EXPERIENCES IN ONLINE LEARNING FOR MISSOURI SECONDARY STUDENTS: A QUALITATIVE STUDY

The undersigned, approved by the Department Chair of Graduate Studies in Education, have examined a dissertation entitled:

EXPERIENCES IN ONLINE LEARNING FOR MISSOURI SECONDARY STUDENTS: A QUALITATIVE STUDY

Presented by Jared Wooderson a candidate for the degree of Doctor of

Education and hereby certify that in their opinion it is worthy of acceptance.

Dr. Allison Langford, Advisor/Chair
Vice President for Strategic Planning and Initiatives, Southwest Baptist University

Dr. Pamela Hedgpeth, Committee Member
Graduate Education, Southwest Baptist University

Dr. Shane Dublin, Committee Member
Executive Director of Secondary Education, Springfield Public Schools

EXPERIENCES IN ONLINE LEARNING FOR MISSOURI SECONDARY STUDENTS: A QUALITATIVE STUDY

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By

Jared Wooderson, B.S., M.S.

Dr. Allison Langford, Dissertation Advisor

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Abstract

This qualitative study was conducted in order to analyze students' experiences of online learning at the secondary level. The study identified themes related to student experiences with online learning related to technology support, interaction with peers and instructors, and with course design. Interview questions were created to interview participants in order to address the research questions guiding this study. A total of 20 participants were interviewed for this study and interviews were conducted over the phone or in person. Participants were graduated students and were selected from the researcher's own school district and districts from across the state. The researcher used single and cross-question analyses to identify common words, patterns, and phrases to determine themes for each research question. The interviews lead to the following conclusions: technology support was accessible and helpful, interaction in online courses felt forced but students desired more authentic interaction with both peers and instructors, courses were easy to navigate and were organized, and students overall felt courses were nonengaging, stressful, time consuming, and unnecessarily complicated. Educational implications and suggestions for further research in online learning from the findings in this study is described.

Chapter One

Introduction

John Chambers, CEO of Cisco Systems wrote, "I believe the Internet and education are the two great equalizers in life, leveling the playing field for people, companies and countries worldwide. By providing greater access to educational opportunities through the Internet, students are able to learn more" (Denton, 2009, p.1). The Internet has changed how our world works and how knowledge is shared worldwide. Information is now readily accessible to anyone who has an Internet connection, therefore opening the door to continuous learning for anyone with the desire to learn. According to the respondents of a 2015 Blackboard survey, 40% of all public schools in the United States have designed and implemented online courses (Robinson, 2015). Although more educators are creating and implementing online courses, there is concern whether online education is of the same quality as traditional classroom environments (Allen, Seaman, Poulin, & Straut, 2016). According to the respondents of a 2014 survey conducted by the Babson Survey Research Group, 77% of online educators believed the quality of online education was the same or better than a traditional classroom environment (Allen et al., 2016). In 2015, the Babson Survey Research Group reported only 71.4% of educators teaching online courses believed the quality is the same or better than traditional classroom education (Allen et al., 2016). These data revealed a 6% decrease in the number of online educators who believed the quality of online courses is the same or better than traditional courses.

Although over 70% of online educators believed in the quality of online education, the students' perceptions of online courses should also be considered. Students

are the ones who ultimately decide whether to engage in online learning, so attracting and retaining students should be a priority of school districts (Harris & Martin, 2012). In order to attract and keep students enrolled in online courses, research must be performed to understand the experiences of students in online courses, specifically students at the secondary level. A study conducted in 2004 sought to identify the factors of student satisfaction at the secondary level. The primary factors for student satisfaction with online learning included school-level technology support, school-level instructional support, quality online curriculum programs, and social interactions (Butz, 2004). However, the study only surveyed three schools from three different states and received 195 responses from students in the third grade through 12th grade. The goal of this study was to analyze the thoughts and feelings of a select group of students who have completed online courses in high school and identify common patterns and themes.

Limited research has been performed to identify the factors of student satisfaction at the secondary level. Research is also limited that evaluated student satisfaction with current online programs at the secondary level. In determining factors for student satisfaction with online learning, the Online Learning Consortium (OLC) provides guidance. The OLC started out in 1992 as the Sloan Consortium and is a professional online learning group devoted to increasing the quality of online education worldwide. In 2014, the Sloan Consortium renamed itself the Online Learning Consortium. The OLC is a nonprofit organization with over 300 institutions and 700 individual paying members. Institutions include both private and public colleges and universities. The OLC also publishes a peer-reviewed educational journal titled *Online Learning,* formerly known as the *Journal of Asynchronous Learning Networks* (OLC, 2016).

The OLC has determined there are three main factors in student satisfaction with online learning: course rigor and fairness, instructor and peer interaction, and support services (Moore, 2011; OLC, 2016). These three factors fall under the student satisfaction pillar in the OLC's Five Pillars of Quality Online Education. The OLC has determined that student satisfaction is the most important pillar in determining the quality of an online learning program (Moore, 2011; OLC, 2016).

Although the OLC has conducted research to determine student satisfaction in higher education, the OLC has not conducted any studies related to secondary students' experiences and perceptions. Understanding students' experiences and the factors that contribute to their satisfaction in online courses will provide insights that help educators evaluate their own online programs and student experiences.

This chapter identifies the problem statement associated with this study and will also present the research questions guiding the study. The theoretical framework for this study is also discussed as well as any limitations, delimitations, and assumptions. Finally, the design controls and key definitions are discussed in this chapter.

Problem Statement

According to a 2015 report sponsored by the OLC, there are 5,800,000 collegiate level students enrolled in online courses (Allen et. al, 2016). There has been significant research involving student satisfaction with online courses at the undergraduate and graduate level; however, little research investigating student experiences with online courses at the secondary level has been conducted. According to a 2013 Blackboard survey (K. Robinson, 2015), 27% of K-12 school districts have implemented online courses for their students. In 2015, the same Blackboard survey (K. Robinson, 2015)

reported 40% of districts were offering online courses. Between 2013 and 2015, there was a 48% increase in the number of school districts offering online courses to students (K. Robinson, 2015).

Due to the significant increase in K-12 districts offering online courses (K. Robinson, 2015) and the deterioration of educator perceptions in the quality of online courses (Allen et. al, 2016), research is needed to assess the quality of online programs. According to the OLC, a key factor in evaluating the quality of online programs is student satisfaction (OLC, 2016). Unfortunately, there is a gap in the literature related to examining the overall student experience in online programs in secondary schools. In order to examine the quality of secondary schools' online learning programs, research into student experiences is essential.

Purpose for the Study

The purpose of this study was to analyze students' experiences of online learning at the secondary level. Although the OLC sponsors an online report card each year (Allen et. al, 2016) that contains data related to educator perceptions, the researcher did not find any facts related to measuring the perceptions or experiences of the students involved in the online courses. Due to the fact that secondary students' experiences of online courses have not been studied or analyzed and because of the increase in online learning across the nation, a study of students' experiences with online learning was needed. According to the OLC (2016), student satisfaction is a key pillar of evaluating the quality of online programs; therefore, analyzing student experience is essential and research must be conducted to determine if online programs are satisfying secondary students in terms of quality of the content, interaction with peers and instructors, and support services.

Theoretical/Conceptual Framework

The OLC's (2016) Five Pillars of Quality Online Education, specifically the student satisfaction pillar, guided the research. The five pillars include the following: the learning effectiveness pillar, the scale or cost effectiveness pillar, the access pillar, the faculty satisfaction pillar, and the student satisfaction pillar (Moore, 2011). The focus of the learning effectiveness pillar is on course design, pedagogy, interaction, learning outcomes, learning resources, and assessment (OLC, 2016). The learning effectiveness pillar is meant to ensure that the quality of education in the online course is equivalent to the educational quality received in a traditional classroom (Moore, 2011). The scale or cost effectiveness pillar means institutions are maxing out their capacity with online enrollment and keeping tuition costs to a minimum (Moore, 2011). This pillar contains the following categories: cost effectiveness, institutional commitment, leadership, technical infrastructure, methodologies, and conserving costs, resources, and time (OLC, 2016).

