactions that develop in traditional learning classes, can be impersonal causing students to feel disconnected from the class. A strong social presence helps students feel linked or connected to the learning environment, which, in turn, promotes successful learning. Technology provides the means to promote communication and collaboration in online learning environments (Sharp, 2014).

In addition to the beneficial elements of online learning as are evidenced in online learning theory, students must believe in their abilities to succeed in online learning in order to successfully acquire knowledge in this environment (Harrison, Rainer, Hochwarter, & Thompson, 1997). Social cognitive theory supports this concept and serves as a second theory to support the study.

Social Cognitive Theory

Social cognitive theory indicates that self-efficacy plays a substantial role in a person's belief that tasks can be successfully accomplished even when adverse circumstances surround the tasks (Hodges, 2017). The foundation for this theory is that people's self-efficacy unconsciously dictates perceptions that tasks can successfully be accomplished (Bartimote-Aufflicka, Bridgeman, Walker, Sharma, & Smith, 2016).

According to Hanna (2009), self-efficacy is the confidence possessed by people that aids in the successful completion of tasks. When people have the confidence that they can complete tasks properly, they are more likely to exude success in other areas, as their self-esteem will also increase. Self-efficacy and self-esteem have an interrelated

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relationship, as one increases so does the other. The confidence that is developed is an essential element to overall success, not only for advancement in education, but also for eventual career success (Hanna, 2009).

Self-efficacy is partitioned into four categories (Bartimote-Aufflicka et al, 2016). These four categories include people's positive and negative past performance experiences, experiences that have been gained through the acquisition of knowledge by observing others, experiences that have been obtained through social interactions, and personal physiological responses to experiences. People who have positive experiences in the four categories, especially past performance experiences, are more likely to have high self-efficacy. According to Hanna (2009), these people tend to perform better in school-related activities and are successful in workplace endeavors.

In addition, according to research conducted by Wang & Lin (2007), social cognitive theory affirms that self-regulation is an important component to successful completion of goals. Online students will be responsible for the learning process using instructional materials provided by course instructors and for meeting deadlines with little direction. Self-regulation is the process by which students set personal goals for achieving a desired outcome (Bradley, Browne, & Kelley, 2017). In order to accomplish these goals, students must be self-motivated. Self-regulation requires students to plan and monitor expected progress. In order to determine if learning behaviors need to be changed or modified, periodic evaluation of goals is necessary (Bradley, Browne, & Kelley, 2017).

Lastly, communication is necessary for successful online learning (Wicks et al, 2015) and for workplace success (Guffey & Loewy, 2013). Communication occurs in

many forms in online learning and in workplace endeavors, and an understanding of communication theory provides the foundation to support this idea.

Communication Theory

Communication theory focuses on the communication cycle (Locker, 1997). At minimum communication requires both a sender and a receiver of a message. The messages that are transmitted to the receiver can be defined as verbal communication that includes both oral and written forms as well as non-verbal communication that includes body movement, tone of voice, or appearances (Locker, 1997). This research project focused on written communication; therefore, communication theory is discussed as it relates to this type of communication.

According to research conducted by Locker (1997), the communication cycle begins with a message that is intended for a specific person or audience. The sender encodes the message into symbols than can be transmitted through a channel to the anticipated recipient. The recipient receives the message and constructs meaning from the symbols. Written forms of communication are successful only when the receiver interprets the messages as the writer intended (Guffey & Loewy, 2013).

Written communication channels include emails, blogs, letters, memos, etc. The symbols that are encoded include the letters and characters that create words and appropriate punctuation (Locker, 1997). During the decoding process, the recipient of the message reads the written communication and constructs meaning from the message. This meaning is not always translated the way the sender intended.

The receiver can easily misinterpret a message's meaning, thus weakening the communication process (Locker, 1997). Noise is often times responsible for these

misinterpretations. Noise, or barriers to communication, can be present in written

communication and can include grammatical errors or messages that contain unclear

contextual meanings (Language Barriers to Communication, 2018). According to Guffey

& Loewy (2013), when communicators possess adequate knowledge of English grammar

and punctuation, as well as training in the writing process, noise can be minimized, and

effective written communication can develop; therefore, an understanding of barriers to

written communication, or sources of noise in the communication process, is essential.

Barriers to Successful Written Communication

Several decades ago, research identified that grammar and punctuation pose

problems for many writers and are the main barriers to proper written communication,

according to Barnett (1977). To effectively create proper written communication, the

writer must acknowledge these barriers to communication that will hinder the recipient

from interpreting the message the way it was intended. Three main areas have been

identified as potential barriers when creating written communication: punctuation

(Oxford Learning, 2008), exceptions to basic grammar rules (Sinclair, 2010), and word

usage (Bovee & Thill, 2010).

Punctuation. Punctuation marks are used to separate words, phrases, and clauses

and help clarify written messages. Punctuation is often difficult to learn because of the

abundance of rules required to properly punctuate written communication and the many

exceptions to punctuation rules (Oxford Learning, 2008). Many of these rules are

confusing to writers. One of the most misused punctuation marks, the comma, has over

15 rules; keeping in mind that numerous other punctuation marks exist, each with its own

meanings and exceptions, confirms the need for writers to be educated in basic punctuation skills.

Exceptions to Basic Grammar Rules. Grammar is defined as the system or structure used for effective communication (Sinclair, 2010). Grammar rules often create barriers to effective communication because of the complexity that occurs when these rules have both a general understanding as well as multiple exceptions that accompany them. The intricacies of the rules often lead to errors that diminish the writer's credibility, thus reducing the message's meaning (Sinclair, 2010).

Word Usage. Successful communication depends on the selection of the proper words to convey messages (Bovee & Thill, 2010). Messages whose contents contain word-usage errors become less credible to the recipients. Just as important as ensuring that words are used correctly in written communication is for writers to ensure that the most appropriate words have been selected to represent the message. When words are incorrectly used or inappropriately chosen, the written message fails to deliver the message that the writer intended. Using too many words also inhibits clear and concise written communication (Clues to Concise Writing, 2010). Questions often arise when written communication contains word-choice errors; these questions require the use of additional resources to correct the error(s) or confusion in the form of additional written communication (Bovee & Thill, 2010).

In addition to the three theories that support online learning – online learning theory, social cognitive theory, and communication theory – individual learning theories must also be considered in this research project. Learning theories must be considered as they are important to positive student learning outcomes (Sage Publications, Inc., 2017).

Learning Theories and Class Formats

The final theoretical frameworks that supported the research study were learning theories. Learning, defined as the acquisition of knowledge (Figurska & Sokół, 2016), is a relevant topic of research as technology continues to change educational environments (Lever-Duffy & McDonald, 2015). When selecting class formats, students benefit from choosing a format that best matches personal or individual learning styles (Sage Publications, Inc., 2017). Each of the three primary learning theories – behaviorism, cognitivism, and constructivism – lends itself to both traditional and online classes to create an environment in which learning is optimized.

Behaviorism and Class Format

Behaviorism focuses on the premise that if a behavior is repeated and rewarded appropriately, the behavior will ultimately become knowledge for the learner (Brandon, 2016; Mergel, 1998). Behaviorists who have studied this theory believe that determining what occurs in a person's mind is impossible and that knowledge is measured through observable behaviors (Brandon, 2016; Siemens, 2005). The research of Anderson (2008) follows the works of well-known theorists in the area of behaviorism, including Ivan Pavlov, B. F. Skinner, and Edward Thorndike, who believe that learning takes place as a result of an external stimuli that causes changes in one's behavior. For learning to take place, information must be repeated multiple times to be memorized or retained when appropriate awards are connected to desired behaviors (Brandon, 2016; Siemens, 2005).

Proponents of this theory believe that confirmation of learning is observed through behaviors that are visible to the educator (Anderson, 2008). Visual ques that indicate that learning and communication have been successful are often observable in

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students' non-verbal communication (Guffey & Loewy, 2013). The knowledge obtained

by students, according to behaviorism theory, is constructed with the help of the educator

(Kanter, 2013). The educator delineates how learning will take place and how it will be

assessed.

Educators can apply behaviorism to educational settings (Siemens, 2005). The

repetition of course objectives or facts can be accomplished using appropriate

instructional methods and materials with rewards linked to assignment and test grading.

Those students who receive passing grades on assignments and tests are rewarded for

accomplishing the goals. The process of repetition, memorization, and positive

reinforcement leads to learned knowledge (Brandon, 2016; Siemens, 2005).

Behaviorism Theory supports a teacher-center classroom (Sage Publications, Inc.,

2017). Traditional classes provide an optimal learning environment for this type of

learning. Traditional classes allow for teacher-centered learning due to the face-to-face

class meetings (Burgess, 2015). Instructors can assess students' verbal and non-verbal

behaviors to determine if learning is unfolding (Guffey & Loewy, 2013), the basic

premise supporting behaviorism theory (Brandon, 2016; Siemens, 2005).

However, technology integrated in online classes provides learning environments

favorable for behaviorist learners who thrive in a teacher-centered classroom but benefit

from online learning (Lever-Duffy & McDonald, 2015; Watts, 2016). Many forms of

synchronous communication including virtual class meetings, video conferencing, and

live chats allow face-to-face, real-time communication to ensue between instructors and

students. Instructors can use these forms of communication that are similar to traditional

face-to-face learning to ascertain if appropriate learning is unfolding.

Cognitivism and Class Format

The cognitivism learning theory, a theory that expands on behaviorism, focuses on the repetition of course material but includes differences not addressed in the behaviorism learning theory (Brandon, 2016; Siemens, 2005). Theorists such as Jerome Bruner indicated that learning takes place as a result of cognitive development (McLeod, 2018).

Cognitivism takes into account the mental processes that actually occur in the learning process. This theory links the mind to a computer (Brandon, 2016; Yilmaz, 2011). Enormous amounts of information received through the senses continually reach the brain. Most of that information fails to reach short-term memory, which is required for permanent learning. The information that does reach short-term memory usually resides there for a short amount of time, and only the information that is deemed interesting or important moves to long-term memory. As a result of one's internal schema or existing knowledge in the brain, information that will eventually move to long-term memory can be compared to this existing knowledge, conclusions can be drawn, schema can be altered or expanded, and new knowledge can be obtained and stored in long-term memory for an indefinite amount of time (Brandon, 2016; Yilmaz, 2011). Cognitivism learning theory includes the mental activities that students experience during the learning process (Sage Publications, Inc., 2017). Students whose learning is best described by the cognitivism learning theory may succeed in either a traditional or online class setting.

Meaningful learning delineates the main difference between cognitivism and behaviorism (Sage Publications, Inc., 2017). Students flourish in a classroom in which

relevant, organized information is presented. The course information is analyzed and combined with individuals' prior knowledge on the subject to achieve successful learning. The presentation of relevant, organized information can easily be delivered in both a traditional and online class setting. Regardless of the format that a student chooses, the ability to link information to prior knowledge if the instructional materials are well-planned and executed by the course instructor is possible in either class setting (Sage Publications, Inc., 2017).

Constructivism and Class Format

The constructivism learning theory, according to theorists such as Robert Gagne, is based on the premise that students learn by linking past experiences and knowledge to incoming information to ascertain personal meanings or learn the new information (Brandon, 2016; Weegar & Pacis, 2012). Although each individual perceives phenomena differently, people adhere to social norms and laws, thus allowing the learning of concepts to be similar among a group of learners. Because learners fabricate individual opinions of reality and make personal determinations of what is perceived in society or the world, constructivism facilitates problem-solving components in an educational setting using real-world examples. Students who employ the constructivism theory to obtain knowledge attempt to understand a course concept or fact by linking that concept or fact to a past experience or previously-stored knowledge relating to the particular objective (Brandon, 2016; Weegar & Pacis, 2012).

In an educational setting, constructivist students build knowledge based on the learning materials provided by the course instructor (Ozola, 2012). The course instructor assumes the role of facilitator, and the classroom becomes a student-centered learning

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environment as opposed to a teacher-centered environment. Students must become actively involved in the learning process in order to successfully complete required courses.

Because constructivist learners acquire knowledge best in a student-centered environment (Sage Publications, Inc., 2017), online classes provide an optimal learning environment for a constructivist learner (Yang & Yuen, 2010); however, advanced instructional pedagogy using Web 2.0 tools allows for student-centered learning experiences that support constructivism learning to ensue in traditional classes (An, Aworuwa, Ballard, & Williams, 2009; Sage Publications, Inc., 2017).

Online learning combined with students whose learning can be defined by the constructivism learning theory create an efficient learning environment. Students assume the responsibility for the learning process (Weegar & Pacis, n.d). Online instructors assume the role of mediator and coordinator of students' learning. Learning materials and a course schedule express intended course objectives and class goals. Students receive the material through an online learning platform and are then responsible for reviewing and constructing meaning from the course material (Weegar & Pacis, n.d.). Students who have high self-efficacy and are self-regulated learners flourish in an online learning environment (Hanna, 2009; Wang & Lin, 2007).

However, constructivism learning theory can be effectively initiated in a traditional class setting as well. For example, a flipped classroom provides a similar learning experience received by an online constructivist student in a traditional class format (Motameni, 2018). In a flipped classroom, students review and learn instructional materials outside of class, constructing individual meanings from the materials and

leaving scheduled class time to work and problem solving to complete course projects via student-centered group activities. A flipped classroom approach allows students to work in groups, problem-solve, and construct personal meanings from course information.

The three primary learning theories are relevant to both traditional and online class formats. Most colleges and universities offer a wide range of programs that support both traditional and online learning in both academic and technical areas. Some programs are solely online, and some programs offer a combination of both traditional and online classes. Programs that require students to attend only traditional classes are becoming non-existent (Kak, 2018). Most Career and Technical Education programs offer students flexibility in learning by allowing the completion of educational degrees in both online and traditional settings (Mississippi Community College Board, 2019).

Career and Technical Education

Most post-secondary institutions offer students a variety of academic programs; however, many community colleges are unique and offer technical programs as well (Learn.org, n.d.). Career and Technical Education (CTE) provides specific training for students in one- or two-year programs. The focus of CTE programs is to equip students with the necessary workplace skills needed to meet the needs of a growing workforce (Shivakumar, 2018). Students completing associate degrees in career-technical fields receive training to meet the aforementioned needs of the workforce in half of the time necessary to complete a traditional four-year degree required of students seeking bachelor's degrees. According to Shivakumar (2018), the workforce is lacking in the number skilled technical employees to fill the jobs necessary to grow the economy, a growth that is necessary for the nation to compete in the overall global economy.

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Therefore, the need for college graduates in CTE programs is an integral factor in the growth of the workforce.

Currently, CTE enrollment includes 8.4 million students desiring to receive workforce training (Association for Career and Technical Education, 2018). CTE supports a wide-variety of career and technical programs including 16 career clusters that offer over 79 distinct pathways. The designs and structures of both career programs and technical programs differ (Shivakumar, 2018).

Students majoring in career programs receive hands-on training in vocational fields; these students learn specific trades (Revermann, n.d.). Career students receive certificates upon completion of selected programs. Students majoring in technical programs, on the other hand, receive training in technical fields and are awarded associate's degrees upon completion of selected programs. Technical education encompasses multiple areas including Business and Office Technology.

<div align="center">Business and Office Technology</div>

Business and Office Technology (BOT) programs are included under the umbrella of CTE (Study.com, n.d.). BOT programs equip students with workforce skills, and the programs are designed for students to complete the required training in two years, preparing for direct entry into the workforce. Multiple areas are included in BOT including Administrative Office Technology, Accounting Technology, and Business Management Technology (Mississippi Community College Board, 2016). Medical Office Technology also retains the distinction of BOT.

BOT curricula offer stackable credentialing. To earn an associate's degree, students must complete 60/61 credit hours. These credit hours are earned in increments.

Students are eligible for a certificate after completing the first 15 hours, a diploma after the next 15 hours, and an associate's degree after the last 15/16 hours (Mississippi Community College Board, 2016). Students who successfully complete all tiers of the stackable credentials and receive associate of applied science degrees are workforce ready to fill clerical, clerk, management, staff, bookkeeping, and medical office positions (Jackson County Economic Development Foundation, Inc., 2015).

Despite the fact that a slight decline in the growth of new jobs in the technical field is expected according to the U.S. Department of Labor, Bureau of Labor Statistics (2018), the number of office-related positions nationally available for students who successfully complete BOT degrees is expected to be plentiful. A large number of aging workers will be leaving the workforce in clerical and technical fields through 2026, making employment opportunities plentiful for potential employees possessing the appropriate credentials, thus creating a high demand for workforce-ready students.

Workforce Development

The term "workforce development" arose from the centuries-old vocational education field, better known as technical education today (Wang & King, 2009). Technical education evolved from vocational-training programs to provide a basic necessity to members of society, the basic necessity being viable work opportunities. These educational programs provide training routes to teach students the required skills necessary to achieve competitiveness in the workplace. A wide range of skills including job-specific skills and soft skills is incorporated in these one- or two-year programs (Mississippi Community College Board, 2016).

Workforce development serves a dual role that encompasses both education and employment. This process starts with the education of students through various CTE programs usually in a community-college or high school setting (Association for Career & Technical Education, 2018). BOT programs, categorized as CTE programs, provide benefits to students who earn degrees in this area and who are competitive upon entering the workforce. The benefit then shifts to business and industry (Association for Career & Technical Education, 2018). Employers benefit from the training that BOT programs offer as the skills that students learn focus on the skillsets that employers desire of potential employees (Wang & King, 2009). According to the Association for Career and Technical Education (2018), BOT-trained students fill positions in the workforce and meet the growing demand of employers, thus contributing to the growth and prosperity of these organizations. Prospering business and industry contribute to the economic development of the nation. Therefore, BOT programs contribute to the nation's economy by training workforce skilled students to fill high-demand career opportunities (Association for Career and Technical Education, 2018).