The access pillar symbolizes that institutions are providing complete courses, degrees, and programs of study (OLC, 2016). The purpose of the access pillar is to create quality technical infrastructure, academic support services, student support services, course design, and program access (Moore, 2011). The faculty satisfaction pillar means online faculty is satisfied with the online teaching experience (Moore, 2011). Factors of faculty satisfaction include institutional rewards, faculty support, technological infrastructure, online experience, and opportunities for research (OLC, 2016).

The student satisfaction pillar is the primary focus of this study. According to the OLC (2016), student satisfaction measures the effectiveness of the entire educational

experience online. This pillar symbolizes students are pleased with their coursework and are content with the course rigor, peer-to-peer and student-instructor interaction, and with support services for the course (Moore, 2011). According to the student satisfaction pillar (OLC, 2016), areas of student satisfaction include access, technological and academic support services, interaction with other peers and instructors, and course design and infrastructure.

A goal of this study was to analyze students' experiences with their online courses at the secondary level. The OLC (2016) identified some key areas related to student satisfaction and this study emphasized those factors in the development of the research instrument.

Research Questions

The research questions for this study were as follows:

1. What themes emerge from student experiences with technology support for online learning at the secondary level?
2. What themes emerge from student experiences with teacher and peer interaction for online learning at the secondary level?
3. What themes emerge from student experiences with course design for online learning at the secondary level?
4. What themes emerge from students' overall thoughts and feelings with online learning at the secondary level?

Limitations

The limitations for this study were as follows:

1. Students may not have responded to the interview questions honestly. Students may have answered questions based on what they believed the researcher was trying to confirm.
2. Student's ability to describe their online learning experiences. Some students may not be able to adequately describe their feelings and opinions of their online learning experiences.
3. Generalizing all online programs in the state based on a limited number of interviews.
4. Bias and subjectivity due to only having one coder, the researcher, analyzing the data.

Delimitations

The delimitations of this study were as follows:

1. Sample population was limited to the state of Missouri.
2. Sample population was limited to students who had completed a full-time online course. Interviews were not conducted for students in blended learning classes or credit recovery online courses.
3. Sample population was limited to students without learning disabilities or special needs in the classroom.

Assumptions

The assumptions of this study were as follows:

1. Online courses are comparable across the state of Missouri at the secondary level.

2. Online course platforms are comparable across the state of Missouri at the secondary level.
3. Students answered questions honestly.

Design Controls

This study was a qualitative study designed to discover and analyze students' experiences with online learning at the secondary level and to identify patterns and themes related to their experiences with online learning. The researcher conducted a content analysis by coding to identify patterns and key words in the data. The researcher also performed a thematic analysis with the coded data to identify and analyze themes. In order to collect the data, the researcher used semi-structured interviews. One control factor of this study was the guarantee of confidentiality for the students interviewed. The guarantee of confidentiality was a control for the assumption of students answering questions with honesty.

Limitations to this study included student honesty. Interview transcripts were analyzed to identify common themes with the data collected. Data were also analyzed to determine whether students were overall content or discontent with their online learning experiences. In order to dive deeper into the themes presented by the data collected, the researcher performed both a content and thematic analysis.

Definitions of Key Terms

In order to understand the information and data presented in this study, several key terms are defined. These key terms are listed along with their individual definitions.

OLC. The OLC is short for the Online Learning Consortium. The OLC (2016) provides the theoretical framework for this study.

Online course. An online course for this study is defined as a course conducted completely over the Internet. Students do not attend traditional classrooms and the instruction, assignments, quizzes, tests, and discussions are completely online. For the purposes of this study, the blended learning environment was not considered in the research (OLC, 2016).

Pillar. This refers to the Online Learning Consortium's Five Pillars of Quality Education. These pillars represent areas of quality that must be demonstrated by institutions in order to evaluate the quality of their online education programs (OLC, 2016).

Secondary students. For the purpose of this study, secondary students were limited to students in Grades 9 through 12.

Sloan Consortium. This term refers to the previous name of the Online Learning Consortium. Some of the literature from this study will refer to the Sloan Consortium now known as the Online Learning Consortium (OLC, 2016).

Summary

This chapter contained an overview of the recent surge in online education programs at the secondary level in the United States. It also discussed the Online Learning Consortium's Five Pillars of Quality Education and the need to evaluate student satisfaction in order to effectively assess the quality of a school district's online learning program. The chapter outlined the theoretical framework for the basis of this study, specifically the student satisfaction pillar in the Online Learning Consortium's Five Pillars of Quality Education (OLC, 2016). Chapter One also introduced the research

questions and problem statement that guided this study. In addition, the chapter provided the limitations and delimitations as well as the design controls for this study.

Chapter Two of this study provides a literature review of the existing research surrounding the topic of distance learning and the emergence of online learning. The literature review discusses the importance of student satisfaction pillar in determining the quality of an online course. The review is organized thematically and discusses the history of online learning, the advantages and disadvantages of online learning, and the factors of student satisfaction with online learning as discovered by other researchers.

Chapter Three describes the method for identifying common themes in the data collected. Chapter Four reveals the findings of this study. Chapter Five presents the conclusions and recommendations for further study.

CHAPTER TWO

REVIEW OF LITERATURE

Introduction

This chapter presents the literature review involving several themes around online learning in the field of education. The first section of this literature review provides an overview of the history of distance education and the evolution of online learning. The second section of this chapter focuses on the advantages and disadvantages of online learning. The third section presents the ethical issues surrounding online learning. The fourth section describes the factors of student satisfaction including academic quality and interaction during the course. Lastly, the fifth section presents other qualitative studies related to student perceptions of online learning.

The literature review sets a foundation for this study. With further analysis and research, this study attempted to identify common themes from secondary students' experiences and to analyze the overall student experience with online learning.

History of Distance Learning and Online Learning

K-12 distance learning has been around since the 1920s and distance learning in general began in the 1700s (Clark & Barbour, 2015; Harting & Erthal, 2005; Kentnor, 2015). Kentnor (2015) defined distance education as a method of teaching where the student and teacher are physically separated. Distance education started in the 1700s through correspondence learning and evolved over time with the advancement of new technology such as the radio and the television. However, online education is today's dominant method of delivering distance instruction (Allen et al., 2016).

Correspondence learning. Distance education or correspondence education began in 1728 when Caleb Phillips placed an advertisement in the *Boston Gazette* offering writing lessons. Phillips' advertisement offered weekly lessons that would be sent through the mail to students living in Boston, MA (Harting & Erthal, 2005; Kentnor, 2015). Anna Eliot Ticknor created a correspondence school in the 1800s located in Boston. Ticknor taught over 24 subjects including science, art, literature, history, and foreign language (Harting & Erthal, 2005). In 1873, Ticknor founded the Society to Encourage Studies at Home in Boston, which utilized the correspondence model (Kentnor, 2015). Thomas Foster helped Ticknor in grading the assignments and hired a full staff to assist in the 1880s. Eventually, Foster expanded the subjects offered and created the International Correspondence Schools (Harting & Erthal, 2005).

The pioneer of distance education, Isaac Pitman, taught short-hand writing lessons beginning in 1840 in England. Pitman would mail lesson instructions to students instructing them to write passages from the Bible in shorthand and return the lessons by mail for grading. In 1843, the Phonographic Correspondence Society was created, which eventually turned into the Sir Isaac Pitman's Correspondence College (Kentnor, 2015).