Business and industry that are in need of workforce ready employees benefit from community colleges that train students for these positions via BOT programs (Jackson County Economic Development Foundation, Inc., 2015). Economic development commissions often partner with community colleges that maintain strong CTE programs, including BOT, in an effort to build a strong, skilled workforce (Mississippi Coast Alliance for Economic Development, n.d.).

Shipping ports, casino industries, shipbuilding manufacturers, oil refineries, military bases, and many private businesses require employees trained in technical areas;

these industries are supported by local economic development commissions (Jackson County Economic Development Foundation, Inc., 2015). Communities that experience the presence of these diverse industries provide students with a multitude of career opportunities including opportunities in the fields of accounting, business and office management, tourism, and healthcare. These students bring to these fields necessary workforce skills (Jackson County Economic Development Foundation, Inc., 2015).

Workforce Skills

Technical students learn a multitude of skills while in school. While most of these skills are related to particular industries in specific areas of study, students also acquire the soft skills that are equally necessary for employment opportunities. These soft skills often require a strong ability to communicate, and students in BOT programs are trained to communicate both orally and in writing (Mastering Soft Skills for Workplace Success, n.d.). Curricula are designed to teach students to apply these communication skills in the many areas required for obtaining and maintaining viable employment (Association for Career & Technical Education, 2018). These areas range from the job-interview process to the conducting of the day-to-day interactions that are required in a business setting. This research report specifically focused on written communication skills.

Written Communication Skills in the Workforce

Written communication skills rank at the top of the desired skills that employers will require of potential employees in the workplace (Flatley & Rentz, 2010). These skills are important for the success of most business endeavors. Businesses operate in a free enterprise system, produce goods and services, and are part of the information age.

Written communication is an integral part of the everyday operations of these businesses. In addition, technology has afforded many businesses the opportunities to operate on a global level, thus increasing the need for employees to possess effective written communication skills (Flatley & Rentz, 2010).

Vast amounts of information can be accessed extremely quickly in the information age in which businesses operate (Flatley & Rentz, 2010). Written communication can travel instantly to a multitude of people around the world. Many forms of written communication are formatted on company letterhead; this leads to additional consequences for businesses as the quality of written communication that is generated and circulated can affect businesses' reputations (Flatley & Rentz, 2010). Therefore, written communication training is imperative for students obtaining workforce skills and is an emphasis for BOT programs (Mississippi Community College Board, 2016).

BOT programs require an initial, basic English grammar and punctuation class in which the basis for written communication is taught (Mississippi Community College Board, 2019). This course is recommended during students' first semester in BOT programs. *Mechanics of Communication* is the name of the business English course in some post-secondary institutions offering BOT programs and was the focus of this research study.

Mechanics of Communication

Mechanics of Communication follows guidelines set by state curricula (Mississippi Community College Board, 2019). The class is taught in both a traditional

and online setting. Course objectives include instruction in English grammar and punctuation (Williams, 2010).

Essential Elements of Written Communication

Those individuals responsible for creating written communication must carefully word and punctuate each sentence (Smith & Moore, 2010). This skill requires that each word in the sentence be analyzed to determine the word's correct use, and appropriate punctuation must be included to help convey the intended message. The essential elements required to write grammatically correct written communication are divided into two categories, grammar and punctuation (Pediaa, 2015).

Grammar, the study that encompasses the use of language, constitutes one of the components required to write grammatically correct communication (Sinclair, 2010). Language and words used and joined correctly, as well as word meanings used fittingly, define the basis of English grammar. The words used in written communication all belong to one of the eight parts of speech: nouns, pronouns, verbs, adjectives, adverbs, prepositions, conjunctions, and interjections (Williams, 2010).

The eight parts of speech are the building blocks of written communication (Williams, 2010). An understanding of these building blocks aids writers in creating correct, effective sentences, taking into consideration every written word. Students who understand these eight parts of speech will perform at a higher level in the workforce. Understanding these elements requires considerable attention to detail. Each of the eight parts of speech has its own meaning and syntax in written communication (Williams, 2010).

Nouns/Pronouns. Nouns are words referring to persons, places, things, ideas, activities, and concepts; pronouns rename previously used nouns (Guffey & Seefer, 2008). Nouns and pronouns are basic elements of sentences and function as subjects or objects. Subjects constitute essential elements of all sentences, and all sentences have one or more subjects. When used as objects, nouns and pronouns serve as direct objects, indirect objects, or objects of the prepositions. Nouns and pronouns can also rename or explain a subject followed by a linking verb (Williams, 2010).

Verbs. All grammatically correct sentences contain one or more verbs (Williams, 2010). Verbs are categorized as action, linking, or helping and tell what the subjects are doing, what the subjects are, or what is happening to the subjects. Verbs accomplish this task by making a statement, asking a question, or giving a command (Williams, 2010).

Adjectives. Adjectives enhance sentences by describing nouns and pronouns (Williams, 2010). Adjectives are categorized as descriptive, limiting, proper, or article. Descriptive adjectives describe the noun or pronoun and provide vivid descriptions of nouns. Proper adjectives derive meaning from proper nouns and are always capitalized. Limiting adjectives provide a less vivid description of the noun or pronoun. Lastly, articles adjectives include "a," "an," and "the." These adjectives are labeled either indefinite (a, an) or definite (the) (Williams, 2010).

Adverbs. Adverbs describe or modify verbs, adjectives, or other adverbs. Adverbs describe and modify by answering the questions when, what, where, how, and to what extent (Williams, 2010).

Prepositions. Prepositions are used in sentences to identify the relationship of either a noun or pronoun to some other part of the sentence (Williams, 2010).

Prepositions retain positions within prepositional phrases in sentences. For grammatical correctness, prepositional phrases include a preposition and one or more objects.

Conjunctions. Conjunctions join words, phrases, and clauses in sentences to help organize the sentence and guide readers to a clear understanding of the sentence's meaning (Williams, 2010). The categories of conjunctions include coordinating, subordinating, and correlative.

Interjection. Interjections are included in sentences whose goals are to help the reader realize that strong emotions or feelings should be included in the meaning of the messages (Williams, 2010). Often times to reiterate that strong emotions or feelings are involved in the written communication, exclamation points follow interjections.

In addition to the specific elements of grammar, punctuation also plays a vital role in the creation of error-free written communication. Punctuation consists of marks and symbols used to help the reader interpret written communication the way the writer intended (Guffey & Seefer, 2008). Punctuation separates the individual units that comprise the sentence, which aids the reader in interpreting the appropriate meaning.

An understanding of punctuation is required for effective written communication (Guffey & Seefer, 2008). The proper use of punctuation helps the reader understand the intended meaning of the written message. Punctuation consists of a myriad of rules. The major areas of punctuation include commas, capitalization, colons, semicolons, numbers, ending punctuation, as well as a host of miscellaneous punctuation used for various purposes.

Comma Rules. Commas help the reader realize pauses and inflections that should be considered when interpreting sentence meanings (Guffey & Loewy, 2013). These

pauses and inflections expressed by the use of commas help to clarify the writer's intended sentence meaning.

Capitalization Rules. Capitalization helps emphasize the importance of words in sentences (Guffey & Loewy, 2013). Creators of written communication apply capitalization to proper nouns, words that begin sentences, geographic locations, names of organizations, names of academic courses and educational degrees, selected titles or offices, as well as departments and divisions within an organization (Guffey & Loewy, 2013).

Colons. Colons help the writer indicate that the words that follow a statement explain or help to further explain the statement or word (Clark & Clark, 2007). Colons are also used in business document formatting, particularly following salutations and memo headings (Vanhuss, Forde, Woo, & Robertson, 2017).

Semicolons. Semicolons create clarity in sentences by separating two thoughts that share common themes or are closely related (Guffey & Seefer, 2008). Semicolons create a stronger emphasis indicating that thoughts are related in a sentence than does a comma.

Number Rules. A host of number rules exists for expressing numbers in written communication (Guffey & Seefer, 2008). The reader more easily comprehends numbers expressed in figure forms, although not all numbers should be formatted in figure form. English punctuation rules provide instances when numbers should be formatted in word form including numbers ten and under, street names that involve the number ten or below, and ages not expressed in exact years and months or those which do not appear directly after a person's name (Guffey & Seefer, 2008).

Ending Punctuation. All sentences end with appropriate punctuation marks including periods, question marks, and exclamation points (Guffey & Seefer, 2008). Appearing at the end of a sentence, ending punctuation marks help the reader understand the sentence type. Sentences can ask a question, make a statement, or give a command (Guffey & Seefer, 2008).

Miscellaneous Punctuation Rules. Writers use various other punctuation marks in sentences to emphasize or de-emphasize ideas, to format titles, and to identify direct quotes (Guffey & Loewy, 2013). These punctuation marks include the dash, parenthesis, brackets, and quotation marks.

Correct Word Choice. Writers must choose words correctly to achieve proper grammar. Many words have more than one meaning, and the meaning must be considered when creating written communication (Williams, 2010).

Mechanics of Communication focused on 16 essential elements of communication (grammar and punctuation elements) and was taught in a traditional learning environment for several decades (Alston, personal communication, 2018). Online learning emerged in the early 2000s offering an alternative format for teaching face-to-face classes (Sheehy, 2013). Not only has enrollment in online learning increased since its inception, this class format is currently surpassing enrollment in traditional classes (Friedman, 2018), which is the case with *Mechanics of Communication*. Presently, *Mechanics of Communication* is taught in both traditional and online formats (Mississippi Gulf Coast Community College, 2019).

Mechanics of Communication in Traditional Classes

According to Best Colleges (2019) and Kuama & Intharaksa, (2016), fewer

students each year choose to take courses, including English language courses such as

Mechanics of Communication, in a traditional classroom setting. However, benefits of a

traditional class structure are still relevant. In traditional class formats, the course

instructor leads class activities and provides students with face-to-face instruction. Class

lectures are common in traditional classes (Black, 2002), and communication and

collaboration with instructors and classmates are simplified (Hassan, Abiddin, & Yew,

2014). Instructors can use the valuable meeting times to help students comprehend

course objectives, which is important for difficult class content as is the case with English

language classes (Kuama & Intharaksa, 2016). In addition, when teaching English

language skills in a traditional setting, instructors have the opportunity to illustrate and

provide concrete examples of the proper procedures for completing class assignments

(Sowell, 2017). Although similar instructions can be provided in an online class,

instructors have the benefit of evaluating students' understanding of course materials in a

face-to-face setting not only by the grades that are earned on assignments and tests but

also by analyzing students' non-verbal communication (Kauffman, 2015).

A research study conducted by Hudson (n.d.) notes additional benefits of

traditional learning with the presence of face-to-face class meetings. When students

participate in physical class meetings each week, interaction with instructors and

classmates is facilitated, and personal relationships are more likely to develop (Bejerano,

2008). These social interactions and personal relationships enhance students' overall

experiences in classes (Waugh & Jian, 2016). Research conducted by Gyamfi &

Sukseemuang (2018) further indicated that students learning English language skills perform better in class as a result of the social interactions that often develop in traditional classes.

Listening is a crucial element in the learning process (Hassan, Abiddin, & Yew, 2014). Traditional classrooms also provide opportunities for students to physically listen to instructors and classmates. Listening to what others say in a face-to-face setting can enhance students' creativity and problem-solving skills, skills that are beneficial for educational and, ultimately, workplace success (Blau, Weiser, & Eshet-Alkalai, 2017). When learning English language skills, listening to the repetition of grammar and punctuation rules made possible in a traditional classroom helps many students grasp course concepts quickly (Metivier & Smith, 2019).

Some students benefit from the structure that accompanies a traditional classroom (Paduraru, n.d.). For those students who procrastinate, traditional learning offers a benefit over other class structures. In a traditional learning environment, students must attend weekly class meetings and are more likely to feel accountable for staying focused on the learning process. Motivation to be prepared for class and to follow course instructions is often a by-product of feelings of accountability (Paduraru, n.d.). Adequate course preparation is advised for classes that cover difficult topics, as is the case with English language classes (Kuama & Intharaksa, 2016).

Finally, attending a traditional class requires no costly technology and equipment (Paduraru, n.d.). Most colleges and universities provide computer labs containing the necessary computing equipment and technology to complete traditional classes successfully (Mississippi Gulf Coast Community College, 2019). These computer labs

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usually operate during hours that accommodate day, evening, and weekend students.

Although students taking *Mechanics of Communication* in a traditional class format

attend weekly face-to-face class meetings, technology and equipment are still necessary

components for students who will access documents, instructional materials, assignments,

and tests housed in online learning platforms; most students will need access to these

materials outside of class (Berger & Topol, 2001).

Many educational programs, including BOT programs, attract non-traditional

students to traditional classes (MacDonald, 2018). Non-traditional students possess

characteristics that differ from traditional students. These students are over the age of

twenty-five and typically either work full-time or have children. Most non-traditional

students enter post-secondary institutions a year or more after graduating high school or

after completing a GED program. Many students studying English language skills, as is

the case in *Mechanics of Communication*, initially learned these skills during early k-12

years and have not focused on these topics for many years (Teach.com, 2019); these

students often feel more comfortable taking the class in a traditional setting in an

instructor-centered format (MacDonald, 2018).

Several challenges can be linked to traditional learning, challenges that

encourage students to select online formats for language acquisition (Kuama &

Intharaksa, 2016). Also listed as an advantage, the structure associated with traditional

learning is also a disadvantage for many students. Traditional classes are structured with

required weekly class meetings (Black, 2002). This structure poses problems for students

who have demanding work and personal schedules. Non-traditional students are more

likely to be responsible for caring for small children or aging adults making it difficult to

attend traditional classes (MacDonald, 2018). Students residing in rural areas may lack adequate transportation necessary to attend classes on campus.

However, an evolving challenge linked to students taking *Mechanics of Communication* in a traditional setting lies with Generation Z and millennial students. Generation Z and millennials, students who are digital natives, are presently attending institutes of higher learning (Pearson Education, Inc., 2018). A traditional classroom setting that was once viable for previous generations may prove to be ineffective for a group whose lives are encircled with technology. This new group of learners possesses shorter attention spans, a characteristic that conflicts with a traditional-type classroom setting (Pearson Education, Inc., 2018). The PowerPoint-enhanced class lectures that accompany traditional classes coupled with the repetition of course material may prove ineffective for motivating these digital natives. Therefore, many students choose to take English language classes, classes similar to *Mechanics of Communication,* in an online setting (Kuama & Intharaksa, 2016).

Mechanics of Communication in Online Classes

Online learning has grown exponentially over the past decade (Moloney & Oakley, 2010). Online learning is a form of education that provides learning environments for students in a purely online setting (Kauffman, 2015). Physical class meetings are not required in online classes, and instructors rely on technology for communicating and collaborating with these students (Kauffman, 2015).

Technology has allowed instruction to be delivered to students using various methods (Simonson, Smaldino, Albright, & Zvacek, 2009). Computers and the Internet connect students to courses, instructors, and classmates. Online learning allows students

to access the course as personal schedules permit. Web 2.0 technology allows for the creation of instruction that motivates students to learn and aids in instructor and student engagement, which enriches students' experiences in online classes (Chakowa, 2018). Blogs are popular Web 2.0 tools that engage students and help coordinate collaborative instructional activities. In addition, instructional material can be delivered using a multitude of communication channels, including written documents, email, recorded videos, podcasts, and discussion board posts (Simonson et al, 2009).

Online learning provides students with the benefit of extended time to think and problem-solve to learn course objectives (Watts, 2016). The options of learning at suitable times within set deadlines made possible by online learning aid students who are learning difficult course objectives, which is often the case when students are learning English (Kuama & Intharaksa, 2016).

Additionally, online learning benefits from new technologies, such as gaming in education, that allow course materials to be presented in an engaging manner (Chung-Yuan, 2017). Research conducted by Kuama & Intharaksa (2016) suggested that engaging students in the learning process is an effective method for teaching English language skills.

The benefits that are afforded students in online learning contribute to its rapid growth. Students who would otherwise not have accessibility to physical college and university campuses have the opportunity to obtain higher education degrees (Challoo, Saldana, Davis, & Kupczynski, 2010). Online learning eliminates geographical barriers. Students who reside in areas throughout the world can attend colleges and universities without leaving places of residency using computing devices and Internet connections

(Challoo et al, 2010). The flexibility in learning offered by online classes meets the needs of many students who have full work and family schedules. Students learning English language skills are taking advantage of these flexible online opportunities according to Kuama & Intharaksa (2016).

Online classes are also advantageous for students who prefer self-regulated learning. Self-regulated learning benefits English language learners and has been noted to increase successes in mastering the language (Kuama & Intharaska, 2016). Most online classes are designed in a format that requires students to plan how and when learning activities will be completed (Gilbert, 2015). Self-regulated learning affords students the opportunities to focus more time on those concepts that are difficult and less time on concepts that are more easily learned. This is particularly beneficial for students who are learning English language skills. Learning English is often difficult, and areas of difficulty vary for each learner (Language Barriers to Communication, 2018).

Challenges are also evident in online learning environments. Students may lack access to the costly equipment that is required to succeed in an online class (Kumar, 2015). Computing devices and reliable Internet connections are required at minimum. Those students who live in rural areas may lack access to dependable, high-speed Internet, which can hinder class participation. Students learning English language skills in online environments are dispersed throughout the world; according to Kuama & Intharaksa (2016), English language students who experience difficulties with computers and Internet connections experience anxiety that negatively affects learning experiences. The main source of anxiety involves the inability to access course information that is crucial for students' learning success.

Non-traditional students who were not exposed to technology at an early age often struggle in online learning as some may lack the necessary skills to succeed in an electronic environment (MacDonald, 2018). Although online learning creates the opportunities for students to obtain or complete educational degrees (Challoo, Saldana, Davis, & Kupczynski, 2010), those who lack the technical expertise to survive in an online class may struggle to successfully complete the class (MacDonald, 2018). Technology interwoven into a variety of learning materials aids in the learning process of acquiring English language skills. In online learning this material is housed in an online, technical environment which may be troublesome for non-traditional students (Kuama & Intharaksa, 2016).

Finally, many students will not have the opportunity to meet their instructors and classmates in person when choosing online learning, which can impede the overall learning process (Kumar, 2015). A social presence, according to Waugh & Jian (2016), constitutes a key component to the sense of community that students possess when taking online classes, which in turn, influences perceptions of the value received from the class. Kuama & Intharaksa (2016) indicated that students learning English language skills are motivated to learn and are overall happier with online learning when well-designed learning strategies, strategies that include adequate social interaction, are present. Course design proves to be a crucial element in online formats of classes focusing on English language skills.

Mechanics of Communication Online Course Design

Organized and well-planned course designs in learning platforms are imperative for successful online learning (Kurt, 2015). Students learning English language skills,

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based on research, perform better in online classes that support self-paced learning

activities, flexibility in learning, and opportunities for active learning (Kuama &

Intharaksa, 2016). Online courses must be designed simplistically, and course material

must be presented logically. Course designs that include a variety of course materials

using technology, according to research conducted by Mazoue (2003), improve the

process of learning in online classes. Providing students these materials in clutter-free,

manageable chunks optimizes students' successes and class retention. Course designers

should include three elements in online class designs to maximize student learning: an

instructor presence in the class, timely feedback practices, and logical organization of

course materials in the online learning platform (Fayer, 2014). Technology is required to

achieve these three elements (MacDonald, 2018).

Instructor Presence. Tools, such as virtual meetings, personalized videos, and

discussion board conversations, help create an instructor presence (Lever-Duffey &

McDonald, 2015). Email and comment features also facilitate interactions between

course instructors and students (Lever-Duffey & McDonald, 2015). When course

instructors are involved in discussion board conversations and other online interactions,

students feel connected to the class as a whole (Moore, 2014).

Findings from research conducted by Kuama & Intharaksa (2016) confirm that

students learning English language skills desire motivation that is generated by

interactions with course instructors. In fact, a few students report desiring a traditional

format as opposed to an online class when studying the English language due to the

perceived interaction available in traditional learning.

Timely feedback. Feedback can take on many forms. Feedback can be both formative and summative (Webb & Moallem, 2016). Comments provided to students by instructors regarding performance on course assignments and tests are main sources of course feedback (Awofeso & Bamidele, 2016). Feedback is an essential element of the learning process (Webb & Moallem, 2016). Students who receive feedback early are afforded the opportunity to correct problems before moving forward (Webb & Moallem, 2016). Providing feedback in a timely manner is a critical component to student success (Webb & Moallem, 2016). The creation and use of grading rubrics help instructors provide accurate feedback on graded assignments (Reddy, 2010).

Students learning English language skills in online classes depend on feedback to verify that successful learning is unfolding (Kuama & Intharaksa, 2016). Requiring students to review feedback to verify that one assignment was complete before moving forward to the next assignment helped students to manage their learning, strengthen their self-regulation skills, and manage their time.

Organization. A course properly designed requires a high level of organization to ensure that students understand the required tasks (Kurt, 2015). Chunking is a form of organization useful to online students (Worten, 2014). Chunking involves splitting course content into smaller, more manageable segments. Information that is divided into manageable units maximizes students' abilities to learn successfully. The brain can process and store limited amounts of information (Yilmaz, 2011). Important, relevant information provided to students in small segments increases the chances that this information will pass from short-term to long-term memory (Worten, 2014). Course

organization that aids in self-regulated learning is crucial for students learning English language skills (Kuama & Intharaska, 2016).

Models such as ASSURE help instructors organize instructional material in a logical fashion to provide a positive learning experience for students (Brandon, 2016; Kurt, 2015). ASSURE offers a series of steps used to simplify course design and provide logical sequencing when creating appropriate instruction for students.

The benefit offered by models such as ASSURE aids both the student and the teacher. The sequence of steps required by ASSURE helps the instructor who creates instructional materials to design a course that encompasses all aspects of students' needs. The students benefit from such a model as well; if the model is followed appropriately, the course design is complete and user-friendly.

Each letter in the model's name, ASSURE, represents a component of the model: analyze learners (A), state objectives (S), select media and materials (S), utilize media and materials (U), require learner participation (R), evaluate and revise (E) (Brandon, 2016; Kurt, 2015). Technology is required to use the ASSURE model (Brandon, 2016; Kurt, 2015) and for creating online learning classes (MacDonald, 2018).

Technology. Technology plays a major role in online learning course designs. Many students choose to take online classes but lack the technological experience necessary to complete them, thus requiring instructors to consider this factor when designing course objectives (MacDonald, 2018). In addition, technology is used to generate a variety of learning material to meet the needs of a diverse learning environment (Lever-Duffy & McDonald, 2015).

Learning English language skills in online settings requires the use of a variety of technology to ensure that all learners, regardless of learning styles, are equipped with the necessary resources to master the language, according to Kuama & Intharaksa (2016). In order to build crucial cognitive skills necessary for mastering English, students must engage in interactive activities including class discussions in which ideas and opinions can be expressed. Learning becomes engaging when students can utilize instructional materials in a manner that allows self-paced learning. Instructional materials that incorporate a variety of technology, such as interactive documents, videos, blogs, etc. (Lever-Duffy & McDonald, 2015), provide advantages to the online English language learner (Kuama & Intharaksa, 2016).

In addition to course design, communication is a second element of online learning that is crucial. Communication in online learning is an imperative component (Wicks, et al, 2015) as students selecting online learning will likely never meet in a face-to-face environment with instructors or classmates (Anderson, 2008; Kowalski, Dolph, & Young, 2014). Communication is particularly crucial for students learning English language skills in online settings (Kuama & Intharaksa, 2016; Perveen, 2016).

<div align="center">Communication in Online Learning</div>

Communication, both oral and written, is a primary component to successful online learning (Wicks et al, 2015). Two main categories of communication include asynchronous and synchronous communication (Watts, 2016). Each style has its unique benefits depending on the particular tasks being attempted, and research indicates that the two styles combined provide optimal levels of successful communication. According to

researched conducted by Perveen (2016), both types of communication are relevant for students learning English language skills in online classes.

Asynchronous Communication

Course content may reach students using asynchronous communication (Watts, 2016). Since time barriers are not evident in asynchronous communication, students are able to review course content, complete and submit required coursework, and communicate with teachers and classmates at any time of the day or night, usually within a specified deadline set by the course instructor (Watts, 2016). Asynchronous communication aids in self-paced learning, which is important for students learning English language skills (Kuama & Intharaksa, 2016).

Asynchronous communication is beneficial when a task requires critical thinking and when group work is involved (Watts, 2016). Students utilize asynchronous tools when needed allowing the opportunity to analyze and rationalize complex problems that require critical thinking before sharing results with instructors and classmates (Brierton, Wilson, Kistler, Flowers, & Jones, 2016). The most common forms of asynchronous communication utilized in learning environments are discussed below.

E-Mail. All students who attend colleges and universities receive an official institutional e-mail account. Educators use e-mail as a means to disseminate messages, deliver course material, and forward important information to students (Lever-Duffy & McDonald, 2015). E-mail users quickly generate messages and disperse these messages to a large number of people simultaneously, making e-mail a desired choice of communication for many educators and students.

Discussion Boards. Most online learning platforms provide opportunities for discussion

board communication (Lever-Duffy & McDonald, 2015). Many online educators create

assignments that utilize the discussion board because this form of communication allows

for rich, threaded discussions to ensue. Students create discussion board posts, and

classmates and instructors leave comments or expand on the post, thus creating in-depth

class discussions (Lever-Duffy & McDonald, 2015).

Google Docs. Google Docs is an application that encompasses a multitude of tools

including word processing, spreadsheet, and presentation software (Suwantarathip &

Wichadee, 2014). Users create documents and save files to the cloud. Upon receiving

permission from the author of a document, multiple people can share comments and edit

the documents from any computer that has Internet access.

Blogs. Blogs are websites that are created and maintained by instructors and students and

are used extensively in the business world as well (Guffey & Loewy, 2013). Blogs allow

the opportunities for generating discussions, providing comments, and sharing beneficial

materials related to the course content by instructors and students alike. Blogging allows

students to communicate and collaborate outside of the formal classroom setting (Guffey

& Loewy, 2013).

Social Media. Social media networking sites provide platforms for students to

communicate and interact in an asynchronous setting (Hamilton, Franks, Heidel,

McDonough, & Suda, 2016; Lever-Duffy & McDonald, 2015). Social media networking

is a preferred communication medium for students because many already use these sites

for personal socializing. Because these sites are popular for socializing, students are

familiar and comfortable using these tools, allowing communication to take place effortlessly (Hamilton et al, 2016).

Although asynchronous communication has merits in online learning, limits associated with this form of communication can hinder its usefulness in some situations (Salter, Douglas, & Kember, 2017). Simultaneous, real-time communication is lacking. Many students perceive asynchronous communication as impersonal, citing that this type of interaction mimics communicating with a computer as opposed to the person on the other end (Kear, 2010). Voice tone and inflections that enhance communication are not common with many forms of asynchronous communication. The connections formed through face-to-face communication are important indicators of students' perceptions of feeling connected to people in online classes (Kear, 2010), cited as a desired characteristic by English language learners (Kuama & Intharaksa, 2016). These face-to-face communication opportunities arise through synchronous communication channels (Kear, 2010).

Synchronous Communication

Instructors rely on technology to provide synchronous communication opportunities in formats that mimic face-to-face settings (Watts, 2016). For instance, the use of videos (Lever-Duffy & McDonald, 2015) and gaming technology (Von Gillem & Alaswad, 2016) provide viable means for course information to be dispersed in a manner that differs from non-interactive, asynchronous methods (Watts, 2016). As technology continues to advance, opportunities for synchronous learning continue to surface, offering many channels for synchronous communication (Watts, 2016). The most common synchronous communication tools utilized in learning environments are discussed below.

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Virtual Class Meetings. Most online learning platforms along with many other

independent sites such as Second Life offer technology that allows students to meet in

real time (Lever-Duffy & McDonald, 2015). Many benefits, such as face-to-face

interactions that allow for both verbal and non-verbal communication, are associate with

virtual class meetings. Students can meet at any time on any day regardless of

geographical location. Meetings are personalized, and a sense of community or

connection surfaces. Meetings between course instructors and students are similar to

traditional class meetings that take place in brick and mortar classrooms.

Video Conferencing. Video conferencing provides a viable form of synchronous

communication (Lever-Duffy & McDonald, 2015). This technology allows instructors to

interact with students in real time using applications such as Blackboard Collaborate.

Video conferencing includes both a video and audio component.

Chats. Internet chat rooms provide a platform for synchronous communication (Lever-

Duffy & McDonald, 2015). Chat rooms have become popular among instructors who

utilize these sites for providing instruction in an interactive fashion.

Gaming. Digital gaming can connect students in a synchronous, engaging environment

(Von Gillem & Alaswad, 2016). Digital gaming employs the use of digital technology

for the creation and delivery of educational instructional materials (Von Gillem &

Alaswad, 2016). This form of synchronized learning has gained popularity due its ease

of accessibility, ease of use, and entertainment element. Course concepts can be

embedded into digital gaming and can mimic real-life situations. This form of

communication has proven favorable for educational applications (Von Gillem &

Alaswad, 2016).

Both asynchronous and synchronous communication channels aid instructors in creating learning environments in which students experience strong social presences with both instructors and classmates (Watts, 2016). Students who experience strong social presences in their online classes generally experience a more positive learning experience (Waugh & Jian, 2016).

Social Presence in Online Learning

Creating social presences in online learning environments proves to be more difficult than in traditional classes (Waugh & Jian, 2016). The creation of social presences in online learning begins with the course design (Moreillon, 2015). Research conducted by Waugh & Jian (2016) indicated that a strong social presence enhances students learning experiences in online learning. In fact, students learning English language skills report that interactions in online classes are extremely beneficial to overall learning experiences, and those who feel that interaction is missing from online classes prefer taking the class in a traditional setting (Kuama & Intharaksa, 2016).

A social presence in online learning entails the development of a community of learners (Nagel, Blignaut, & Cronje, 2009). Students' involvement with a community of learners provides positive learning experiences for all involved. Drop-out rates decline and perceived learning by students increases, thereby increasing overall student satisfaction.

Given the barriers associated with learning English language skills (Language Barriers to Communication, 2018), students should be encouraged by instructors to form communities of learners (Nagel, Blignaut, & Cronje, 2009). The process of the development of these communities begins with the instructor and the design of the online

class, and technology provides the avenue by which the communities are created and evolve (Moreillon, 2015).

Summary

Chapter II provided the literature review of the theoretical frameworks that supported this research study. This research study sought to determine if online learning provided an effective delivery method for students learning English grammar and punctuation. Therefore, the relevance of online learning theory in providing support for this study was discussed in detail. In addition, students must believe in their abilities to successfully complete online classes. Social cognitive theory explained how students' self-efficacy supports successful online learning. Students who believe that they can successfully complete online classes usually perform better than those students lacking self-efficacy. A final theoretical framework that supported this study included communication theory. Communication theory describes the processes that occur during communication. Students learning English grammar and punctuation should be well-versed in the process of communication, and succeeding in online learning requires communication skills. Students in BOT programs will be entering the workforce upon successful completion of required classes, and understanding the process of communication will be necessary.

The decision to take online classes as opposed to traditional classes should include an analyses of learning styles. Students benefit from understanding learning styles and selecting class formats that match individual styles. The literature review discussed the three primary learning theories – behaviorism, cognitivism, and

constructivism – and the relations of the learning theories to both online and traditional learning classes.

The literature review expanded to provide support for the correlation between BOT programs and the necessity of students to acquire adequate written communication skills. BOT programs equip students with workplace skills necessary for employment after completing two-year programs, and employers rank communication skills at the top of desired workplace skills.

Lastly, the review highlighted the benefits and weaknesses of obtaining English grammar and punctuation skills in both traditional and online learning class formats. As online learning continues to increase for students learning written communication skills, course design and technology, two elements necessary for successful online learning, were discussed.

CHAPTER III – METHODOLOGY

Introduction

This chapter describes the research methodology used to answer the research questions proposed in Chapter I. A quantitative research method utilizing descriptive statistics, specifically a correlation design, was used in this study. This chapter begins with the explanations of the reasons for choosing a quantitative design. The research design is described first, followed by a detailed description of the research setting and participants included in the study. Data Sources, instrumentation, and the procedures that were used to collect the data were also described. Lastly, analyses of the statistical tests that were used to test the research questions were discussed in detail.

Research Design

A quantitative research method utilizing descriptive statistics, specifically a correlation design, was used for addressing the research questions. The researcher proposed a quantitative method because the phenomenon of interest could be analyzed objectively (McLeod, 2017). Quantitative analyses utilized the collected numerical data to help explain the relationship between the technology included in the course design that students chose and their abilities to comprehend and apply the 16 essential elements of communication to written communication using the technology; the analyses provided the evidence to answer the research questions (Gay, 1996). In addition, data collected and analyzed using quantitative methods allowed the results to be generalized to a larger population, thus benefitting other educators who teach English grammar and punctuation in online and traditional formats (Gay, 1996). Both research questions were analyzed using quantitative data.

Correlation research designs are appropriate when the goal of data analyses is to determine if relationships among the variables exist, and the data that will be used to analyze the research questions are not manipulated (Price, Jhangiani, & Chiang, 2015). The goals of this research study were to determine if relationships exist between the technology used to teach the 16 essential elements of communication and class format as well as between the technology and students' abilities to write error-free communication. The data consisted of a total of nine test and quiz grades representing the 16 essential elements, students' paragraph production grades, a comprehensive final exam, and final course grades and were not manipulated by the researcher.

Research Setting

The research setting was a large community college that serves the southern-most counties of Mississippi, one of the top-ranking, accredited community colleges in Mississippi. This institution offers a robust BOT program including Accounting Technology, Administrative Office Technology, and Business Management Technology options for potential students. Medical Office Technology is also categorized under the BOT curricula. In addition, Paralegal Technology is classified as a CTE program, and students take many of the same core classes required of BOT students, including *Mechanics of Communication*. The institution has three main branches that serve students in both rural and urban areas in the southern counties of the state. In 2015 the institution awarded 2,087 degrees and was named one of the top associate-degree producing institutions in the nation, with the 2016 designation marking the thirteenth year that the institution has received this recognition (CCW Staff, 2016). According to CCW Staff (2016), this community college ranked in the top ten schools in the nation to award

two-year certificates, the only community college in the state to hold this designation. The institution also ranked sixty-eighth overall in the nation based on the number of total degrees awarded to students (CCW Staff, 2016).

Participants

The archival data were collected from students who attend/attended the southern community college and took *Mechanics of Communication* in either a traditional or online setting. Students majored in Administrative Office Technology, Accounting Technology, Business Management Technology, Medical Office Technology, and/or Paralegal Technology. Typical enrollment in the programs included both traditional and non-traditional students, both male and female (U.S. News and World Report, 2019).