Eventually, two movements in the 1800s adopted correspondence education and were responsible for the acceptance of correspondence education for adults. The lyceum movement began in Scotland after the Industrial Revolution. Lyceums were concerned with the education of adults and providing an education based on the arts, sciences, and humanities. Lyceums provided correspondence education to any adult willing to learn. However, the lyceum movement faded after the Civil War, and the Chautauqua movement carried on the work created by the lyceums (Harting & Erthal, 2005; Kentnor,

2015; Schultz, 2002). The Chautauquas provided courses during summer institutes as well as home-based study programs. The Chautauquas even had their own publishing house for creating instructional materials (Schultz, 2002).

In 1874, Lewis Miller and John Heyl Vincent began the Chautauqua movement in New York as a training program for Sunday school teachers during the summer months (Kentnor, 2015). Eventually, the program began to expand into other subject areas with assignments to be completed at home and through the mail. The Chautauquas were known for their summer programs; however, they also offered 4-year programs for reading and correspondence (Kentnor, 2015). Vincent started the first correspondence and adult education program in the country in 1878 named the Chautauqua Literary and Scientific Circle. Eventually, the program evolved into a university called Chautauqua University, which was founded in 1883 (Kentnor, 2015).

After the success seen at Chautauqua, William Rainey Harper developed a correspondence program and implemented the program at the University of Chicago in 1892 (Kentnor, 2015). The program had an enrollment of over 3,000 students in 350 courses with 125 instructors and continued to grow on a yearly basis. The need for distance education continued to grow into the early 1900s and with new technology emerging like radio broadcasting, the National University Extension Association was formed to ensure the quality of education through distance learning (Kentnor, 2015).

Radio broadcast learning. The invention of the radio took distance learning to a whole new level. In 1919, professors at the University of Wisconsin started up the first federally funded and licensed radio station with a focus on education (Kentnor, 2015). By 1922, over 73 other colleges and universities were broadcasting over the radio, and by the

end of the 1920s, 176 institutions were using radio broadcasts for educational purposes (Kentnor, 2015).

Bianchi (2008) wrote that the first School of the Air (SOA) named the Little Red Schoolhouse of the Air began with the company Sears in Chicago. The school had a diverse curriculum including art, music, geography, science, and farming. Benjamin Darrow was the schoolmaster and decided to have children and teachers teach each subject due to limited funding. According to Bianchi, the teachers and children would come in a few days before the broadcast to rehearse and to learn how to effectively use the microphone. After one year of broadcasting, the program reached over 28,000 students in classrooms all across the Midwest (Bianchi, 2008).

Due to the success of the first SOAs, Benjamin Darrow founded the Ohio School of the Air in 1929 (Bianchi, 2008; Haworth & Hopkins, 2009; Kentnor, 2015). In 1930, the Wisconsin School of Air (WSA) was also formed. For nearly 50 years, the WSA broadcast a diverse curriculum including music, art, social studies, literature, conservation, and government. The WSA consistently had high enrollment and received numerous awards for meeting educational needs (Bianchi, 2008; Haworth & Hopkins, 2009). According to Bianchi (2008), the WSA survived because it used radio in an innovative manner to meet the needs of their students, supported teachers, built a learning community, and joined a robust and powerful radio network devoted to education. Haworth and Hopkins (2009) attributed the WSA's success to curriculum and programming being offered to rural areas where teachers were expected to teach multi-grade classrooms and subjects. Teachers relied on the WSA broadcasts to teach areas in which they might not have much content knowledge.

According to Bianchi (2008) and Clark and Barbour (2015), two broadcast networks saw the benefit of SOAs and decided to broadcast their own individual programs. The National Broadcasting Company (NBC) created the Music Appreciation Hour (MAH) and the Columbia Broadcasting System (CBS) created the American School of the Air (ASA). Walter Damrosch, the conductor of the New York Symphony Orchestra, created the MAH in 1928. The MAH was tailored for different age groups but it was up to the classroom teachers to decide what content they used. Every lesson was broken into 30-minute segments and instructor guides were created for teachers for use during the broadcasts. The curriculum was broken into five specific series with the fifth series serving as a review and a test of the content. By the end of the 1930s over 600,000 students listened in on a regular basis (Bianchi, 2008). Between 1929 and 1945, both programs reached an estimated 2,000,000 children (Bianchi, 2008; Haworth & Hopkins, 2009; Kentnor, 2015).

According to Clark (2012), due to the success of SOAs, independent study high schools began to emerge in the 1920s. These schools offer supervised correspondence studies for K-12 students. In 1923, a Michigan superintendent introduced the first supervised correspondence study program model. The University of Nebraska adopted the model and opened its first program in 1929 (Clark, 2012; Clark & Barbour, 2015). The first supervised correspondence studies had the local high schools provide the lesson plans and periods throughout the day for study. The local high schools also supervised the students and returned the completed lessons back to the university (Clark, 2012). According to Clark (2012), the supervised correspondence study model is the inspiration

for virtual schools today. Not long after radio became an educational medium, television entered the educational arena.

Television education. The University of Iowa was the first educational institution to begin transmitting educational programs using the television in 1932, 7 years before the television was introduced to the general public at the New York World's Fair (Harting & Erthal, 2005; Kentnor, 2015; Clark & Barbour, 2015). Iowa State University, Kansas State University, American University, and the University of Michigan were all pioneers in the area of using television for educational purposes (Kentnor, 2015). In 1947, the Philadelphia school district was the first public school to use a television for educational instruction. During the school year of 1947, only one television broadcast per week was common. However, by the 1951-1952 school year, over 60,000 students could view 13 broadcasts per week (Levin & Hines, 2003).

By the 1950s, 17 programs were using educational television programming (Harting & Erthal, 2005), and the Federal Communications Commission (FCC) issued a freeze on television licenses for educational institutions. Educational institutions began to realize the potential of using television as an instructional strategy and distance learning strategy, but they were unable to influence the FCC in reversing their decision. However, in 1952, the FCC finally granted requests for television licenses for the exclusive purpose of education. Over 242 channels were reserved in 1952, and 632 channels were reserved in 1966 (Kentnor, 2015). In 1953, the University of Houston created the first educational television station in the United States called KUHT. After KUHT was founded, the public perception toward educational television leaned toward a positive alternative to the trivial shows on airways at that time (Levin & Hines, 2003).

The use of radio and television education continued to grow throughout the late 1960s and 1970s. However, educators were mainly using televisions at the front of their classrooms to deliver lectures and to explain concepts. Television was not being properly used for distance education either, which eventually caused low viewership and poor enrollment in distance education courses (Kentnor, 2015; Harting & Erthal, 2005). In response, universities began to set up closed-circuit networks where students could link to regional campuses and universities. This allowed television to be used more for the distance learner at the collegiate level. Eventually, televised courses began to offer college credits to adult learners. In the 1980s, the Public Broadcasting Service (PBS) offered college credit courses via televised programs through their Adult Learning Service (ALS), paving the way for accredited programs delivered via television (Harting & Erthal, 2005). Although educational television was groundbreaking for its time, online learning would soon rise as an educational medium.

Online learning. Although computers were being used for educational purposes dating all the way back to the late 1970s and 1980s, the programs themselves were boring and unimaginative (Harting & Erthal, 2005). However, by the 1990s, educators began to realize the potential of using computers and the Internet to deliver distance instruction (Barbour & Kennedy, 2014; Clark, 2012; Harting & Erthal, 2005). In 1987, Morten Paulsen first coined the term *virtual school* and stated that it was possible to create an entire virtual school around a computer-based information system. At that time, schools and universities only used closed computer networks for educational purposes. With the invention of the Internet Protocol Suite, the exchange of information across the Internet became possible (Clark, 2012; Clark & Barbour, 2015).