Sources of Data

Both traditional and online students received the same instructional material for the class utilizing multiple forms of technology, and the instrumentation used to collect data for the research study was the same for both groups. Students' test grades representing the 16 essential elements of written communication and test grades regarding abilities to write grammatically correct paragraphs served as the study's instrumentation. A total of nine tests represented the 16 essential elements of communication, and one paragraph quiz grade represented students' abilities to write grammatically correct paragraphs. Students' final exam grades and final course grades were also included in the analyses.

Students completed tests in three categories to evaluate their understanding of the 16 essential elements of written communication: unit tests, correct word choice (CWC) tests, and punctuation (PCT) tests. All tests contained a varying number of questions and

were graded on a points system. The percentage grades that were used in this research study reflected a conversion of points to percentage grades for those tests containing less than 100 points. As a final segment in the course, students provided evidence of their understanding of the 16 essential elements of written communication by completing a series of paragraph quizzes that counted as one overall grade.

Identifying personal information for students whose grades were used in the research study was omitted from the data analyses. All data collected was de-identified, thereby protecting students' anonymity.

Grading Procedures

Unit tests, CWC tests, and PCT tests were self-graded in Canvas, the college's online learning platform. The test questions and answer choices for these tests were created by the faculty who designed the course materials; Canvas allowed the correct answers to be identified when tests were created permitting students to receive their grades immediately after submitting the tests. Paragraph quizzes, on the other hand, were graded by the course instructor using guidelines created by the original course designers. For errors made on paragraph quizzes, the course instructor referenced pages in the textbook, CWC manual, or PCT manual that corresponded to the individual errors. This allowed students to review the course material to improve understanding of the missed concepts.

Unit Tests

All tests were administered online through Canvas. Unit tests examined students' understanding of the eight parts of speech. Students utilized the adopted course textbook and lecture PowerPoints as primary instructional material for these elements. All unit

tests contained 50 multiple-choice questions worth 2 points each for a total of 100 points. Students were allotted one hour to take unit tests and were permitted to take each test only one time. See *Appendix A* for a description of the three unit tests.

Correct Word Choice and Punctuation Tests

Students accessed and completed all CWC and PCT tests through Canvas. Learning materials for these tests were provided to students through two additional instructional manuals, a CWC manual and a PCT manual. These tests covered the remaining parts of speech and punctuation. Students had the opportunity to take each CWC and PCT test two times with the highest grade reflecting students' final recorded grades. The instructor allotted 15 minutes for each of these tests. Each test contained 15 questions; CWC questions were worth 1 point each for a total of 15 points, and each question on PCT tests was worth 2 points for a total of 30 points. All five PCT tests and an average of the CWC tests were included in the data analyses. See *Appendix A* for detailed descriptions of the individual CWC and PCT tests.

Paragraph Quizzes

Students took paragraph quizzes toward the latter half of the semester after all course material was covered and all tests were completed. Students were provided two topics for each paragraph quiz. Each student selected one topic, and a paragraph of six to eight sentences was created for each quiz. Students had a total of nine paragraph quiz attempts. The paragraph quizzes were worth one grade of 100 points. Students received a 100 if successfully completing three paragraph quizzes with no grammar or punctuation errors. If students failed to obtain three passing paragraph quizzes, a grade of zero was recorded for the paragraph grade. No in-between grades were awarded. A total of 50

minutes was allotted for each paragraph quiz. The use of reliable instructional materials was permitted during the paragraph quizzes.

Collected data consisted of students' three unit test grades, one overall CWC test grade, five PCT test grades, one paragraph quiz grade, one final exam grade, and final course grades. Both online and traditional classes received the same core instructional materials that were introduced to students using multiple forms of technology and two different delivery methods, and all students were responsible for purchasing course-adopted textbooks. Both sections received course materials through Canvas, the institution's online learning platform. The core course materials that were distributed to students are described in the table below.

Table 1

Course Materials Distributed to All Students

Core Course Materials	Descriptions
Syllabus	Outlined the student learning outcomes, requirements for the course, course expectations, course activities, and the grading procedures for quiz, test, and final grades.
Course Calendar	Outlined activities to be completed each week and deadlines for all activities, quizzes, and tests.
Textbook	Covered the eight parts of speech.
Lecture PowerPoints	Accompanied the textbook and provided supplemental explanations of the eight parts of speech.
Interactive Quizzes	Provided by the book publisher to allow students to informally test knowledge of the eight parts of speech.
Punctuation Manual	Provided punctuation material and grammar elements.

Table 1 (continued).

Core Course Materials	Descriptions
Correct Word Choice Manual	Provided explanations of commonly misused or confusing words and grammar elements.

A prescribed plan of study was outlined in the course calendar. During the first half of the semester, students were assigned problems to complete each week in the course textbook. This material covered English grammar, and students completed three unit tests to test understanding of the concepts. Simultaneously while completing studies using the course-adopted textbook, students were learning material from the instructional manuals and completing additional tests covering both grammar and punctuation elements, first the CWC followed by the PCT. During the latter half of the semester, students highlighted their understanding of English grammar and punctuation by completing paragraph quizzes. Students in both online and traditional classes were permitted to use reference materials during paragraph quizzes.

Differences in the delivery of course materials existed due to the differences in the formats of the two class. Delivery of instruction for both course formats is outlined in the table below.

Table 2

Differences Between Traditional and Online Class Designs

Course Elements	Traditional	Online
Initial Course Instructions and Material	Students received verbal instruction on the first day of class; initial instructions and course materials were also included in Canvas for future reference.	Students accessed Canvas using the Internet to obtain initial course instructions and course materials and completed discussion board posts indicating understanding of initial course instructions.
Course Lectures and Instructional Material	Instructor lectured in class with accompanying PowerPoint presentations allowing for evaluation of students' understanding of course material via verbal and non-verbal feedback. Instructional material was available to students via Canvas.	Students accessed instructional materials via Canvas and constructed meaning from the material; they contacted the course instructor using various communication channels including email, telephone, personal meetings, or virtual meetings if questions arose.
Unit Tests, CWC, and PCT Tests	Students accessed all tests via Canvas; tests were open for a five-day period; students viewed results and correct answers for five days once the testing period ended.	Students accessed all tests via Canvas; tests were open for a seven-day period; students viewed results and correct answers for five days once the testing period ended.
Paragraph Quizzes	Students wrote paragraphs in class without the use of computing technology.	Students completed paragraphs in quiz form via Canvas.

A graded student introduction was added to the online course design in the spring 2017 semester requiring students to provide a personal introduction during the first week of class in an effort to help students develop social interactions with classmates to

enhance overall class experiences. Additional instructional materials using various

technology were also added to the online course design during the fall 2017 semester.

Multimedia instruction covering course objectives in the form of instructional gaming

and instructor-created videos and podcasts was added. In addition, video conferencing

opportunities were made available for students desiring one-on-one tutoring from the

course instructor. Lastly, a required face-to-face or virtual meeting during the first week

of class was added in the fall 2018 semester. This required meeting provided students

with course introductions and information.

<div align="center">Data Collection Procedure</div>

Convenience sampling was used due to the unique course design used to teach

Mechanics of Communication at this institution. The course was designed by faculty at

the southern community college in the early 1990s and was unique to this one institution.

Upon receiving IRB approval from the community college as well as The University of

Southern Mississippi, the institution guiding the research project, the researcher began to

collect data. Archival data were collected from students who completed the course.

Data Collection for Archival Data

Archival data containing no identifying information were gathered from

Mechanics of Communication for the past five years including the fall and spring

semesters of 2013/2014 – 2017/2018 as well as the fall 2018 semester. Students' archival

grades were validated and entered into a Microsoft Excel spreadsheet by the participating

college's e-Learning office upon receiving IRB approval. Students' names and

identifying information were omitted from the spreadsheets; therefore, the demographic

information of students was unknown to the researcher.

A total sample from both data sources consisted of approximately 464 students. The data from all spreadsheets were recorded in SPSS for data analyses. The spreadsheets and SPSS files will be saved for an additional two-year period and then deleted from the researcher's computer.

<center>Data Analyses</center>

SPSS was used to analyze the collected data. Multiple tests were generated using SPSS to help the researcher identify the distribution of scores and significant relationships. Measures of central tendency – mode, mean, and median – were calculated. In addition, two logistic regressions and a multiple regression were generated and analyzed.

Measures of central tendency were calculated to provide information on the distribution grades for both research questions. The mode, which identified which grades appeared most frequently in the data distribution, helped determine how the overall grades were distributed among all students (Field, 2009).

The mean or average grade for all grades was also generated. The calculation for the mean included all values in each data set and allowed the researcher to determine how each student performed relative to the average grades on all tests and all final course grades (Field, 2009).

The last measure of central tendency that was calculated was the median of scores on all test and final grades. These calculations identified the percentile ranking of grades in each category; the median provided a different perspective than the mean because the median grade calculations were not affected by outliers, or unusual scores, in the data (Field, 2009).

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The final statistical tests that were generated, two logistic regressions and a multiple regression, helped predict the relationships between the variables of interest. All statistical test results were discussed based on individual research questions.

In RQ 1, which of the 16 essential elements of written communication are related to class formats, a logistic regression was used to help predict or describe the relationship between the dependent variable (class format) and multiple independent variables (students' quiz, test, and final course grades). This statistical test was appropriate because the dependent variable, class format, was dichotomous in nature (Field, 2009). Students belonged to only one of two groups; students enrolled in either a traditional face-to-face or online class when taking *Mechanics of Communication*. The logistic regression helped predict which class format a student belonged to based on overall class performance on test, quiz, and final course grades.

A multiple regression was also used to analyze RQ 1 because the analyses further expanded to include students' final grades in the class. In this analysis the dependent variable (students' final grades) was measured on an interval scale, and the data contained multiple predictors (students' quiz, test, and final exam grades). Because the dependent variable was measured on an interval scale and multiple predictors were analyzed, a multiple regression was appropriate (Field, 2009). The multiple regression used students' final grades to help further predict students' understanding of the 16 essential elements of communication based on test and quiz grades.

In RQ 2, what is the relative contribution of the 16 essential elements of written communication to students' abilities to write grammatically correct paragraphs, a logistic regression was used to analyze the question. The dependent variable was dichotomous

(paragraph goal) as students belonged to only one of the two groups, thereby warranting the logistic regression (Field, 2009). Students wrote three grammatically correct paragraphs and met the goal, or they failed to write the required paragraphs and did not meet the goal. There were no in-between categories.

In RQ 2 the logistic regression helped to predict which of the 16 essential elements of written communication predict students' abilities to write error-free communication (Field, 2009).

<div align="center">Summary</div>

Chapter III discussed the methodology that was used to collect and analyze data. The researcher utilized a quantitative method to provide evidence that class format and students' abilities to learn English grammar and punctuation using various technology were related as well as to determine the contribution that the 16 essential elements of written communication had on students' abilities to create error-free written communication. Students attending a southern community college and majoring in a technical discipline served as participants for the study. Archival data were collected from students who have taken *Mechanics of Communication* in either a traditional or online setting. SPSS was used to generate measures of central tendency, logistic regressions, and a multiple regression.

CHAPTER IV – RESULTS

Introduction

Chapter IV discusses the results of the statistical tests that were used to support the research questions that guided this study. The purpose of the research study was to determine the effectiveness of technology implemented in a course entitled *Mechanics of Communication.* Technology was implemented in online formats of the course. Comparing the successes of online and traditional face-to-face formats helped to determine the effectiveness of the implemented technology. The effectiveness of the course format was measured by students' abilities to write grammatically correct paragraphs and by students' final grades earned in the class.

In addition to the statistical test results that were used to answer the research questions, this chapter includes descriptions of the sample, the sample size, the variables that were analyzed, and the descriptive statistics for the variables. The research questions were answered using logistic and multiple regressions. The results of all statistical tests yielded significant predictor variables. The logistic regressions helped to identify which group students belonged to based on class performance; the multiple regression helped identify the predictors that influenced students' final grades.

Archival data used in the analyses were collected from records of students who took *Mechanics of Communication*, a class taught at a southern community college. The class was offered to students in both traditional and online formats. Both formats of the class were taught using the same pedagogical course design. Students in both sections received the same instructional materials using the same technology and took the same tests, which covered 16 essential elements of written communication; students in both

sections were required to apply the 16 essential elements of communication to written communication. The archival data were collected during the 2013/2014 through the 2017/2018 fall and spring semesters as well as the fall 2018 semester.

A sample size of 464 records was included in the analyses. This sample size was sufficient for the statistical tests that were generated. Using GPower, a sample size calculator, optimum sample sizes of 310 for the logistic regressions and 178 for the multiple regression were identified based on a medium effect size, $\alpha = .05$, and 95% power $(1 - \beta)$. The sample size (n = 464) analyzed in this research study exceeded the optimal levels for both statistical tests. Therefore, the results of the tests were interpreted with confidence regarding sample size.

<div align="center">Results</div>

The results of the study are discussed in this section and begins with an analyses of the data concerning enrollment in both class formats. Of the 464 archival records included in the analyses, 59% of the archival records were from students who took the course in an online format and 41% took it in a traditional face-to-face format. Regardless of class format, a significantly large percentage of students, 60%, did not achieve the goal of writing three perfect paragraphs; 40% of students successfully achieved the goal.

Descriptions of Interval Test Variables

Descriptive statistics that defined the distribution of test scores for each quiz, test, and final class grade that were used as predicting interval variables are discussed first. Students' archival grades consisted of one score that represented six correct word choice tests (CWC), a series of five individual punctuation tests (PCT), three unit tests, and one

final exam. Descriptive statistics including mean, standard deviation, skewness, and kurtosis provided insight into the distribution of scores among all students, online and traditional. All distribution figures are outlined in the table below.

Table 3

Interval Variable Descriptive Statistics

Test Variables	Mean	Standard Deviation	Skewness	Kurtosis
CWC Test	86.5601	12.60859	-2.060	5.725
PCT Test 1	81.7372	12.56930	-.531	-.077
PCT Test 2	72.6696	18.62089	-.436	-.578
PCT Test 3	73.2745	16.51543	-.552	-.049
PCT Test 4	80.6296	12.10871	-.611	.003
PCT Test 5	83.8826	10.94684	-.566	-.142
Unit Test 1	77.3356	13.41661	-.340	-.759
Unit Test 2	68.9399	12.53151	.331	-.459
Unit Test 3	79.9429	10.01348	-.932	3.611
Final Exam	72.2156	12.89888	-.167	-.380
Final Course Grade	71.9104	13.46938	-.613	1.113

One overall CWC test grade was included in the analyses. The CWC component examined students' knowledge of correct word choice usage in written communication as well as adjectives. Students took six CWC tests throughout the semester that were worth 15 points each; the test grades were converted to 100 percent and were calculated as one overall average grade for data analyses. The distribution of the average CWC test grade resulted in a negatively skewed distribution.

Each of the five PCT test grades were included in the analyses individually. All PCT tests were worth 30 points and were converted to 100 percent for data analyses. PCT Test 1 tested students' knowledge of commas, prepositions and conjunctions. PCT Test 2 tested students' knowledge of colons, semi-colons, and adverbs. PCT Test 3

tested students' knowledge of interjections, ending punctuation, and miscellaneous punctuation. PCT Test 4 tested students' knowledge of capitalization rules. PCT Test 5 tested students' knowledge of number rules. All PCT tests were negatively skewed.

A total of three unit test grades and one final exam grade were analyzed individually as well. Unit Test 1 covered the first part of speech, which was nouns. Unit Test 2 covered pronouns, the second part of speech. Unit Test 3 covered verbs, also one of the eight parts of speech. One comprehensive final exam was administered. This comprehensive final exam contained material from all CWC, PCT, and unit tests. The distributions of all test grades were negatively skewed.

The negatively skewed distributions of scores for the quiz, test, and final course grades were due to the majority of scores that were clustered around the upper limit of the grade possibilities, which is not uncommon in grade distributions.

Students' final course grade was the last interval variable that was included in the analyses. Students' final earned grades consisted of all quiz, test, and paragraph grades.

Descriptions of Categorical Test Variables

The paragraph goal was included as a categorical variable. Students either met the goal of writing three perfect paragraphs or they failed to meet the goal. During the final three semesters of the data collection period, multimedia and technology were added to the online sections of *Mechanics of Communication* and were included in the analyses as categorical variables. These categorical variables included multimedia (students did or did not receive multimedia instructional materials), introductory student introductions used to increase social presence opportunities in the class (students either participated in the assignment or did not), and introductory course meetings used to build rapport with

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the course instructor and fellow classmates (students participated in the assignment or did not).

In order for both interval and categorical variables to be analyzed in regression testing, preparing the variables was required. Interval variables required centering and categorical variables required recoding before being included in the statistical tests.

Variable Centering and Recoding

All interval variables (students' quiz, unit test, final exam, and final grades) were centered. The new means for each centered variable were calculated, and the new means were subtracted from the original variable to create centered variables.

Likewise, all categorical variables were recoded. Each categorical variable used in the analyses had only two levels. The frequencies of the variables were identified using SPSS. For each variable, the level with the highest frequency was embedded in the constant, and the new variables were created for the remaining level. The centered interval variables and the recoded categorical variables were used in both the logistic and multiple regressions.

The results of the statistical tests are discussed below and are organized by individual research questions. The discussion includes both the significant test variables as well as the non-significant variables.

RQ 1: Which of the 16 essential elements of written communication are related to class formats?

Two statistical tests were generated using SPSS to support RQ 1 including a logistic regression and a multiple regression.