In 1991, Laurel Springs Preparatory School became the first school to offer a K-12 curriculum online. The curriculum was text-based and by 1994, the school was recognized as the first school to offer a full online curriculum (Barbour & Kennedy, 2014). In 1991, the University of Phoenix became the first university to offer online courses (Kentnor, 2015). By the middle 1990s, several universities began creating their own Web-based curriculums. The University of Nebraska created the CLASS online high school in 1996. In 1997, the Florida Virtual High School and the Concord Consortium's Virtual High School were established (Barbour & Reeves, 2009; Clark, 2012). New York University (NYU) became the first large nonprofit university to create a for-profit online university called NYU Online in 1998 (Kentnor, 2015). By the year 2000, the National Center for Educational Statistics reported that 43% of educational institutions offering distance education offered Internet courses (Harting & Erthal, 2005).

Online education experienced rapid growth in the 2000s. Over 1,600,000 postsecondary students were enrolled in online courses by 2002. By the fall semester of 2011, 6,700,000 postsecondary students were enrolled in at least one online course (Kentnor, 2015; Kurzman, 2013). The U.S. Department of Education estimated that over 1,800,000 K-12 students were enrolled in online education courses in 2009 (Queen & Lewis, 2011).

Online courses eventually led to the creation of entire virtual schools. Over 536,000 students were enrolled in state-led virtual schools and over 250,000 students were enrolled in full-time multi-district virtual schools (Clark, 2012). By 2013, over half of the states had established virtual schools, and 29 states had complete online multidistrict online schools. Enrollment for state virtual schools expanded by 119% and

by 77% for multidistrict schools between 2009-2013. District-led programs were also increasing with over 75% of school districts in the entire United States offering online or blended learning programs (Clark & Barbour, 2015). Barbour and Kennedy (2014) predicted online education would represent half of the K-12 education in the United States.

Not only are online programs expanding each year, some states are even requiring that students take online courses before graduation (Barbour & Kennedy, 2014). Michigan passed a law that requires high school students to take online courses sometime during their high school career (Watson, Murin, Vashaw, Gemin, & Rapp, 2011). Alabama passed a law in 2008 that requires all students starting in the ninth grade must take at least one online course (Cowan, 2009).

In 2011, Florida required students to take at least one online course before graduation. New Mexico also passed legislation requiring students to take at least one unit of distance learning of the 24 units required to graduate. West Virginia only recommends students complete an online course during their high school experience (Watson et al., 2011).

Distance learning began with correspondence between teachers and students (Harting & Erthal, 2005; Kentnor, 2015). Eventually courses began to be taught via the radio (Bianchi, 2008; Haworth & Hopkins, 2009; Kentnor, 2015). Education over the airwaves allowed universities to reach learners all across the region; however, distance education would eventually take an even larger step with the invention of the Internet (Barbour & Kennedy, 2014; Clark, 2012; Harting & Erthal, 2005). Online learning has become a popular medium for educational courses and over 5,800,000 collegiate students

were enrolled in at least one online course in 2015 (Allen et. al, 2016). With the rise of online education, the advantages and disadvantages of online learning must be considered.

Advantages and Disadvantages of Online Learning

According to K. Robinson (2015), 40% of all public schools in the United States have designed and implemented online courses as of 2015. Barbour and Kennedy (2014) expected over half of K-12 education would be implemented online by the year 2020. With online programs growing rapidly over the last 2 decades, more research is needed in the field of online learning for K-12 education (Clark & Barbour, 2015). As with all forms of learning, there are distinct advantages and disadvantages to online learning (Taylor, 2002).

Advantages of online learning. Online learning has many educational and cost advantages. These advantages include reaching students all across the world, flexibility in course structure and delivery, student-centered course content, immediate feedback from both peers and instructors, cost savings for both educational institutions and students, and preparation for postsecondary education.

According to Hoyer (2006), one of the biggest advantages of online learning is that courses can be delivered to students across great distances. Cook (2007) stated that Web-based learning allows students from different cities and possibly different counties to participate in the same course. Taylor (2002) emphasized that online courses are not limited to students within driving distance. Instead, teachers could have students from various time zones, cultures, and countries (Taylor, 2002). Online learning breaks down the barriers of geography and income status. Students from impoverished, rural schools

can take the same courses as students from wealthy school districts (Mupinga, 2005). Linking up students from different geographical regions encourages collaboration and teamwork with both students and faculty. This can encourage a free exchange of ideas that would not be possible in a traditional classroom setting limited to a specific geographic region (Bigony, 2010).

Another key advantage of online learning is flexibility (Cook, 2007; DiGiogio, 2004; Shih, 2007; Taylor, 2002). Web-based learning offers flexibility in the timing of student participation. Students can access lectures, notes, presentations, discussion boards, and various other course content at any time (Cook, 2007; DiGorgio, 2004). Students can work from any location at their own pace without having the requirement to attend class on campus (Harvey, Greer, Basham, & Hu, 2014). In an asynchronous online course, students do not have to physically be in front of their computers at specific times during the course. Students access the course content whenever it is most convenient for them. This is the most popular and common type of online course due to the freedom it gives the student (Taylor, 2002).

Conversely, an online course can also be synchronous, which means all students need to be logged into the course at the same time. Students do not have to be in the same classroom, they just need to be able to access the course on the Web. This type of online course can be used to foster real-time discussion and encourage students who do not feel comfortable in a traditional classroom to have a voice (Taylor, 2002). Both asynchronous and synchronous online courses offer flexibility over a traditional classroom setting (Taylor, 2002).

Online courses also are student centered and create an inviting learning environment for students who may not feel comfortable in a traditional classroom (Haley, 2013). According to Ellison and Wu (2008), students in online courses are required to participate in class. This can take the form of responding to discussion boards or posting an original thread of their own. Lamb and Callison (2005) found that students who have dropped out of high school due to lack of focus in a traditional classroom setting may find more success taking courses online. According to Donohue, Fox, and Torrence (2007), online courses provide students an environment free of judgment, bias, and other peers being critical or making fun of one's appearance.

Online courses offer more individualized learning than a traditional setting. Students are given more control over their learning environment and can generally move at their own pace. Students who are struggling with the content can take more time to master the concepts, and students who are mastering content have the freedom to move onto the next topic. Instructors in online courses also have the ability to use adaptive software to adjust to each individual learner's needs (Cook, 2007). According to Long, Vignare, Rappold, and Mallory (2007), students who were deaf or struggled with hearing participated and interacted more with their peers and instructors in online courses than in the traditional classroom settings. Students who experience anxiety or are typically shy can express themselves without fear of judgment from peers and instructors. Students who may typically not ask questions during a traditional classroom setting may be more inclined to do so over the Internet (Ascough, 2002; Clark-Ibanez & Scott, 2008).

Another key advantage of online learning is the feedback from peers and instructors (J. Cavanaugh, 2005; Haley, 2013; Taylor, 2002). Online courses have various

mediums for communication and feedback including chat rooms, e-mail, discussion boards, and live discussions. E-mail allows students to communicate with instructors and peers instantly and gives instructors some time to reflect and think about a question posed in an e-mail before responding. Chat rooms provide real-time communication between peers and instructors but have to be scheduled by the instructor to ensure maximum participation from the students. Discussion boards allow topics to be posted by the instructor, with students responding to one another about that topic (J. Cavanaugh, 2005; DiGiorgio, 2004; Taylor, 2002).

Online courses may also be cheaper to implement and deliver over the traditional classroom setting (Strother, 2002). Elective courses are typically required for students to graduate and often contain many different subjects and topics. Hiring teachers to teach electives is very costly for school districts and requires teachers with specific content specialties to teach those elective courses. Online courses can reduce the number of teachers hired, therefore creating a cost savings (Solomon, 2005). According to Bishop (2006), instructors spent more time on developing and implementing traditional courses than online courses. Bishop discovered instructors spent 112 hours on traditional courses compared to 107 on online courses. Bishop also found that the overall cost per student decreased from $105 in a traditional classroom setting to $99 for an online course.