Logistic Regression

The logistic regression was used to determine if the class format (categorical DV) that students chose for *Mechanics of Communication* was predicted by students' abilities to comprehend the 16 essential elements of communication. The IVs included in the logistic regression consisted of the categorical IVs including the paragraph goal, multimedia, student introduction, and introductory class meeting. All quiz and test grades including the CWC, PCT 1, PCT 2, PCT 3, PCT 4, PCT 5, Unit Test 1, Unit Test 2, Unit Test 3, and final exam, as well as final course grades, were included as interval IVs.

A good model fit was indicated by a significant omnibus chi square value (χ^2 (15, n = 464) = 303.720, p < .001) and a non-significant Hosmer and Lemeshow value (p = .758).

As illustrated in the Table below, significant results were identified with two IVs, as indicated by p values of less than .05; these significant variables included Unit Test 3 and the final exam. Multiple IVs were approaching significance. Even though these variables had p values equal to or slightly greater than .05, a meaningful effect size, as is the case with the medium effect size found in this research study, justified the reporting of these statistics. The IVs approaching significance included CWC (p = .060), PCT 1 (p = .054), PCT 2 (p = .052), PCT 3 (p = .051), PCT 4 (p = .050), PCT 5 (p = .060), and final course grades (p = .067).

No significant results, as indicated by p values of greater than .05, were identified with the paragraph goal, multimedia, student introduction, introductory class meeting, Unit Test 1 and Unit Test 2.

Table 4

RQ 1 Logistic Regression Test Results

Variables	Significance	Odds Ratios
Paragraph Goal	.082	.000
Multimedia	1.000	1.499
Student Introduction	.998	.000
Introductory Class Meeting	1.000	.294
CWC Test	.060	.722
PCT Test 1	.054	.718
PCT Test 2	.052	.716
PCT Test 3	.051	.717
PCT Test 4	.050	.719
PCT Test 5	.060	.726
Unit Test 1	.561	.906
Unit Test 2	.169	.792
Unit Test 3	.036	.700
Final Exam	.006	.620
Final Course Grade	.067	30.329

The interpretations of the odds ratios provided detailed information regarding the relationships between the DV and the significant IVs. The interpretations were categorized and discussed by odds ratios above one (indicating predictors are more likely to have occurred in a traditional face-to-face format of the class) and odds ratios below one (indicating that predictors are less likely to have occurred in a traditional face-to-face format of the class).

The final grade that students earned in the class had an odds ratio greater than one. Therefore, the higher the final grade earned, the more likely that students took *Mechanics of Communication* in a traditional face-to-face format relative to an online format. Conversely, the remaining significant IVs had odds ratios of less than one.

The higher the scores on the CWC, PCT 1, PCT 2, PCT 3, PCT 4, PCT 5, Unit Test 3, and the final exam, the less likely that students took *Mechanics of Communication* in a traditional face-to-face format relative to an online format. The interpretations were based on odds ratios of less than one.

In addition to the logistic regression that was used to analyze RQ 1, a multiple regression was also generated and interpreted. The multiple regression also identified significant relationships.

Multiple Regression

The multiple regression was used to determine if students' final grades in the course (interval DV) were related to their abilities to comprehend the 16 essential elements of communication. Class format, paragraph quiz, multimedia, student introduction, and introductory class meeting were included in the analyses (categorical IVs). In addition, quiz and test grades including the CWC, PCT 1, PCT 2, PCT 3, PCT 4, PCT 5, Unit Test 1, Unit Test 2, Unit Test 3, and final exam were also included (interval IVs).

Because the final grade in the course was comprised entirely of only 11 predictor variables, the results of the omnibus test were significant ($F_{15, 377} = 354866.70$, $p < 001$). Multiple regression test results were interpreted based on both standardized and unstandardized categorical and interval variables. As indicated by p values of less than .05, significant results were identified with the following two categorical IVs, class format and the paragraph goal, and all of the interval IVs including the CWC test, all PCT tests, all unit tests, and the final exam.

No significant results were noted with the addition of multimedia, the student

introduction, and the introductory class meeting as indicated by *p* values of greater than

.05.

The standardized beta coefficient was used to determine which variable had the

highest impact on students' final grades. The variable in this multiple regression that had

the highest impact on final course grades was the paragraph goal variable ($\beta = .414$).

Table 5

RQ 1Multiple Regression Test Results

Variables	Unstandardized Coefficients B	Standardized Coefficients Beta	Significance
Class Format	.034	.002	.014
Paragraph Goal	9.084	.414	.000
Multimedia	.001	.000	.956
Student Introduction	.026	.001	.259
Introductory Class Meeting	.005	.000	.862
CWC Test	.091	.088	.000
PCT Test 1	.091	.104	.000
PCT Test 2	.091	.152	.000
PCT Test 3	.091	.135	.000
PCT Test 4	.091	.096	.000
PCT Test 5	.091	.089	.000
Unit Test 1	.090	.109	.000
Unit Test 2	.091	.108	.000
Unit Test 3	.091	.084	.000
Final Exam	.091	.104	.000

Students who chose a traditional face-to-face class format for *Mechanics of*

Communication were more likely to achieve the goal of writing three perfect paragraphs

and were more likely to score higher on the final course grade than those students who

took the course in an online format. In addition, a one-point increase in the grades that students scored on the CWC tests, all PCT tests, all unit tests, and the final exam resulted in higher final course grades.

The final steps in interpreting the multiple regression were the calculation and discussion of statistics that tested for assumptions and diagnostics.

Assumptions and Diagnostics

Ensuring that the model was not in violation of multiple regression assumptions and that all outliers and influential points were identified and evaluated, assumptions and diagnostics statistics were calculated (Field, 2009). The specific assumptions that were analyzed included multicollinearity and homoscedasticity. Interpretation of multicollinearity and homoscedasticity using Collinearity Statistics and Pseudo Z calculations indicated that no violations occurred.

Diagnostics were used to detect outliers or influential points and included the analyses of Studentized Residuals, Standardized DFFITs, and Leverage Values. The results indicated that no outliers or influential points were evident in the data set.

In conclusion, the statistical tests used to answer RQ 1 provided insight into which of the 16 essential elements of communication as represented by students' quiz, test, and final course grades were related to class format. A discussion of the results of the logistic regression that was used to answer RQ 2 concludes the analyses in this chapter.

RQ 2: What is the relative contribution of the 16 essential elements of written communication to students' abilities to write grammatically correct paragraphs?

A logistic regression was generated using SPSS to support RQ 2. The logistic regression was used to determine if students' abilities to write three perfect paragraphs (categorical DV) were predicted by students' abilities to comprehend and apply the 16 essential elements of communication. The IVs analyzed in the test included class format, multimedia, student introduction, and introductory class meeting (categorical IVs). All test grades including the CWC, PCT 1, PCT 2, PCT 3, PCT 4, PCT 5, Unit Test 1, Unit Test 2, Unit Test 3, and the final exam were included in the analyses (interval IVs).

A good model fit was indicated by a significant chi square value (χ^2 (14, n = 464) = 143.027, $p < .001$) and a non-significant Hosmer and Lemeshow value $p = .790$.

The logistic regression yielded only three significant variables. As illustrated in the table below, significant results, indicated by p values of less than .05, were identified with the class format variable, Unit Test 3, and the final exam.

Multimedia, student introduction, introductory class meeting, the CWC grade, all PCT tests, Unit Test 1, and Unit Test 2, were not significant variables as indicated by p values of greater than .05.

Table 6

RQ 2 Logistic Regression Test Results

Variables	Significance	Odds Ratios
Class Format	.000	4.337
Multimedia	.398	1.944
Student Introduction	.336	.507
Introductory Class Meeting	.883	1.108
CWC Test	.178	1.025

Table 6 (continued).

Variables	Significance	Odds Ratios
PCT Test 1	.648	1.007
PCT Test 2	.615	.995
PCT Test 3	.648	.995
PCT Test 4	.162	1.021
PCT Test 5	.245	1.018
Unit Test 1	.163	1.020
Unit Test 2	.377	1.012
Unit Test 3	.042	1.039
Final Exam	.001	1.054

All of the odds ratios relating to the significant variables were above one indicating predictors were more likely to have occurred with students who met the paragraph goal. Students who met the paragraph quiz goal and wrote three perfect paragraphs were more likely to have taken *Mechanics of Communication* in a traditional face-to-face setting and were more likely to have scored higher on Unit Test 3 and the final exam relative to those students who did not meet the goal.

Summary

Chapter IV began with a description of the research setting, the sample from which the data were collected, and the sample size that was used in the analyses of this research study. The sample size proved to be adequate as verified by a reputable sample size calculator. A summary of the statistical tests that were used to support the research questions followed, beginning with descriptive statistics. The variables that were used in

the study were described in detail, and the procedures used to center interval variables and recode categorical variables were provided. The centered and recoded variables were used in the statistical tests. All three regression tests were significant omnibus tests and identified multiple significant relationships that were reported in the chapter.

CHAPTER V – DISCUSSION AND RECOMMENDATIONS

Introduction

Chapter V discusses the results of this study in more detail. This section includes the discussion of the research findings, conclusions and discussions, limitations of the study, and recommendations for policy or practice and for future research. The final section of this chapter provides a conclusion summary of the research project.

The focus of the study was on the technology implemented in the class design used to teach an English grammar and punctuation course entitled *Mechanics of Communication*. This course was originally designed and successfully taught for many years in a traditional face-to-face course format using instructional technology created by instructors who initially taught the course. An increase in students choosing to take the class in an online format was noted over the last several years, and the same instructional technology created for traditional face-to-face class formats was implemented in online formats of the class. This study sought to determine if students taking online formats of *Mechanics of Communication* comprehended English grammar and punctuation equally or better than those students who took the course in a traditional face-to-face setting using the same instructional technology. The goal of *Mechanics of Communication* was for students to write grammatically correct paragraphs. This chapter builds on Chapter IV, which identified descriptive statistics and the significant test results of the regressions used to support the research questions, and further discusses how the results can be applied to educational practices.

Research Findings

This section provides a discussion of the research findings. The discussion of the findings is included based on the individual research questions identified in this research study. The research findings were derived from descriptive statistics of the variables of interest, two logistic regressions, and one multiple regression.

Descriptive Statistics

Descriptive statistics indicated that online enrollment in *Mechanics of Communication* consisted of 59% of the 464 archival student records included in this research study; the online class enrollment outweighed the 41% of students who chose a traditional face-to-face class format.

In order to determine which format was the most effective to teach English grammar and punctuation using technology implemented in a unique course design, two research questions were investigated. The analyses of the two research questions provided insight as to how students in each class format performed as well as the significant variables that were identified for those students who successfully wrote grammatically correct paragraphs. The remainder of the statistical test results are discussed based on the corresponding research questions that were analyzed.

RQ 1: Which of the 16 essential elements of written communication are related to class formats?

RQ 1 sought to identify which of the 16 essential elements of written communication were significant predictors of class format. The 16 essential elements were presented to students using multiple forms of technology and were included in a

total of nine grammar and punctuation quizzes and tests administered throughout the semester.

A logistic regression and a multiple regression were generated to answer this question. The two statistical tests supported each other in identifying significant relationships among the variables.

Logistic Regression Test Results

The logistic regression test results identified the variables that were significant predictors of course format. The quizzes and tests representing the 16 essential elements of communication that were identified as significant variables included the correct word choice test (CWC), Punctuation Test 1 (PCT 1), Punctuation Test 2 (PCT 2), Punctuation Test 3 (PCT 3), Punctuation Test 4 (PCT 4), Punctuation Test 5 (PCT 5), Unit Test 3, and the final exam. The logistic regression also noted a significant result with the final course grade that students earned in the class as a predictor of class format.

No significant results were found with the following variables: Unit Test 1 ($p = .561$), Unit Test 2 ($p = .169$), paragraph quiz ($p = .082$), multimedia ($p = 1$), student introduction ($p = .998$), and introductory class meeting ($p = 1$).

The logistic regression successfully provided insight as to which of the 16 essential elements of communication predicted class format. In order to further verify these predictors, a multiple regression accompanied the analyses.

Multiple Regression Test Results

A multiple regression was generated in order to determine which of the 16 essential elements of communication, as represented by the nine quiz and test grades included in the course design and taught using multiple forms of technology, predicted

students' final earned course grades. Significant results were found with all of the tests administered throughout the semester including the CWC test, all five PCT tests, the three unit tests, and the final exam. Significant results were also found with the class format and paragraph quiz as predictors of students' final course grades.

No significant results were found with multimedia ($p = .956$), student introduction ($p = .259$), and the introductory class meeting ($p = .862$).

The statistical tests that were generated to support RQ 1 provided valuable insight into which of the 16 essential elements of written communication were related to class format. The next section of this chapter discusses the results of the logistic regression that was generated to support RQ 2.

RQ 2: What is the relative contribution of the 16 essential elements of written communication to students' abilities to write grammatically correct paragraphs?

RQ 2 expanded on the analyses of the 16 essential elements of communication but focused on the elements that predicted students' abilities to write three perfect paragraphs. Class format, Unit Test 3, and the final exam were significant predictors of students' abilities to write grammatically correct paragraphs.

No significant results were found with multimedia ($p = .398$), student introduction assignment ($p = .336$), introductory class meeting ($p = .883$), the CWC tests ($p = .178$), PCT 1 ($p = .648$), PCT 2 ($p = .615$), PCT 3 ($p = .648$), PCT 4 ($p = .162$), PCT 5 ($p = .245$), Unit Test 1 ($p = .163$), or Unit Test 2 ($p = .377$).

The statistical test results are discussed in more detail in the conclusions and discussions section and convey how the significant variables related to the elements of technology that were included in the course design used in *Mechanics of Communication*.

Conclusions and Discussions

This section includes the conclusions and discussions of the statistical tests that were generated to support the research questions identified in this study. The research study indicated that students in each class format, online and traditional face-to-face, have both strengths and weaknesses when learning and applying the 16 essential elements of communication using the various forms of technology that were implemented in *Mechanics of Communication*. The purpose of this study was to determine the effectiveness of technology implemented in the pedagogical course design originally created for a traditional face-to-face learning format and successfully used for many years to determine if the technology was equally or more effective when implemented in an online class format.

Students enrolled in either traditional face-to-face or online formats of *Mechanics of Communication.* At the beginning of the course each semester, students received instructional materials using multiple forms of technology that covered both grammar and punctuation elements; these elements were termed the 16 essential elements of communication. After learning the course material, a series of tests were administered including correct word choice tests (CWC), followed by the punctuation tests (PCT), and finally the unit tests. Once all of the instructional materials and tests covering the 16 essential elements of communication were completed, students applied the acquired knowledge to write paragraphs with the goal of error-free written communication. Students had nine opportunities to write three grammatically correct paragraphs. The semester ended with a comprehensive final exam, and students were awarded a final

grade at the completion of the semester. Each of the semester's course activities is discussed individually.

Mechanics of Communication Course Format

The data analyzed in this research study indicated that online enrollment in *Mechanics of Communication* outweighed enrollment in traditional face-to-face formats of the class. A larger percentage of students, 59% of the 464, chose to take *Mechanics of Communication* in an online format as opposed to 41% who chose a traditional face-to-face format.

The results of this study supported the trends identified in the literature review. The literature review indicated that enrollment in traditional courses decline each year as enrollment in online learning formats continually increase (Kuama & Intharaksa, 2016; Online Educational Trends Report, 2018). Educational institutions are increasingly offering degree programs in fully-online formats in addition to traditional face-to-face class formats (Peslak, Kovalchick, Wang, & Kovacs, 2018). This trend has been experienced in many career and technical education programs, including Business and Office Technology (BOT) (Mississippi Community College Board, 2018). *Mechanics of Communication* was a required course for students majoring in BOT programs at the southern community college that served as the research setting for this research project; the differences between the two class formats are identified.

Differences in Class Formats

Although students taking *Mechanics of Communication* in both online and traditional face-to-face formats received the same instructional materials that utilized multiple forms of technology, a few differences were experienced with online learning

formats of *Mechanics of Communication*. The online sections lacked the weekly course meetings that traditional face-to-face students were required to attend. Therefore, online students had access to the course instructor only if sought.

In an effort to improve communication with online students, the course instructor added multimedia and communication components to the online course format. Students taking the course in the last four semesters during which the archival data were gathered began receiving the additional learning components including multimedia instructional materials in the form of instructor-created videos, educational games, and podcasts. In addition, an asynchronous communication assignment requiring students to introduce themselves to the class and respond to other students' introductions was added to the online formats of the class. A final assignment requiring communication technology was added during the last semester that data were collected. This assignment necessitated the use of synchronous forms of communication requiring online students to attend an introductory course meeting to meet the instructor and fellow classmates; students attended the meeting in either a face-to-face format or virtually using web-conferencing software. During the meeting course information and requirements were discussed.

The results of the statistical tests indicated that the addition of multimedia and communication activities were not effective in increasing positive learning outcomes for online students, which is in opposition of the research included in the literature review. Kuama & Intharaksa (2016) noted that students learning English grammar and punctuation in online formats benefit from a variety of technology implemented in the course design.

The lack of significant results identified with the added multimedia and communication activities in this research study was likely a product of the few numbers of students who received this additional technology because the components were added only to the last 4 semesters of the 11-semester data collection period. Only 14% of the 464 students had access to the added multimedia, 19% participated in the student introduction, and 4% participated in the introductory class meeting.

The goal of this research project focused on the effectiveness of the technology integrated in the course design on students' abilities to comprehend and apply the 16 essential elements of communication applied to both traditional face-to-face and online formats of *Mechanics of Communication*. The discussion of the 16 essential elements of communication is organized below based on the individual learning components and the order that these components occurred during the semester; the individual learning components included the CWC test, the PCT tests, unit tests, paragraph quizzes, final exam, and final course grade.