Entrekin (2007) found that online learning also prepares high school students for postsecondary education. One in four students now takes at least one online course per year at the postsecondary level with over 5,000,000 students taking an online course per year (Allen et al., 2016). Over 90% of colleges and universities offer online courses, which reinforces the idea that high school students must be prepared to learn in that

capacity at the postsecondary level (Collopy & Arnold, 2009; Simonson, 2005). Over 60% of academic leaders at the collegiate level believed online learning was a critical component to their long-term strategy, and 71.4% believed online courses have the same or better learning outcomes than courses in a traditional classroom environment (Allen et al., 2016). Even with the many advantages of online learning, there are key disadvantages to consider.

Disadvantages of online learning. Some of the disadvantages of online learning include lack of face-to-face interaction, lack of self-motivation and boredom with the course, plagiarism, dropout rates for online learners, poor course design and implementation, and poor online instructors.

One disadvantage to online learning is the lack of face-to-face interaction between instructor/students and students/students. With no face-to-face interaction, students could feel isolated and alone in the course (Bigony, 2010). Students are often watching videos online or completing projects and assignments without any type of interaction with their peers and instructor. This can lead to the students feeling socially isolated compared to traditional classrooms where collaboration and teamwork are an everyday occurrence (Cook, 2007).

Due to the lack of social interaction, students may get bored with the online course and their grades and participation might suffer (Ascough, 2002). Students may lack motivation or self-discipline to succeed in the online work, and will often not even finish the course (Bolliger & Wasilik, 2009; Waschull, 2005). Cunningham (2010) wrote that a student must be a self-directed learner to succeed in an online course. Barshay (2015) found that students are 11% less successful in online courses compared to the

traditional classroom course. More often than not, online learning does not effectively respond to the individual needs of the learner. In a traditional classroom environment, instructors can observe students and adapt their instruction as necessary to accommodate the needs of each individual learner. However, with the lack of face-to-face instruction with online learning, the instructors rarely get to know their students on an individualized basis in order to accommodate individual needs (Cook, 2007; Taylor, 2002).

With the lack of face-to-face interaction with online courses, plagiarism is a fear for many instructors (Ison, 2014; Solomon, 2005). There are many studies that show plagiarism has become irresistibly tempting to students due to how easy it is to cut and paste items as well as because of the unlimited access to information online (Ackerman & White, 2008; Gilmore, Strickland, Timmerman, Maher, & Feldon, 2010; Ison, 2014). According to a study by Selwyn (2008), over 60% of students reported plagiarizing online information in one year. Lanier (2006) performed a study of criminal justice students and found that plagiarism actually occurred more often in online courses than in the traditional classroom environment. Lanier (2006) surveyed more than 1,200 students and found that cheating in general occurred more in online courses compared to traditional courses. McCabe (2005) conducted a study of 80,000 graduate and undergraduate students in the United States and Canada and concluded that 60% of those students had at one time copied and pasted material from online sources.

In relation to plagiarism and cheating, dropout rates for students taking online courses is also an issue (Brown, 2015). In the 2009-2010 school year, Lemagie (2011) compared the dropouts of online courses and traditional courses in the state of Minnesota. Lemagie (2011) found that only 3% of seniors in traditional classroom environments

dropped out compared to 25% of seniors enrolled in online schools (Brown, 2015). DePaoli, Balfanz, and Bridgeland (2016) reported that the graduation rate in the United States reached 82.3%, a record high. Public high schools had an average graduation rate of 85% compared to 70% for charter schools and 40% for virtual schools. Nearly 64% of public high schools have a graduation rate of 85% and above compared to only 4% of virtual schools graduating 85% and above. Around 87% of virtual schools have a graduation rate of 67% or less compared to 7% of public high schools (DePaoli et al., 2016).

Another disadvantage to online learning is the potential for poor design and implementation of the course by the instructor (Cook, 2007; Plas, 2016). According to Thickstun (2014), instructors must be able to transition from an instructor-centered approach to a student-centered approach. As discussed previously, students must be self-directed learners in order to succeed in an online course (Cunningham, 2010). Instructors must be willing to provide the content but then allow the students to guide themselves throughout the course with limited guidance from the instructor (Brown, 2015).

According to Cook (2007), many online learning courses have an inferior instructional design that does not even qualify as instruction. Bad online instructors typically will assign too much reading and not enough collaboration and interaction between the students (Plas, 2016). The need for interaction between students and their peers was also critical (Bigony, 2010). If the instructor fails to have students interact and collaborate, students will not be fully engaged in the course and will often become angry, lonely, and dissatisfied with the course (Plas, 2016). In order for an online course to be effectively designed, the instructor must include interaction and collaboration within the

course including discussion boards, collaborative assignments with other students, live discussions, and feedback from both peers and the instructor (Plas, 2016).

Online learning has many advantages and disadvantages to consider. The advantages of reaching students all across the world, flexibility in course structure and delivery, student-centered course content, immediate feedback from both peers and instructors, cost savings for both educational institutions and students, and preparation for postsecondary education make online learning an attractive alternative to traditional school settings. However, the disadvantages of lack of face-to-face interaction, plagiarism, dropout rates for online learners, poor course design and implementation, and poor online instructors must be considered when developing online courses. Other potential disadvantages involve the ethical issues that arise with online learning.

Ethical Issues With Online Learning

With the lack of face-to-face interaction, online courses have ethical considerations that differ from those encountered in a traditional classroom setting (Zembylas & Vrasidas, 2005). Several researchers have explored the various ethical considerations including cheating and plagiarism, the digital divide, security and confidentiality (Anderson & Simpson, 2007). This section of the literature review discusses the ethical issues of cheating and plagiarism, the digital divide created by social inequities, and security and confidentiality.

Cheating and plagiarism. With the rise of social media and the constantly evolving technology used today, students have become more reliant on technology than ever before (Coleman, 2011). With the improvements in technology, students are now able to finish entire degree programs completely online. Coleman (2011) suggested that

cheating has become easier for the online student than it ever has been before (Ison, 2014; Solomon, 2005). Selwyn (2008) conducted a study in which over 60% of the students surveyed admitted to plagiarizing online information during the school year. A study of 80,000 American and Canadian students also reported that 60% of those students have at one time copied and pasted material from sources they found online (McCabe, 2005).

Students can now access thousands of papers at the click of a button and can even use their cell phones to send text messages and pictures of exam questions to other students (Coleman, 2011). Coleman (2011) also suggested students engaged in research need to be extra cognizant of the dangers of plagiarism when performing research due to the vast amount of information readily available to research students from simple search engines. In order to combat cheating and plagiarism, Coleman suggested two strategies. The first is for the teacher to build relationships with their online students and build trust between the instructor and the learner. Second, universities and colleges need to create a strong code of conduct and follow it whenever students violate the code (Coleman, 2011). Ramim (2007) also suggested instructors continuously promote the code of conduct to their students in hope that students will make sounder ethical decisions.

In a study conducted by Naude and Horne (2006), students indicated the reasons they cheated or plagiarized in an online course were external pressures from home to receive good grades, financial pressures, difficulty of the assignments, lack of time, and an extensive course load. According to a study by Moten, Fitterer, Brazier, Leonard, and Brown (2013), students taking online courses may cheat because they do not have the same respect for the instructors as they would in a traditional classroom setting. Another

reason students may cheat is the psychological distance between the student and the learning environment. Students may feel disconnected from the whole learning process, therefore cheating and plagiarism may seem appealing (Moten et al., 2013).

Another ethical issue noted by Esposito (2012) was the issue of private versus public ownership. Once something is published online, everyone with an Internet connection is able to view it unless it is privately owned and requires enrollment to view the information (Esposito, 2012). Esposito referred to massive open online courses (MOOC) and the issue of whether the information published during those courses would be considered privately or publicly owned. Online learning can take many forms, with MOOC being one of many. The issue of privacy and ownership for faculty or even students publishing any type of information online is an ethical issue that will increase with the continued rise of both free and paid-for online courses (Esposito, 2011).

The digital divide. The digital divide is defined as a gap created by the unequal access to technology that is deeply ingrained in our social structure (O'Brien & Collins, 2011; Ravenscroft, 2017; Ritzhaupt, Liu, Dawson, & Barron, 2013). Essentially, the digital divide exists between the "have and have-nots." The extent of a person's digital divide is determined by wealth, ethnicity, culture, power, education, and access (Herman, 2004; O'Brien & Collins, 2011). Other social factors exist that also further the divide including gender equity and racial equality (Herman, 2004). O'Brien and Collins (2011) stated the ability to obtain information is intimately linked with power and wealth in our world today. Herman (2004) wrote students without access to computer technology and the Internet may fall further behind educationally compared to those with the means and resources to obtain sophisticated technology. Goh (2010) expanded on Herman's (2004)

sentiments by stating that students and entire segments of the population without access to new and emerging technologies will fall even further behind in achieving their career and educational goals.

According to Ravenscroft (2017), the literature related to the digital divide in education identified four specific groups possibly negatively affected by the digital divide. These four groups include women, minorities, those in the low socioeconomically class, and those living in rural areas. Although women have historically been marginalized in the traditional classroom setting, the online classroom may actually provide some relief to women experiencing prejudice in traditional classroom environments (Kramarae, 2001; Ritzhaupt et al., 2013; Warf, 2013). Alkhalifa (2008) suggested that women were more likely to engage in discussions online in an educational environment than men. Alkhalifa also claimed that women in the Middle East were taking online courses due to the heavy digital communication involved in the curriculum in an area of the world where women are not encouraged to speak out.

Warf (2013) wrote that the gender gap doesn't even exist anymore when it comes to online connectivity. Warf used nationwide data to support his conclusion. However, women and Internet connectivity may be an issue based on where a woman lives and the culture expectations in their region (Goh, 2010). Goh (2010) conducted research in West Virginia and found that women have less access to the Internet than men, especially in rural areas. Goh concluded that societal pressures played a factor with women not having equal access to the Internet compared to men in West Virginia.

Although online educational opportunities for women do oftentimes depend on where a woman lives (Goh, 2010), women have been shown to be the most likely to take

online courses (Kramarae, 2001). Smith (2015) wrote that in the 1980s, boys were more interested in using computers and showed a better attitude about using them than girls. However, a study in 2003 revealed girls were becoming more interested in using computers but still did not prefer using computers (Cooper, 2006). However, studies have shown that women actually outscore men in using technology for educational purposes (Ritzhaupt et al., 2013). Ritzhaupt et al. (2013) conducted this study in 13 school districts across the state of Florida. The study included a total of 5,990 middle school students and had an equal distribution of males to females. Ritzhaupt et al. wrote there was a clear digital divide between males and females in that females outscored their male counterparts. The study measured proficiency in areas such as technology operations and concepts, digital citizenship, communication and collaboration, and independent learning (Ritzhaupt et al., 2013). Although the female middle school students performed better in those specific areas, Ritzhaupt et al. hypothesized that boys may still be better in other technology-related areas like playing computer games. In conclusion, based on recent studies and the related literature, there is a clear digital divide in relation to gender in the United States (Cooper, 2006; Goh, 2010; Kramarae, 2001; Ritzhaupt et al., 2013).

Although the digital divide exists between genders, there seems to be an even greater digital divide with minorities (Herman, 2004; Howard, Busch, & Sheets, 2010; Smith, 2015; Warf, 2013). Warf (2013) reported that between 1995 and 2010, the use of Internet increased from 14% to 77% in the United States. Warf also reported that as of November 2011, 245,000,000 Americans were using the Internet on a regular basis. However, the United States is not even in the top 10 in the world when it comes to Internet usage. Countries such as Iceland, Norway, Sweden, Netherlands, Denmark,

Finland, United Kingdom, South Korea, New Zealand, Germany, and Japan all outrank the United States in terms of their population's use of the Internet (Warf, 2013). According to Howard et al. (2010), Hispanics who are English dominant use the Internet at the same rate as non-Hispanic Whites but only 32% of Spanish-dominant Hispanics go online.

Ritzhaupt et al. (2013) also corroborated the struggles of minorities in the use of the Internet in their research of 5,990 middle school students in the state of Florida. Ritzhaupt et al. found that white middle school students performed significantly better than non-white students on Internet-related tasks. One reason that the digital divide may exist with minorities is simply the lack of access (Goh, 2010; Howard et al., 2010; Ravenscroft, 2017; K. Robinson, 2005; Warf, 2013). For example, S.V.W Robinson (2005) interviewed African American and Hispanic students and these students revealed they had to oftentimes borrow a friend or family's computer to access the Internet.

Ravenscroft (2017) concluded that minorities are more likely to lack access to the Internet and computers when they are not in school (K. Robinson, 2005). According to Smith (2015) and Warf (2013), the black population was reported to be the lowest users of the Internet in 2010. According to Warf, the white population had an Internet usage rate of 78% while the black population only had an Internet usage rate of 66%. Surprisingly, the Latino/Hispanic population had an Internet usage rate of 84%. Although the Latino/Hispanic population had a high rate of 84%, there was a significant drop-off between those who only spoke Spanish and those who were bilingual. One last interesting comparison existed between minorities who used the Internet primarily via their phone versus a computer (Magagnini, 2011; Smith, 2015). According to Magagnini (2011),

75% of the white population had a home Internet connection compared to only 55% of Hispanics and 58% of the black population. However, 51% of the black population used only their cell phone to access the Internet compared to 51% of Hispanics and 34% of the white population (Smith, 2015). Although there is still a digital divide between the white population and minorities, the gap is declining and may eventually become non-existent in the near future (Warf, 2013).

Another digital divide exists between those in the low socioeconomic class and those in the middle and upper classes (Hawkins, 2005; Howard et al., 2010; Ravenscroft, 2017; Ritzhaupt et al., 2013; M. G. Robinson, 2007; Smith, 2015; Warf, 2013). Warf (2013) wrote that there is a significant difference in Internet usage between four educational levels: less than a high school degree, high school graduate, some college, and college graduate. Internet usage among college graduates was 94% compared to those with less than a high school education at 47%. Income levels were also correlated to Internet access and usage (Hawkins, 2005; Howard et al., 2010; Ravenscroft, 2017; Ritzhaupt et al., 2013; M.G. Robinson, 2007; Smith, 2015; Warf, 2013). M.G. Robinson (2007) studied the state of Alabama and found that 43.3% of homes below the poverty line owned a computer while 80.6% of homes above the poverty line owned a computer. Smith (2015) wrote that owning a computer is just part of the cost. A family may own a computer but not be able to afford Internet access, therefore, creating a digital divide between social classes (Smith 2015).

Ritzhaupt et al. (2013) in their study of middle school students in Florida found that students from low socioeconomic homes struggled to perform with technology and the Internet more than students from upper class homes. As previously mentioned, this

divide may be due to the fact these students simply do not have access to a computer or the Internet in their home. Warf (2013) reported that 95% of households earning over $75,000 used the Internet. In contrast, only 56% households earning less than $30,000 used the Internet. Those in the middle class also fared better in Internet usage than the lower class. Eighty-two percent of households earning between $30,000 and $49,999 and 93% of households earning between $50,000 and $74,999 used the Internet. As can be seen from this data, there was a significant digital gap between households in the lower class and those in the middle and upper classes (Warf, 2013).