Correct Word Choice Test (CWC)

Students received a written CWC learning manual at the beginning of the semester. The manual combined both punctuation and grammar elements and provided detailed explanations of correct word usage and proper uses of adjectives. The average grade scored on the CWC test for online students was an 86.87 and an 86.11 for traditional students indicating that most students, regardless of class format, comprehended the content. The higher averages indicated that the technology implemented in the instructional materials covering the 16 essential elements was adequate for learning to take place in both class formats. The CWC grade was a

significant predictor of class format and student's final course grades. Students who took

the course in an online format of the class were more likely to score higher on the CWC

test than students who took the course in a traditional face-to-face setting. In addition,

increases in CWC grades resulted in corresponding increases in students' final grades,

regardless of class format.

Punctuation Tests (PCT)

Once all of the CWC quizzes were completed, students were then provided a

written punctuation learning manual that included both punctuation and grammar

elements. Students completed a total of five punctuation tests. PCT Test 1 covered

commas, prepositions and conjunctions; PCT Test 2 covered colons, semicolons, and

adverbs; PCT Test 3 covered interjections, ending punctuation, and miscellaneous

punctuation; PCT Test 4 covered capitalization rules; and PCT Test 5 covered number

formatting rules. The PCT test scores that had the highest averages, regardless of class

format, were PCT 1 (online students averaged an 81.88 and traditional students averaged

an 81.52), PCT 4 (online students averaged an 80.67 and traditional students averaged an

80.56), and PCT 5 (online students averaged an 84.33 and traditional students averaged

an 83.22) indicating that all students, regardless of class format, have an understanding of

commas, prepositions, conjunctions, capitalization rules, and number rules. Conversely,

the remaining PCT tests had lower averages based on class format. The PCT test scores

that had the lower averages were PCT 2 (online students averaged a 72.03 and traditional

students averaged a 73.63) and PCT 3 (online students averaged a 74.43 and traditional

students averaged a 71.52).

Online students were more likely to score higher on the PCT tests relative to traditional face-to-face students; in addition, increases in PCT test scores resulted in corresponding increases in students' final course grades. The technology implemented in the instructional materials provided for PCT 1, PCT 4, and PCT 5 seemed sufficient. Students may need supplemental instructional materials created using current technology for the remaining PCTs.

Unit Tests

A total of three unit tests were administered throughout the semester covering grammar rules. All three tests were significant predictors of students' final course grades; however, only Unit Test 3 was a significant predictor of class format and the paragraph goal.

Unit Test 1. Unit Test 1 covered nouns, one of the eight parts of speech and an essential element of grammar (Williams, 2010). The average grade received on Unit Test 1 was a 72.26 for online students and an 84.44 for traditional students. As Unit Test 1 grades increased, corresponding increases in students' final grades were also noted. Unit Test 1 was not a significant predictor of class format, although traditional students had higher averages than online students; Unit Test 1 was also not a significant predictor of the paragraph goal. Nouns are covered in the course-adopted textbook. Students also had access to addition instructional materials that cover nouns included in PowerPoints and interactive quizzes that accompany the textbook. However, additional instructional materials using more advanced technology was lacking in the course design, material that may benefit all students.

Unit Test 2. Unit Test 2 covered pronouns, one of the eight parts of speech and an essential element of grammar (Williams, 2010). The average grade scored on Unit Test 2 was a 65.91 for online students and a 73.42 for traditional students. Although the rather low averages, especially for online students, indicated that students may not fully understand pronoun rules, the test was a significant predictor of students' final course grades. As Unit Test 2 grades increased, corresponding increases in final course grades were noted. Unit Test 2 was not a significant predictor of class format or the paragraph goal. Pronouns were also covered in the course-adopted textbook, and the accompanying PowerPoint presentations and interactive quizzes were available to students. Instructional materials covering pronouns and using updated technology were lacking in both formats of the class; additional instructional materials using updated technology could benefit all students.

Unit Test 3. Unit Test 3 covered verbs, one of the eight parts of speech and an essential element of grammar (Williams, 2010). The average grade scored on the test was a 79.97 for online students and a 79.90 for traditional students. Unit Test 3 was a significant predictor of students' final grades. As students' scores increased on Unit Test 3, corresponding increases were noted in final course averages. In addition, Unit Test 3 was also a predictor of course format and the paragraph goal. Online students were more likely to score higher on the test than traditional face-to-face students, indicating that the instructional materials provided were adequate for online learning and traditional learning to take place. Also, students who met the paragraph goal were more likely to score higher on Unit Test 3 than those students who did not meet the goal.

Paragraph Goal

Once students utilized all instructional materials and completed all grammar, punctuation, and unit tests, the paragraph quiz component of the class began. The goal of the written paragraph quiz component was for students to apply the 16 essential elements of communication that were learned using various technology throughout the semester by writing error-free paragraphs. Students were afforded nine opportunities to reach a goal of writing three perfect paragraphs.

Overall, the majority of students (60%), regardless of class format, failed to meet the goal of writing three perfect paragraphs. More students taking *Mechanics of Communication* in a traditional face-to-face setting achieved the paragraph goal than did students taking the course in an online format; 55% of traditional face-to-face students met the paragraph goal compared to only 29% of online students. Achieving the goal of writing three paragraphs was significant in that students must understand the 16 essential elements of communication in order to reach the goal. Class format, Unit Test 3, and the final exam were significant predictors of the paragraph goal. Students who met the paragraph goal were more likely to be in a traditional class format and more likely to score higher on Unit Test 3 and the final exam than students who did not meet the goal.

The findings of this study showed that a larger percentage of students failed to reach the paragraph goal, which was consistent with the literature review. According to Oxford Learning (2008) and Sinclair (2010), many of the concepts necessary for students to understand the essential elements of written communication are difficult with multiple reasons for the difficulty identified. Punctuation rules accounted for 7 of the 16 essential elements of communication taught in *Mechanics of Communication* and are often

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difficult to learn due to the complexity of the concepts and the exceptions that accompany many of the rules. The intricacies of grammar and punctuation rules can create barriers to error-free written communication. The three main areas that were identified as problematic areas included punctuation (Oxford Learning, 2008), grammar rules (Sinclair, 2010), and appropriate word usage (Bovee & Thill, 2010). These problematic areas were addressed in the 16 essential elements of communication that were taught in the course using various forms of technology.

The statistical test results of the paragraph quiz component were somewhat conflicting with the quiz and test results. Online students were more likely to score higher than traditional face-to-face students on the tests covering the 16 essential elements of communication that were taken throughout the semester, yet these online students were less likely to achieve the paragraph goal. Understanding the 16 essential elements of communication did not seem to be a problem for online students as these students were more likely to score higher on the majority of the individual tests covering the elements. The technology covering the elements appeared to be adequate for online learning to occur. Online students may have been more likely to score better on the tests covering the 16 essential elements because these students were required to learn instructional material without the assistance of physical class lectures that traditional face-to-face students received.

Online learning requires self-regulated learning (Gilbert, 2015). Self-regulated learning allows students to focus more time on the individual objectives that are more difficult to learn and less time on objectives that are more easily learned, all of which vary from student to student. Self-regulated learning benefits English language learners

and has been noted to increase successes in mastering the language, which may have accounted for the favorable online student learning outcomes (Kuama & Intharaska, 2016).

However, these same online students had trouble applying the learned elements to written communication as evidenced by the majority of online students failing to meet the paragraph goal. This disconnect between understanding the 16 essential elements of communication and applying them may have been due to the lack of technology including multimedia elements and communication opportunities for the majority of students who enrolled in the online formats of the class.

Prior to the last four semesters of the data collection period, online students were not required to participate in communication activities in the class. These students received the written instructional materials and were required to complete the quizzes and tests. The only form of additional communication that students received was the feedback on written paragraph quizzes provided by the course instructor. Instructor-student and student-student communication opportunities ensued only if students initiated the interaction, which was not consistent with the suggestions provided in the literature review. Communication opportunities, both synchronous and asynchronous forms, were identified as significant factors of successful online learning (Kuama & Intharaksa, 2016). Multiple forms of communication that aid in successful online learning were identified in the literature review but were lacking in online segments of *Mechanics of Communication*. Watts (2016) identified forms of asynchronous communication including discussion board activities, blogs, and Google Docs that aid in successful online learning. In addition, Lever-Duffey & McDonald (2015) identified synchronous

forms of communication that are also useful for online learning including virtual meeting rooms, video conferencing, and educational gaming.

Final Exam

The final exam was taken after all CWC tests, all PCT tests, all unit tests, and all paragraph quizzes were completed. The final exam was comprehensive and covered all of the 16 essential elements of communication. Not only was the final exam a significant predictor of students' final grades, as one increased so did the other, but the exam was also a predictor of class format and the paragraph goal. The average grade scored on the final exam for online students was a 75.05 and a 68.21 for traditional students. Traditional face-to-face students were less likely to score higher on the final exam than were online students. In addition, traditional face-to-face students were also less likely to score higher than online students on the majority of quizzes and unit tests throughout the semester.   This phenomenon was significant in that traditional face-to-face students were more likely to score lower on all of the tests covering the 16 essential elements but more likely to achieve the paragraph goal. This phenomenon was also significant with final grade averages.

Final Course Grades

Despite the fact that online students were more likely to score higher on the grammar and punctuation tests administered throughout the semester and the final exam, traditional face-to-face students averaged a 73.31 on final course grades and were more likely to receive higher final course grades than were online students who averaged a 70.95.   Traditional face-to-face students were more likely to score higher final averages because these students were more likely to meet the written paragraph quiz goal. As part

of the course design employed in *Mechanics of Communication*, all students, regardless of class format, who were able to write three perfect paragraphs were awarded a grade of 100; students who failed to meet the goal received a grade of zero. No in-between grades were awarded. The heavy weight placed on this paragraph quiz grade potentially had a negative effect on the final grades earned by online students who were less likely to achieve the paragraph quiz goal; these statistics are problematic when considering the larger number of students who took the course in an online format.

A plausible reason that online students were more likely to comprehend the 16 essential elements of communication yet were less likely to be able to apply them to written communication may have been a result of the outdated instructional materials that were used in the course. Instructional materials included in *Mechanics of Communication* were created using dated technology such as non-interactive PowerPoint and written instructional learning manuals. The literature review indicated that an abundance of technology is available that enhances instructional material to be more engaging and motivational for students. According to Chakowa (2018), instructional materials created and delivered using Web 2.0 technology has been proven to provide students the motivation to learn new concepts while keeping their attention (Simonson et al, 2009). A variety of instructional materials utilizing technology such as audio and visual components in addition to the written components was missing from online sections of the course. Traditional face-to-face students received benefits that online students did not receive; these benefits should be replicated in online courses using updated technology.

Advantages of Traditional Face-to-Face Learning Formats. As indicated in the literature review, traditional face-to-face learning formats offer advantages to students learning English grammar and punctuation. Students learning English grammar and punctuation in a traditional class setting have the advantage of weekly accessibility to instructors who teach students concepts in physical, face-to-face environments (Hassan, Abiddin, & Yew, 2014). Course concepts can be verbally explained in the synchronous environments of traditional face-to-face courses (Kuama & Intharksa, 2016). Social interactions with instructors and classmates are also facilitated (Bejerano, 2008), and these social interactions enhance the learning experiences for students learning English grammar and punctuation (Gyamfi & Sukseemuang, 2018). The successes experienced by traditional students in meeting the paragraph goal and earning higher final course grades were likely due to the social interactions with instructors and classmates that ensued throughout the semester.

The conclusions of the statistical tests indicated that the original, unmodified course design using multiple forms of technology and implemented in both traditional face-to-face and online formats of *Mechanics of Communication* was more effective in the traditional face-to-face class formats. These students were more likely to achieve the paragraph goal and were more likely to receive higher final grades in the course relative to students taking the course in online formats. Although online students seemed to comprehend the 16 essential elements of communication, they were less likely to be able to apply the elements to written communication. Modifications to the instructional materials using updated technology are warranted in online class formats to help these students achieve the goal of writing error-free written communication.

The statistical tests generated to answer the research questions were effective in providing useful information concerning the effectiveness of the technology implemented in the course design in both online and traditional face-to-face formats. The class format as originally designed was more effective in traditional face-to-face formats. The original course design contained dated technology and lacked the advanced technology suggested for successful online learning formats of the class. This information may help educators who teach English grammar and punctuation improve online formats of classes. However, multiple limitations were identified in the study and are discussed below.

Limitations

Multiple limitations to this study were acknowledged by the researcher. One such limitation was that the archival grades from students attending only one community college were analyzed. BOT instructors who taught at the southern community college that served as the research setting developed the unique pedagogical design including the instructional technology that was used to teach *Mechanics of Communication*, thus making the research study unique for only one community college. The researcher anticipated that the results of this study could be generalized to a larger population benefiting other educators who teach English grammar and punctuation.

The other factors identified as limitations in this research study were due primarily to the absence of student participation in the study. The first limitation involved the theoretical frameworks that were used to guide this study. The three primary learning theories (behaviorism, cognitivism, and constructivism) were identified in the literature review as plausible theoretical frameworks for the study (Sage Publications, Inc., 2017).

Each of the three primary learning theories provided insight into how learners who possess the individual learning styles acquire knowledge (Instruction: Applying Behavioral, Cognitive, and Constructivist Approaches, 2017). All students possess individual learning styles that allow for successful learning to take place. In addition to different individual learning styles, students entered *Mechanics of Communication* with varying degrees of knowledge and understanding of English grammar and punctuation. These students would benefit from considering primary learning theories when selecting a class format. However, in this research study, the basis behind selections of class format was unknown due to the lack of student involvement.

A final limitation to this study, again resulting from lack of student participation, was the absence of information concerning students' behaviors, particularly online students, when completing class assignments and tests. The use of archival data was accompanied by multiple assumptions. The researcher assumed that students understood the technical skills and equipment required to take online courses, that students completed all non-graded assignments and course tasks that were designed to help increase knowledge, that students spent the suggested amount of time working on class assignments and taking tests, and that students sought the course instructor for help when needed. Feedback regarding students' behaviors while completing the class was lacking, thus creating the final limitation to this study.

Based on the results of this study coupled with the limitations that were identified, the researcher suggested recommendations for policy or practice that may benefit other educators who teach English grammar and punctuation courses.

Recommendations for Policy or Practice

Business and Industry rely on workforce trained employees who possess the skill sets necessary for everyday business operations, including written communication skills (Association for Career & Technical Education, 2018). In turn, these businesses rely on educational institutions, such as institutions that offer Business and Office technology programs (BOT), to produce workforce skilled employees. BOT programs focus on teaching students a multitude of workplace skills, including written communication skills, in two-year programs (Mississippi Community College Board, 2016). Current literature outlined in this research study suggested that communication skills among college-educated students are declining (Guffey & Loewy, 2013; Rios et al, 2017). The results of this study may help to improve the instruction that students receive and may ultimately help to improve the skill sets of students who will eventually fill positions in the workforce.

The literature review indicated that for successful online learning to ensue, course design (Kurt, 2015) and communication opportunities (Wicks, et al, 2015) play significant roles in this success. Adding communication opportunities using various forms of technology may help improve the instances of online students' abilities to write grammatically correct paragraphs (Watts, 2016). The literature review indicated that both asynchronous and synchronous forms of communication provide merit for online students.

Adding asynchronous forms of communication such as blogs (Guffey & Loewy, 2013) and discussion board assignments (Lever-Duffy & McDonald, 2015) may help increase the social presences that are developed in online formats of the class; the

addition of these asynchronous communication opportunities can also provide the extra writing practice that may help strengthen students' writing skills.

Conversely, adding synchronous forms of communication to online course designs can provide real-time access to course instructors. Requiring students to participate in virtual class meetings periodically throughout the semester may help improve students' application of the 16 essential elements of communication to written communication. The benefits of virtual class meetings mimic the benefits that students in traditional face-to-face class settings received such as verbal and non-verbal communication opportunities and personalized course interactions (Lever-Duffy & McDonald, 2015). These elements, according to the literature, have helped to improve online learning successes for many students.

A second area that can help all students comprehend and apply the 16 essential elements of communication, regardless of class format, involves enhancing troublesome areas with Web 2.0 technology instructional tools. In addition to supplying the instructional materials that were created by the course designers, concrete examples using multimedia tools can be created to illustrate the process involved in applying the 16 essential elements of communication in the writing process. Using collaborative software such as Google Docs, students can work in groups to create and analyze written communication (Suwantarathip & Wichadee, 2014). Blogging assignments provide an avenue for students to practice writing skills and for instructors and classmates to provide feedback (Guffey & Loewy, 2013). Course instructors can also add videos explaining course concepts which, in turn, may help build rapport between the course instructor and students.

A final suggestion involves adding assignments that require the use of social media tools. Most students utilize social media sites in both personal and professional settings (Hamilton, Franks, Heidel, McDonough, & Suda, 2016; Lever-Duffy& McDonald, 2015). Using social media, students can join groups and network with other students who are learning English grammar and punctuation or who are learning to create written communication, which as identified in the literature review, were beneficial to English language learners (Kuama & Intharaksa, 2016).

In addition to the recommendations for utilizing the results of the research study for policy or practice, the researcher also identified recommendations for future research.

Recommendations for Future Research

This research study focused on a class entitled *Mechanics of Communication* and sought to determine if the technology included in the course design was effective for both traditional face-to-face and online formats of the class. The course, which focused on 16 essential elements of communication, was originally designed for a traditional face-to-face format. However, the trend in enrollment shifted away from a traditional face-to-face format and toward an online format. With the growing enrollment in online learning, opportunities to expand the depth of this study exist, and several recommendations for expanding this research are suggested; these opportunities include both quantitative and qualitative research methods. Regardless of the research method employed, in order to gain additional understanding of students' performance in class and of their abilities to comprehend and apply the elements of communication, data from students need to be collected.

First, the study would benefit from the involvement of current students via quantitative research methods, thus addressing the assumptions outlined in this study. Understanding the basis used by students to select the appropriate course format would provide a benefit to educators teaching English grammar and punctuation as these factors could be considered when courses are designed to help improve student learning outcomes. Factors that influence course format selection by students should include individual learning styles, available time to commit to participating and completing the class, and the level of knowledge of grammar and punctuation prior to taking the course. In addition, understanding student demographic information such as gender, age range, ethnicity, and highest level of education completed may further impact student learning outcomes. This quantitative data can be gathered using student questionnaires, and the information can help educators select instructional materials and course designs that address individual learning needs.

The study would also benefit from the rich data that is collected through qualitative methods. Future research studies employing qualitative interviews would help educators understand the specific behaviors, the perceptions, and the suggestions of students taking the class. This information may help generate unique instructional materials and methods that have not yet been considered by educators but will help future students learning English grammar and punctuation.

Finally, the statistical tests included in this study indicated that the additions of technology-enhanced instructional materials and methods in online formats were not significant predictors of online class formats; the non-significant test results were likely due to the small numbers of students who received this technology. Adding advanced

technology including multimedia and communication components and then replicating the study with a sample of students who were all exposed to the addition of this technology may verify the review of the literature that indicated that these components lead to successful online learning.

<div align="center">Summary</div>

The need for successful online learning practices has proven significant in the technology age in which post-secondary educational institutions currently operate. In addition, instructional technology provided to students studying English grammar and punctuation is a primary focus for both educators and employers in the workforce as many students are reported completing college degrees but lacking adequate skills to communicate in writing. This research study focused on these two elements, technology implemented in the class format and written communication skills, as related to the course design in an English grammar and punctuation course. The results of this study helped to identify how instruction can be improved for students who are choosing online learning environments more frequently each year to learn grammar and punctuation skills, as well as for students who take traditional face-to-face class formats. In addition, recommendations for future research, if completed by interested parties, will supplement and enhance the results of this study.

APPENDIX A – INSTRUMENTATION DESCRIPTIONS

Part A: Correct Word Choice (CWC) Tests

CWC Tests. CWC tests contained the same structure and format. Each test contained

words that are often confused or used incorrectly in written communication as well as

adjectives. Sentences contained a blank line, and students selected the appropriate word

from a list of two words based on the context for each sentence.

Part B: Punctuation (PCT) Tests

PCT Test 1. PCT Test 1 included elements from both grammar and punctuation. The

material focused on comma usage but also included prepositions and conjunctions.

Students selected the correctly-punctuated sentence from the three choices provided.

PCT Test 2. PCT Test 2 consisted of colon, semi-colon, and adverb questions. Students

selected the sentence that was punctuated correctly from the three choices provided.

PCT Test 3. PCT Test 3 covered several miscellaneous elements including interjections,

dashes, parenthesis, quotation marks, and brackets. Ending punctuation was also covered

in PCT Test 3. Students selected the correctly punctuated sentence from the three

possible choices.

PCT Test 4. PCT Test 4 covered the rules for capitalization, and students selected the

answer containing the appropriate punctuation from the two phrases provided.

PCT Test 5. PCT Test 5 covered number formatting. Each question required the student

to choose the number that was expressed correctly. The two answer choices included

numbers that were included in phrases.

Part C: Unit Tests

Unit Test 1. Unit Test 1 covered nouns, the first part of speech. This test covered singular, plural, and possessive nouns. Test questions included both definitions of the categories of nouns and questions that required students to apply the rules and select the correct noun for each sentence.

Unit Test 2. The second unit test covered pronouns. Students indicated understanding of personal, indefinite, relative, interrogative, and demonstrative pronouns. The test also covered pronoun antecedents.

Unit Test 3. Verbs constituted the content on Unit Test 3 including verb tenses, subject-verb agreement, and commonly misused verbs. Students provided knowledge of understanding of the tenses and subject/verb agreement with different types of verbs including active, passive, and "be" verbs.

Office of Research Integrity

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To Whom It May Concern,

Acting on behalf of The University of Southern Mississippi Institutional Review Board, in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University guidelines, I have reviewed the following project and have determined that review by USM's IRB is not necessary.

Principal Investigator: Deborah Brandon

Title: "Effectiveness of Class Design in an English Grammar and Punctuation Course"

Date Submitted: February 8, 2019

Formal IRB review is not required in this instance, as the project does not meet federal or institutional definitions of "human subjects research."

Sincerely,

Samuel V. Bruton
Director of the Office of Research Integrity

REFERENCES

Akcaoglu, M., & Lee, E. (2016). Increasing social presence in online learning through

    small group discussions. *International Review of Research in Open and*

    Distributed Learning, *17*(3), 1–17. Retrieved from

    http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr

    ue&db=eric&AN=EJ1102673&site=ehost-live

Al-Shehri, S., & Gitsaki, C. (2010). Online reading: A preliminary study of the impact of

    integrated and split-attention formats on l2 students' cognitive load. *ReCALL*, 22,

    356–375. https://doi-org.lynx.lib.usm.edu/DOI: 10.1017/S0958344010000212.

An, Y. J., Aworuwa, B., Ballard, G., & Williams, K. (2009). Teaching with web 2.0

    technologies: Benefits, barriers and best practices. *AECT Annual Proceedings, 1,*

    1-6. Retrieved from

    https://members.aect.org/pdf/Proceedings/proceedings09/2009/09_1.pdf

Anderson, L., & Bolt, S. (2013). *Professionalism skills for workplace success* (3rd ed.).

    Upper Saddle River, NJ: Pearson Education, Inc.

Anderson, T. (2008). *The theory and practice of online learning*. Edmonton, AB: AU

    Press.

Association for Career & Technical Education. (2019). *Basic facts*. Retrieved from

    https://www.acteonline.org/why-cte/what-is-cte/basic-facts/

Awofeso, N., & Bamidele, M. (2016). Efficient instructor feedback: Perceptions of online

    UAE undergraduate and postgraduate public health learners. *Proceedings of the*

    *International Conference on E-Learning, 11,*1–12. Retrieved from

http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr
ue&db=eue&AN=117804575&site=ehost-live

Banner, P. (2014). *The pedagogy of learning design*. Retrieved from Insync training
website:

https://www.insynctraining.com/pages/Pedagogy_of_Learning_Design.pdf

Barnard, L., Paton, V., & Lan, W. (2008). Online self-regulatory learning behaviors as a
mediator in the relationship between online course perceptions with achievement.
International Review of Research in Open & Distance Learning, 9(2)*,* 1-11.

Barnett, R. S. (1977). The grammar barrier. *National Review*, *29*(6), 210.

Bartimote-Aufflicka, K., Adam Bridgeman, A., Walker, R., Sharma, M., & Smith, L.
(2016). The study, evaluation, and improvement of university student self-
efficacy. *Studies in Higher Education*, *41*(11)*,* 1918-1942.
doi:10.1080/03075079.2014.999319

Bejerano, A. (2008, June 1). Face-to-face or online instruction: Face-to-face is better.
National Communication Association. Retrieved from
https://www.natcom.org/communication-currents/face-face-or-online-instruction-
face-face-better

Berger, K., & Topol, M. (2001). Technology to enhance learning: Use of a web site
platform in traditional classes and distance learning. *Marketing Education
Review*, *11*(3), 15–26. Retrieved from
http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr
ue&db=bth&AN=5785338&site=ehost-live

Best Colleges. (2019). *2018 online education trends report*. Retrieved from

    https://www.bestcolleges.com/perspectives/annual-trends-in-online-education/

Bhagat, A., Vyas, R., & Singh, T. (2015). Students' awareness of learning styles and their

    perceptions to a mixed method approach for learning. *International Journal of*

    Applied and Basic Medical Research, 5(Suppl 1)*,* S58–S65.

    http://doi.org/10.4103/2229-516X.162281

Bharathi, A. V. (2016). Communication skills – core of employment skills: Issues and

    concerns. *Higher Learning Research Communications, 6*(4).

Black, G. (2002). A comparison of traditional, online and hybrid methods of course

    delivery. *Journal of Business Administration Online, 1*(1)*,* 1-9. Retrieved from

    https://www.atu.edu/jbao/spring2002/black.pdf

Blau, I., Weiser, O., & Eshet-Alkalai, Y. (2017). How do medium naturalness and

    personality traits shape academic achievement and perceived learning? An

    experimental study of face-to-face and synchronous e-learning. *Research in*

    Learning Technology, 25, 1-23*.*

Bovee, C., & Thill, J. (2010). *Business communication essentials: A skills-based*

    approach to vital business English (4th ed.)*.* Upper Saddle River, NJ: Pearson

    Education, Inc.

Bradley, R. L., Browne, B. L., & Kelley, H. M. (2017). Examining the influence of self-

    efficacy and self-regulation in online learning. *College Student Journal*, *51*(4),

    518–530. Retrieved from

    http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr

    ue&db=tfh&AN=126676696&site=ehost-live

Brandon, D. (2016). (*Communication and collaboration in distance learning*.)

Unpublished manuscript, Department of Curriculum, Instruction, and Special

Education, The University of Southern Mississippi, Hattiesburg, MS.

Brandon, D. (2016). (*Model theory comparison paper*). Unpublished manuscript,

Department of Curriculum, Instruction, and Special Education, The University of

Southern Mississippi, Hattiesburg, MS.

Brierton, S., Wilson, E. B., Kistler, M., Flowers, J., & Jones, D. (2016). A comparison of

higher order thinking skills demonstrated in synchronous and asynchronous

online college discussion posts. *NACTA Journal, 60*(1), 14-21.

Britt, M. (2015). How to better engage online students with online strategies. *College

Student Journal, 49*(3), 399-404.

Burgess, O. O. (2015). Cyborg teaching: The transferable benefits of teaching online for

the face-to-face classroom. *Journal of Online Learning & Teaching*, *11*(1), 112-

121.

Burns, M. (2014, September 19). Top 5 online learning skills that online instructors

should have. *eLearning Industry*. Retrieved from

http://elearningindustry.com/top-5-online-learning-skills-online-instructors

CCW Staff. (2016, September 20). Two-year certificates. *Community College Week.*

Retrieved from http://ccweek.com/article-5299-two-year-certificates.html

Chakowa, J. (2018). Enhancing beginners' second language learning through an informal

online environment. *Journal of Educators Online*, *15*(1). Retrieved from

http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr

ue&db=eric&AN=EJ1168942&site=ehost-live

Challoo, L., Saldana, J., Davis, R., & Kupczynski, L. (2010). Successful Internet based

online instruction. *Journal of Educational Technology, 7*(1), 30-39.

Cheesebro, T., O'Connor, L., & Rios, F. (2010). *Communicating in the workplace*. Upper

Saddle River, NJ: Pearson Education, Inc.

Chung-Yuan, H., Meng-Jung, T., Yu-Hsuan, C., & Jyh-Chong, L. (2017). Surveying in-

service teachers' beliefs about game-based learning and perceptions of

technological pedagogical and content knowledge of games. *Journal of*

Educational Technology & Society, 20(1), 134-143.

Clark, J. L., & Clark, L. R. (2007). *How 11: A handbook for professionals*. Mason, OH:

Thomson Higher Education.

Clues to concise writing. (2010). *Vocabula Review*, *12*(5), 1-2.

Dixson, D. D., & Worrell, F. C. (2016). Formative and summative assessment in the

classroom. *Theory into Practice, 55*(2), 153–159. https://doi-

org.lynx.lib.usm.edu/10.1080/00405841.2016.1148989

Doyle, A. (2019). Learn about job-specific skills. *The Balance Careers.* Retrieved from

https://www.thebalancecareers.com/what-are-job-specific-skills-2063755

Farrington, I. (2007). Learning styles: A focus upon e-learning practices and their

implications for successful instructional design. *Education Faculty Publications,*

4(1), 7-20. Retrieved from

http://digitalcommons.sacredheart.edu/cgi/viewcontent.cgi?article=1120&co

ntext=ced_fac

Fayer, L. (2014). A multi-case study of student perceptions of online course design

elements and success. *International Journal for the Scholarship of Teaching &*

Learning, *8*(1), 1–27. Retrieved from

http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr

ue&db=eue&AN=94992027&site=ehost-live

Field, A. (2009). *Discovering statistics using SPSS.* Los Angeles, CA: Sage Publications.

Figurska, I., & Sokół, A. (2016). The process of knowledge acquisition with the use of

various teaching methods and its effect on the creativity of employees of the

creative sector. *Mediterranean Journal of Social Sciences*, *7*(6), 143-152.

http://dx.doi.org/10.5901/mjss.2016.v7n6p143

Flatley, M., & Rentz, K. (2010). *Business communication*. New York, NY: McGraw-

Hill/Irwin.

Friedman, J. (2018, January 11). Study: More students are enrolling in online courses.

U.S. News. Retrieved from https://www.usnews.com/higher-education/online-

education/articles/2018-01-11/study-more-students-are-enrolling-in-online-

courses

Gay, L. (1996). *Educational research: Competencies for analysis and application*. Upper

Saddle River, NJ: Prentice-Hall, Inc.

Gilbert, B. (2015). *Online learning: Revealing the benefits and challenges* (Master's

thesis). Retrieved from Fisher Digital Publications. (Paper 303)

Grant, C. G., & Osanloo, A. (2014). Understanding, selecting, and integrating a

theoretical framework in dissertation research: Creating the blueprint for your

"house." *Administrative Issues Journal: Education, Practice & Research*, *4*(2),

12-26. doi:10.5929/2014.4.2.9

Guffey, M. E., & Loewy, D. (2013). *Essentials of business communication (ninth edition).* Mason, OH: Cengage Learning.

Guffey, M. E., & Seefer, C. (2008). *Business English* (9th ed.)*.* Mason, OH: Thomson South-Western.

Gyamfi, G., & Sukseemuang, P. (2018). EFL learners' satisfaction with the online learning program, tell me more. *Turkish Online Journal of Distance Education*, *19*(1), 183–202. Retrieved from http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1165887&site=ehost-live

Hamilton, L. A., Franks, A., Heidel, R. E., McDonough, S. L., & Suda, K. J. (2016). Assessing the value of online learning and social media in pharmacy education. *American Journal of Pharmaceutical Education*, *80*(6), 97. https://dx.doi.org/10.5688%2Fajpe80697

Hanna, S. (2009). *Career by design: Communicating your way to success* (4th ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Harrell, L. (2013). *A learner centered approach to online education*. Charlotte, NC: Information Age Publishing.

Harrison, A. W., Rainer, R. J., Hochwarter, W. A., & Thompson, K. R. (1997). Testing the self-efficacy–performance linkage of social–cognitive theory. *The Journal of Social Psychology, 137*(1), 79-87. doi:10.1080/00224549709595415

Hassan, A., Abiddin, N. Z., & Yew, S. K. (2014). The philosophy of learning and listening in traditional classroom and online learning approaches. *Higher Education Studies*, *4*(2), 19-28.

Henry, M., Carroll, F., Cunliffe, D., & Kop, R. (2018). Learning a minority language
through authentic conversation using an online social learning method. *Computer
Assisted Language Learning*, *31*(4), 321–345. https://doi-
org.lynx.lib.usm.edu/10.1080/09588221.2017.1395348

Hodges, T. S. (2017). Theoretically speaking: An examination of four theories and how
they support writing in the classroom. *The Clearing House: A Journal of
Educational Strategies*, *Issues and Ideas, 90*(4)*,* 139-
146. https://doi.org/10.1080/00098655.2017.1326228

Hong, J. C., Hwang, M. Y., Tai, K. H., & Lin, P. H. (2017). Intrinsic motivation of
Chinese learning in predicting online learning self-efficacy and flow experience
relevant to students' learning progress. *Computer Assisted Language Learning*,
30(6), 552–574. https://doi-
org.lynx.lib.usm.edu/10.1080/09588221.2017.1329215

Hsu, M. H. (2008). A personalized English learning recommender system for ESL
students. *Expert Systems with Applications, 34*(1), 683-688*.*
https://doi.org/10.1016/j.eswa.2006.10.004

Hudson, A. (n.d.). The advantages of traditional schools. *Seattle Pi.* Retrieved from
https://education.seattlepi.com/advantages-traditional-schools-2140.html

Jackson County Economic Development Foundation, Inc. (2015). *Workforce Training*.
Retrieved from http://www.jcedf.org/index.php/workforce/workforce-training

Kak, S. (2018, January). Will traditional colleges and universities become obsolete?
Smithsonian.com. Retrieved from

https://www.smithsonianmag.com/innovation/will-traditional-colleges-

universities-become-obsolete-180967788/

Kantar, L. L. (2013). Demystifying instructional innovation: The case of teaching with

case studies. *Journal of the Scholarship of Teaching & Learning*, *13*(2), 101-115.

Kauffman, H. (2015). A review of predictive factors of student success in and satisfaction

with online learning. *Research in Learning Technology, 23*, 1-13. Retrieved

from http://dx.doi.org/10.3402/rlt.v23.26507

Kear, K. (2010). Social presence in online learning communities. In L. Dirckinck-

Holmfeld, V. Hodgson, C. Jones, M. de Laat, D. McConnell, & T. Ryberg (Eds.),

Proceedings of the 7th International Conference on Networked Learning (pp.