Rural areas are also susceptible to less Internet access and can also create a digital divide between those living in rural areas and urban areas (Hawkins, 2005; Howard et al., 2010; Ravenscroft, 2017). Hawkins (2005) found that rural populations have less opportunity to access the Internet due to the fact rural areas are often poorer and are seen as less profitable for Internet service providers. Therefore, these providers often will avoid extending their access to these rural communities. Ravenscroft (2017) cited an article published in the *Charleston Gazette* regarding Internet in West Virginia. According to Ravenscroft, the Internet service provider Frontier Communications was the sole Internet service provider for some parts of West Virginia. Due to the fact Frontier Communications was the only provider willing to offer services to West Virginia, Internet connectivity will continue to struggle for the state due to low saturation and absolutely no competition.

Warf (2013) also studied Internet access and usage for each state in the United States. Warf found that in most cases, the more rural a state was, the less the Internet was used. Between 56% and 70% of the population of states like Missouri, Arkansas,

Oklahoma, Louisiana, Alabama, West Virginia, Ohio, Indiana, Tennessee, Mississippi, Wyoming, Montana, Idaho, Kentucky, South Carolina, Texas, North Carolina, and New Mexico used the Internet. Between 75% and 80% of states like California, Colorado, Virginia, Massachusetts, Rhode Island, Nevada, Utah, Oregon, Minnesota, and Connecticut used the Internet. As can be seen from the research by Warf, the more rural states had a lower percent of their population using the Internet compared to states with dense urban populations. The exception was Alaska, which had 80% to 85% of their population using the Internet. The FCC (2016) found that 39% of rural Americans (roughly around 23,000,000 people) lacked access to high speed Internet in contrast to only 4% of those living in urban areas. The FCC also discovered 20% of rural Americans even lacked access to slow speed Internet (4 Mbps/1 Mbps). Connection to high-speed Internet connections remains a problem for those living in rural areas.

Many researchers agree the digital divide does exist (Goh, 2010; Hawkins, 2005; Herman, 2004; Howard et al., 2010; O'Brien & Collins, 2011; Ravenscroft, 2017; Ritzhaupt et al., 2013; M.G. Robinson, 2007; Smith, 2015; Warf, 2013). Researchers agree that the extent of a person's digital divide is determined by wealth, ethnicity, culture, power, education, and access (Herman, 2004; O'Brien & Collins, 2011; Warf, 2013). Based on the literature, the digital divide continues to be an ethical issue facing our society today among the other ethical issues like plagiarism and privacy.

Security and confidentiality. As more and more universities and public school districts are adopting online classroom curriculums, the inherent security risks with learning online must be explored and analyzed (Chen & He, 2013). According to Alwi and Fan (2010), Learning Management Systems (LMS) have become an attractive

playground for cyber criminals due to the information a hacker can gain from hacking into a university's LMS. Anderson and Simpson (2007) acknowledged that many online LMSs offer anonymity settings that professors or teachers can choose to use; however, allowing students to post anonymously can lead to other issues in an education setting. Therefore, most online teachers and professors choose to not use anonymous settings when conducting their course. Due to most online courses not choosing to have students remain anonymous, the threat of identity theft, impersonation, and inadequate authentication must be considered (Ayodele, Shoniregun, & Akmayeva, 2011).

According to Serb, Defta, Iacob, and Apetrei (2013), online security must include these specific requirements: confidentiality, integrity, and availability. Kelly and McKenzie (2002) defined confidentiality as keeping information secure and secret from others. Serb et al. (2013) suggested that due to the large numbers of students in any online learning environment, a secure login system that marks registered users and groups is needed to protect against unlawful access by cyber criminals. Integrity is defined as protecting information and personal data from changes made intentionally or unintentionally (Serb et al., 2013). Raitman, Ngo, Augar, and Zhou (2005) stated that integrity meant that information has not been altered accidentally or maliciously and that all the original data and information is still accurate. Avizienis, Laprie, Randell, and Landwehr (2004) wrote that integrity means the absence of improper system alterations. Finally, availability is defined as the ability for authorized users to access their online learning course at any time and that the service is reliable (Avizienis et al., 2004; Raitman et al., 2005; Serb et al., 2013).

Chen and He (2013) stated that the security risks in the online learning environment could be examined from two sides: the user side and the management side. Chen and He claimed that the leading causes of security risks from the user side are new and emerging technologies and reckless human behavior. One of these behaviors is allowing students to access online courses using their own devices (Bandara, Loras, & Maher, 2014). Allowing students to access courses remotely raises a number of security concerns for universities and school districts. Bandara et al. (2014) wrote that policies must address which personal data can be processed on the student's personal device and define the data that need to be restricted. Another concern regarding human behavior is the rise in use and popularity of social media Web sites. Social media Web sites like Facebook, Twitter, Instagram, and Tumblr are increasingly being used by instructors for student collaboration (Chen & He, 2013). However, social media Web sites do pose a number of security threats like viruses and malware (Bandara et al., 2014; Chen & He, 2013). Another potential user behavior threat involves the heavy consumerism of information technology (Bandara et al., 2014). According to Bandara et al. (2014), students and the entire population in general are downloading applications and updates and installing programs themselves and then connecting to the network of the university, which poses a security threat to the network. When students adopt their own devices for use with a university network, this can create security threats that can become very difficult to manage.

There are concerns with security from the management side as well (Chen & He, 2013). Chen and He (2013) stated that security risks are oftentimes caused by the online learning provider's ineffective policies and security measures. Many online providers

simply rush into the production and implementation of online courses with technology they do not fully understand (Alwi & Fan, 2010). Some common weaknesses of online learning programs and applications are caused by invalid input, missing server-side checks, and unnecessary privileges within the server (Weippl & Ebner, 2008). These are all caused by weaknesses on the management side of the server. Instead of focusing on the security of their online learning programs and applications, online course developers are more concerned with the content and quality of the curriculum (Yao & Ji, 2011). According to Weippl and Ebner (2008), developers assume users use browsers only to interact with their applications and programs and would never attempt to modify requests or send http requests directly. However, because of these possibilities, Weippl and Ebner reiterated the importance of server-side checks and proper management of the server. To alleviate the dangers of online security risks, many researchers agree that online security needs to become a higher priority among online learning developers and educators (Chen & He, 2013; Weippl & Ebner, 2008; Yao & Ji, 2011).

In order to combat security threats like viruses, hacking, worms, espionage, trespassing, and theft, Bandara et al. (2014) wrote that educational institutions need to adopt a corporate model of managing their information systems. Chen and He (2013) stated online learning security policies and mechanisms must include authentication, authorization, confidentiality, and accountability. The most common principles for information security are known as the CIA Triad (Agarwal & Agarwal, 2011). The "C" stands for confidentiality. Confidentiality means to keep information about others secure and secret from others (Kelly & McKenzie, 2002). Kelly and McKenzie (2002) wrote that the General Medical Council created some recommendations to ensure

confidentiality, including creating security measures for the storage and transmission of personal information, asking for professional advice before connecting to networks, making sure all computers and information technology devices are in a secure area, and always being aware that e-mail can be hijacked by cyber criminals. The "I" in CIA stands for integrity. Integrity guarantees that messages sent over the network have not been tampered with or altered in any way (Agarwal & Agarwal, 2011). According to Chen and He (2013), controlling access to the network is critical in maintaining the integrity of an online learning environment. Lastly, the "A" stands for availability. Availability means users have access to information on a consistent and uninterrupted basis (Agarwal & Agarwal, 2011; Chen & He, 2013). In order to ensure availability, Agarwal and Argawal (2011) suggested networks should include fault tolerance, authentication, and network security.

Zembylas and Vrasidas (2005) wrote that online courses are facing much different ethical considerations than what is seen in traditional classroom environments. Ethical considerations such as cheating and plagiarism, the digital divide and security and confidentiality have become the focus of researchers seeking to study the impact of the online environment in education (Anderson & Simpson, 2007). This section of the literature review discussed the ethical issues of cheating and plagiarism, the digital divide created by social inequities, and security and confidentiality. To understand how deeply these ethical considerations can affect the quality of an online program, the factors of student satisfaction with online learning must be examined.