541-548). Retrieved from

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.626.8591&rep=rep1&t

ype=pdf

Kowalski, T. J., Dolph, D., & Young, I. P. (2014). Student motives for taking online

courses in educational administration. *Educational Research Quarterly*, *38*(1), 27-

42.

Kuama, S., & Intharaksa, U. (2016). Is online learning suitable for all English language

students? *PASAA: Journal of Language Teaching and Learning in Thailand*, *52*,

53–82. Retrieved from

http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr

ue&db=eric&AN=EJ1134684&site=ehost-live

Kumar, D. (2015). Pros and cons of online education. Retrieved from NC State Industry

   Expansion Solutions website: https://www.ies.ncsu.edu/resources/white-

   papers/pros-and-cons-of-online-education/

Kuo, Y. C., Walker, A., Belland, B., & Schroder, K. (2013). A predictive study of student

   satisfaction in online education programs. *The International Review of Research*

   in Open and Distributed Learning, *14*(1), 16-39.

Kuo, Y. C., Walker, A., Belland, B., Schroder, K., & Kuo, Y. T. (2014). A case study of

   integrating interwise: Interaction, internet self-efficacy, and satisfaction in

   synchronous online learning environments. *International Review of Research in*

   Open and Distance Learning, *15*(1), 161–181. Retrieved from

   http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr

   ue&db=eric&AN=EJ1024348&site=ehost-live

Kurt, S. (2015, November). ASSURE: Instructional design model. *Educational*

   Technology. Retrieved from http://educationaltechnology.net/assure-instructional-

   design-model/

Ladin, M. (2015). Communication and collaboration: Why they're one and the same.

   Retrieved from Tiger Connect website: http://www.tigertext.com/communication-

   collaboration-theyre-one/

Language barriers to communication. (2018). *Businesstopia.* Retrieved from

   https://www.businesstopia.net/communication/language-barriers

La Sala, M. C. (2018). Enhancing written language skills during the year abroad through

   online independent learning. In R. Biasini & A. Proudfoot (Eds.), *Using digital*

resources to enhance language learning – case studies in Italian (pp. 17-27).

https://doi.org/10.14705/rpnet.2018.24.795

Learn.org. (n.d). *What type of degree programs are offered at community colleges?*

Retrieved from

https://learn.org/articles/What_Type_of_Degree_Programs_are_Offered_at_Com

munity_Colleges.html

Lever-Duffy, J., & McDonald, J. B. (2015). *Teaching and learning with technology.*

Upper Saddle River, NJ: Pearson.

Linking classroom assessment with student learning. (2003). *Educational Testing*

Service. Retrieved from

https://www.ets.org/Media/Tests/TOEFL_Institutional_Testing_Program/ELLM2

002.pdf

Locker, K. (1997). *Business and administrative communication.* New York, NY:

McGraw-Hill Companies, Inc.

Lorenzo, A. (2017). Comparative study on the performance of bachelor of secondary

education (BSE) students in educational technology using blended learning

strategy and traditional face-to-face instruction. *TOJET: The Turkish Online*

Journal of Educational Technology, 16(3), 36-46. Retrieved from

https://files.eric.ed.gov/fulltext/EJ1152658.pdf

MacDonald, K. (2018). A review of the literature: The needs of nontraditional students in

postsecondary education. *Strategic Enrollment Management Quarterly, 5*(4), 159-

164. Retrieved from https://onlinelibrary.wiley.com/doi/full/10.1002/sem3.20115

Maasin-Ceballos, M. J., & Ceballos, R. F. (2018). Learner-centered approaches: Their

    effect on the oral fluency of students. *Journal of Language & Education*, *4*(1), 6–

    17. https://doi-org.lynx.lib.usm.edu/10.17323/2411-7390-2018-4-1-6-17

Mastering soft skills for workplace success. (n.d.). Retrieved from the U.S. Department

    of Labor website:

    https://www.dol.gov/odep/topics/youth/softskills/Communication.pdf

Mazoue, J. (2003). Essential elements: Prepare, design, and teach your online

    course. *College & University Media Review*, *9*(2), 107–110. Retrieved from

    http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr

    ue&db=inh&AN=7886897&site=ehost-live

McLeod, S. (2017). What's the difference between qualitative and quantitative research.

    Simply Psychology. https://www.simplypsychology.org/qualitative-

    quantitative.html

McLeod, S. (2018). Bruner. *Simply Psychology*. Retrieved from

    https://www.simplypsychology.org/bruner.html

Mergel, B. (1998). *Instructional design and learning theory*. Unpublished manuscript,

    Department of Educational Communications and Technology, University of

    Saskatchewan, Saskatoon, Canada. Retrieved from

    http://etad.usask.ca/802papers/mergel/brenda.htm

Metivier, A., & Smith, J. (2019). *How to memorize English grammar rules*. Retrieved

    from https://www.udemy.com/english-grammar-rules

Mississippi Coast Alliance for Economic Development. (n.d.). *Workforce and Training*.

    Retrieved from http://mscoastalliance.com/workforce-training/

Mississippi Community College Board. (2019). *A curriculum download*. Retrieved from

    http://www.mccb.edu/OCI/currdownload.aspx

Mississippi Community College Board. (2016). *Business technology: Mississippi*

    curriculum framework. Retrieved from

    http://sbcjcweb.sbcjc.cc.ms.us/oci/pdfs/ci/pathway/Business%20Technology%20

    Curriculum%202016%20FINAL%20Copy.pdf

Mississippi Gulf Coast Community College. (2019). *Career and technical programs*.

    Retrieved from http://catalog.mgccc.edu/content.php?catoid=15&navoid=1210

Mississippi Gulf Coast Community College. (2019). *Jefferson Davis campus: About the*

    campus. Retrieved from https://mgccc.edu/campus/jefferson-davis-campus/

Moloney, J. F., & Oakley II, B. O. (2010). Scaling online education: Increasing access to

    higher education. *Journal of Asynchronous Learning Networks*, *14*(1), 79-94.

Moore, J. (2014). Effects of online interaction and instructor presence on students'

    satisfaction and success with online undergraduate public relations

    courses. *Journalism and Mass Communication Educator*, *69*(3), 271–288.

    Retrieved from

    http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr

    ue&db=eric&AN=EJ1037410&site=ehost-live

Moreillon, J. (2015). Increasing interactivity in the online learning environment: Using

    digital tools to support students in socially constructed meaning-making.

    Techtrends, 59(3), 41-47.

Motameni, R. (2018). The combined impact of the flipped classroom, collaborative

    learning, on students' learning of key marketing concepts. *Journal of University*

Teaching & Learning Practice, *15*(3), 1–18. Retrieved from

http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr

ue&db=eue&AN=131840633&site=ehost-live

Nagel, L., Blignaut, A. S., & Cronjé, J. C. (2009). Read-only participants: A case for

student communication in online classes. *Interactive Learning*

Environments, *17*(1), 37–51. https://doi-

org.lynx.lib.usm.edu/10.1080/10494820701501028

Oxford Learning. (2008). *Problems with punctuation.* Retrieved from

https://www.oxfordlearning.com/problems-with-punctuation/

Ozola, S. (2012). Student-centered learning: A dream or reality. *Bulgarian Comparative*

Education Society, *10*, 425-429. https://files.eric.ed.gov/fulltext/ED567102.pdf

Paduraru, C. (n.d.). *The advantages of traditional classroom learning*. Retrieved from

https://classroom.synonym.com/advantages-traditional-classroom-learning-

7964781.html

Pearson Education, Inc. (2018, May). *What do generation Z and millennials expect from*

technology in education? Retrieved from https://www.pearsoned.com/generation-

z-millennials-expect-technology-education/

Pediaa. (2015, October 14). *Difference between grammar and punctuation*. Retrieved

from http://pediaa.com/difference-between-grammar-and-punctuation/

Pellas, N., & Peroutseas, E. (2016). Gaming in second life via scratch4SL. *Journal of*

Educational Computing Research, *54*(1), 108–143. https://doi-

org.lynx.lib.usm.edu/10.1177/0735633115612785

Perry, E. H., & Pilati, M. L. (2011). Online learning. *New Directions for Teaching and Learning*, *2011*(128), 95-104. https://doi.org/10.1002/tl.472

Perveen, A. (2016). Synchronous and asynchronous e-language learning: A case study of virtual university of Pakistan. *Open Praxis, 8*(1), 21–39. Retrieved from https://files.eric.ed.gov/fulltext/EJ1093436.pdf

Peslak, A., Kovalchick, L., Wang, W., & Kovacs, P. (2018). Attitudes toward course delivery: A multi-university study of online, on-ground, and hybrid instruction. *Information Systems Education Journal*, *16*(4), 27–33. Retrieved from http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1187946&site=ehost-live

Pilat, D. (2016). Content development for 72,000 learners: An online learning environment for general practitioners: A case study. *International Association for Development of the Information Society*, 28-34. Retrieved from http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED571473&site=ehost-live

Price, P. C., Jhangiani, R. S., & Chiang, I. C. A. (2015). *Research methods in psychology*, 2nd Canadian ed.). Retrieved from https://opentextbc.ca/researchmethods/chapter/correlational-research/

Reddy, Y., & Andrade, H. (2010). A review of rubric use in higher education. *Assessment & Evaluation in Higher Education, 35*(4), 435–448. Retrieved from http://class.web.nthu.edu.tw/ezfiles/669/1669/img/1381/6.Areviewofrubricuseinhighereducation.pdf

Revermann, S. (n.d.). What is the difference between vocational and technical courses?
Seattle Pi. Retrieved from https://education.seattlepi.com/difference-between-vocational-technical-courses-3063.html

Rios, J. A., Sparks, J. R., Zhang, M., & Liu, O. L. (2017). *Development and validation of the written communication assessment of the "HEIghten"® outcomes assessment suite* (Report No. ETS RR-17-53). Retrieved from https://onlinelibrary.wiley.com/doi/pdf/10.1002/ets2.12185

Roblyer, M., Porter, M., Talbot, B., & Donaldson, M. (2009). Teaching online made me a better teacher: Studying the impact of virtual course experiences on teachers' face-to-face practice. *Journal of Computing in Teacher Education, 25*(4), 121-126. Retrieved from https://files.eric.ed.gov/fulltext/EJ844209.pdf

Rogo, E. J., & Portillo, K. M. (2015). E-model for online learning communities. *Journal of Dental Hygiene*, *89*(5), 293-304.

Sage Publications, Inc. (2017). *Instruction: Applying behavioral, cognitive, and constructivist approaches, module 18*. Retrieved from https://us.sagepub.com/sites/default/files/upm-binaries/79064_Module_18.pdf

Salter, S., Douglas, T., & Kember, D. (2017). Comparing face-to-face and asynchronous online communication as mechanisms for critical reflective dialogue. *Educational Action Research*, *25*(5), 790–805. https://doi-org.lynx.lib.usm.edu/10.1080/09650792.2016.1245626

Segal, G., Balik, C., Hovav, B., Mayer, A., Rozani, V., Damary, I., & Khaikin, R. (2013). Online nephrology course replacing a face to face course in nursing schools' bachelor's program: A prospective, controlled trial, in four Israeli nursing

schools. *Nurse Education Today*, *33*(12), 1587-1591.

https://doi.org/10.1016/j.nedt.2012.12.009

Sharp, H. (2014). *The right tools for the job – technology options for adult online*

learning and collaboration (Contract ED-IES-12-C0057). Retrieved from

https://files.eric.ed.gov/fulltext/ED550514.pdf

Sheehy, K. (2013, January 8). Online course enrollment climbs for 10th straight year. *U.S.*

News. Retrieved from https://www.usnews.com/education/online-

education/articles/2013/01/08/online-course-enrollment-climbs-for-10th-straight-

year

Shivakumar, S. (2018). Building America's skilled technical workforce. *Techniques:*

Connecting Education & Careers, *93*(4), 46.

Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International*

Journal of Instructional Technology and Distance Learning, 2(1), 3-10. Retrieved

from

http://er.dut.ac.za/bitstream/handle/123456789/69/Siemens_2005_Connectivism_

A_learning_theory_for_the_digital_age.pdf?sequence=1&isAllowed=y

Simon, M., & Goes, J. (2013). *Assumptions, limitations, delimitations, and scope of the*

study. Retrieved from Dissertation Recipes website:

http://www.dissertationrecipes.com/wp-content/uploads/2011/04/Assumptions-

Limitations-Delimitations-and-Scope-of-the-Study.pdf

Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2009). *Teaching and learning*

at a distance: Foundations of distance education (4th ed.). Boston, MA: Pearson

Education, Inc.

128

Sinclair, C. (2010). *Grammar: A friendly approach*. Berkshire, England: McGraw-Hill

    Education.

Smith, L., & Moore, R. (2010). *English for careers* (10th ed.). Upper Saddle River, NJ:

    Prentice Hall.

Sowell, J. (2017). Good instruction-giving in the second-language classroom. *English*

    Teaching Forum, 55(3), 10-19. Retrieved from

    https://americanenglish.state.gov/files/ae/resource_files/etf_55_3_pg10-19.pdf

Stanford, D. (2016, November). How to motivate students online: What works and what

    doesn't. *eLearning Industry.* Retrieved from

    https://elearningindustry.com/motivate-students-online-works-doesnt

Study.com. (n.d.). *Associates degrees in office administration: Program overviews.*

    Retrieved from

    https://study.com/associates_degree_in_office_administration.html

Suwantarathip, O., & Wichadee, S. (2014). The effects of collaborative writing activity

    using Google Docs on students' writing abilities. *Turkish Online Journal of*

    Educational Technology, *13*(2), 148-156.

Teach.com. (2019). *Teaching English and language arts*. Retrieved from

    https://teach.com/become/what-can-i-teach/ela/

Topacio, K. N. M. (2018). Exploring the use of online educational platform in teaching

    writing among ESL students. *Journal of Language and Linguistic Studies*, *14*(1),

    86–101. Retrieved from

    http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr

    ue&db=eric&AN=EJ1175799&site=ehost-live

U.S. Department of Labor, Bureau of Labor Statistics. (2018). *Bookkeeping, accounting, and auditing clerks*. Retrieved from https://www.bls.gov/ooh/office-and-administrative-support/bookkeeping-accounting-and-auditing-clerks.htm

U.S. News and World Report. (2019). *Mississippi Gulf Coast Community College*. Retrieved from https://www.usnews.com/education/community-colleges/mississippi-gulf-coast-community-college-CC05411

VanHuss, S., Forde, C., Woo, D., & Robertson, V. (2017). *Keyboarding & word processing essentials: Lessons 1-55* (20th ed.). Boston, MA: Cengage Learning.

Von Gillem, S., & Alaswad, Z. (2016). Games and game-based learning in instructional design. *International Journal of Technologies in Learning, 23(4)*, 1-7.

Wang, S. L., & Lin, S. J. (2007). The application of social cognitive theory to web-based learning through NetPorts. *British Journal of Educational Technology 38*(4), 600-612.

Wang, V. X., & King, K. P. (2009). *Building workforce competencies in career and technical education*. Charlotte, NC: Information Age Publishing.

Watts, L. (2016). Synchronous and asynchronous communication in distance learning. *Quarterly Review of Distance Education, 17(1)*, 23-32.

Waugh, M. L., & Jian, S. (2016). Student perceptions of a successful online collaborative learning community. *Journal of Interactive Online Learning*, *14*(1), 1-16.

Webb, A., & Moallem, M. (2016). Feedback and feed-forward for promoting problem-based learning in online learning environments. *Malaysian Journal of Learning and Instruction, 13*(2), 1-41. Retrieved from https://files.eric.ed.gov/fulltext/EJ1134728.pdf

Weegar, M. A., & Pacis, D. (n.d.). A comparison of two theories of learning theories:

   Face-face & online learning [PowerPoint]. Retrieved from https://www.g-

   casa.com/conferences/manila/ppt/Weegar.pdf

Weegar, M. A., & Pacis, D. (2012). *A comparison of two theories of learning –*

   behaviorism and constructivism as applied to face-to-face and online learning.

   Unpublished manuscript, National University, San Diego, CA. Retrieved from

   https://www.g-casa.com/conferences/manila/papers/Weegar.pdf

Weidlich, J., & Bastiaens, T. J. (2018). Technology matters--The impact of transactional

   distance on satisfaction in online distance learning. *International Review of*

   Research in Open and Distributed Learning, *19*(3), 222–242. Retrieved from

   http://lynx.lib.usm.edu/login?url=http://search.ebscohost.com/login.aspx?direct=tr

   ue&db=eric&AN=EJ1185112&site=ehost-live

Wicks, D., Craft, B., Donghum, L., Lumpe, A., Henrikson, R., Baliram, N., &Wicks, K.

   (2015). An evaluation of low versus high collaboration in online learning. *Online*

   Learning Journal, *19*(4).

Williams, K. (2010). *Basic English review* (9th ed.)*.* Mason, OH: South-Western Cengage

   Learning.

Worten, C. (2014, January). 4 tips for content chunking in e-learning. *E-Learning*

   Industry. Retrieved from https://elearningindustry.com/4-tips-for-content-

   chunking-in-e-learning

Yang, H. Y., & Yuen, S. C. (2010). *Collective intelligence and e-learning 2.0.* Hershey,

   PA: IGI Global.

Yilmaz, K. (2011). The cognitive perspective on learning: Its theoretical underpinnings

and implications for classroom practices. *The Clearing House.* Retrieved from

https://www.researchgate.net/publication/241741103_The_Cognitive_Perspective

_on_Learning_Its_Theoretical_Underpinnings_and_Implications_for_Classroom_

Practices

Zalaznick, M. (2015). Evolution of early colleges. *District Administration*, *51*(3), 65.