Factors of Student Satisfaction With Online Learning

The OLC defined student satisfaction as students being pleased with their overall learning experience online (Moore, 2011). Several components included in the OLC's definition of student satisfaction are interaction with peers and instructors, learning objectives and outcomes that match student and course expectations, support services technologically and academically, and a quality orientation course (Moore, 2011). Prior research also confirms these factors are vital in determining student satisfaction with an online course (Butz, 2004; Croxton, 2014; Fredericksen, Pickett, Pelz, Swan, & Shea, 1999; Harris & Martin, 2012; Kauffman, 2015; Ni, 2013; Nguyen, 2015; Roach & Lemasters, 2006; Saeed & Zyngier, 2012; Sinclaire, 2011). Similar to the OLC standards, the International Society for Technology in Education (ISTE) has also developed standards for technology integration in education. The ISTE (2017) has established the following seven roles in the design and development of online courses: learner, leader, citizen, collaborator, designer, facilitator, and analyst. The OLC (2016) has narrowed all of these components into several factors that affect student satisfaction with online courses including course rigor (design) and fairness and peer-to-peer/student-to-instructor interaction.

Course rigor (design) and fairness. Research has been conducted to determine whether course design has an effect on student satisfaction with online courses and found a positive relationship with effective course design and student achievement (Croxton, 2014; Frederickson et al., 1999; Kauffman, 2015; Nguyen, 2015; Sinclaire, 2011). One study was performed to compare the factors of job satisfaction to student satisfaction (Sinclaire, 2011). Sinclaire (2011) found that student satisfaction and job satisfaction

were both linked by several factors including peer-to-peer interaction and communication. However, student satisfaction was also highly dependent on the effectiveness of the course content (Sinclaire, 2011). Song, Singleton, Hill, and Koh (2004) examined factors from a graduate student's point of view and concluded that course design and time management were critical factors for online courses. Course design is clearly an important factor for student satisfaction.

Course design can mean many things, but a study by Ke and Xie (2009) established three course design models. The first design model was called the integrated model. It was defined by an unstructured course content, no use of a class textbook or daily readings, and frequent use of online discussions and team projects with the instructor acting as a facilitator (Ke & Xie, 2009). The integrated model could be closely aligned to ISTE Standard 6, which described the teacher as more of a facilitator rather than a traditional educator. Teachers would encourage students to take ownership of their own learning goals and would facilitate the students' learning instead of dictating what would be taught (ISTE, 2017).

The second model was the content-support model and was defined as a highly structured model with video lectures, assignments, quizzes, and very minimal interaction with other students and the instructor (Ke & Xie, 2009). The content-support model would closely align with the ISTE Standard 5, which described the teacher as a competent designer of course curriculum. The teacher would use technology to create and adapt course content in order to personalize the learning for the student and would create an environment conducive to independent learning. The teacher would also design

learning activities that utilize digital resources to deliver the curriculum and engage students in the learning process (ISTE, 2017).

The third model was the wraparound model and was defined as a structured learning environment with weekly video lectures and assignments. In this model, the discussion board was also utilized to encourage participation (Ke & Xie, 2009). The difference between the content-support model and the wraparound model was the amount of time spent interacting with others. In the content-support model, interaction was kept at a minimum with only 20% of the course focused on online interaction with peers and the instructor (Ke & Xie, 2009). With the wraparound model, interaction was a main focus of the course with over 50% of the time focused on interaction with peers and the instructor in the form of discussion boards and collaborative activities (Ke & Xie, 2009).

Ke and Xie (2009) tested the perceptions of undergraduate and graduate students using these three models. The results indicated that the students surveyed were significantly more satisfied with the integrated model versus the content-support and wraparound models (Ke & Xie, 2009). In alignment with Ke and Xie's models (2009), Croxton (2014) determined students are most satisfied when the course design has a high degree of interactivity both with content and socially. Several studies have found that student-content interaction is the greatest indicator of student satisfaction with online learning (Chejlyk, 2006; Kuo, Walker, Belland, & Schroder, 2013). Student-content interaction means the interaction the student has with the course content on the Internet. Researchers Eom, Wen, and Ashill (2006) suggested course content needs to provide a greater amount of flexibility than a traditional face-to-face classroom setting. Course content that provides tasks such as collaboration with peers and online research may

improve the student's interaction with course content (Kuo et al., 2013). Collaboration is an important ISTE standard and states that educators should use collaborative tools for students to interact with each other as well as the instructor (ISTE, 2017). Another suggestion for improving student-content interaction was using interactive media tools such as online videos (Havice, Davis, Foxx, & Havice, 2010). One last suggestion found in the research suggested designing an online course to give students a social presence, which in turn increases satisfaction with the course (Richardson & Swan, 2003). Creating a social presence for students leads to a greater interaction with peers and instructors, which research has also attributed to increasing student satisfaction with online courses (Croxton, 2014). ISTE (2017) Standard 3 also encouraged creating a social presence for students in order to build relationships with peers and ultimately create a supportive learning community.

Interaction with peers and instructors. Interaction is a vital factor in determining student satisfaction with an online course (Bolliger & Martindale, 2004; C. Cavanaugh, Gillan, Kromrey, Hess, & Blomeyer, 2004; Croxton, 2014; Frederickson et al., 1999; Harris & Martin, 2012; Kauffman, 2015; Kuo et al., 2013; Ni, 2013; Nguyen, 2015; Roach & Lemasters, 2006; Sinclaire, 2011). According to Kuo et al. (2013), student-instructor interaction and student-content interaction contributed to satisfaction; however, peer-to-peer interactions had no effect on student satisfaction. ISTE (2017) Standard 4 reinforced the idea that student-instructor interaction was vital to a successful online course. ISTE Standard 4 stated the teacher should engage in colearning with students through interaction as well as co-collaborate with students in order to engage them in their own learning. Bolliger and Martindale (2004) also reported that student-

instructor interaction was the most significant in predicting student satisfaction with online courses.

A case study conducted at a community college reinforced the idea that student-instructor interaction is the most significant factor in predicting student satisfaction (Seaberry, 2008). This study invited students from a community college into a focus group in order to determine the most important factors to their satisfaction with online learning. An e-mail invitation was sent to 1,955 students who were enrolled in online classes at the community college being studied. The invitation invited students to attend a free lunch or dinner to discuss the likes and dislikes of online courses. Of the 1,955 students invited, only 12 students responded for the lunch focus group and 15 responded to the dinner focus group. During the focus group, the researcher reported that students ranked the instructor interaction as the most important interaction for an online course and noted student-instructor interaction as vital factor in the overall satisfaction with online learning (Seaberry, 2008).

One of the key factors of student-instructor interaction is timely feedback (Butz, 2004; Croxton, 2014; Hattie & Timperley, 2007; Ruey, 2010; Seaberry, 2008). A community college focus group revealed that students expressed frustration when their online instructors did not respond to them in a timely manner (Seaberry, 2008). Butz (2004) surveyed students at three school districts in three different states. The students' grades ranged from third grade to the 12th grade. Less than 200 students responded to the survey. However, the students who responded indicated that timely feedback was a key component to their satisfaction with their online courses (Butz, 2004). Ruey (2010) used interviews and observations in order to investigate course design factors that contribute to

online learning. Ruey discovered that feedback from instructors was a critical component in perceived quality of the online course by the students. Hattie and Timperley (2007) found that feedback could increase student effort and motivation. Hattie and Timperley also wrote that feedback was one of the most critical components to student learning and engagement.

Sher (2004) surveyed students enrolled in online courses at George Washington University. The students were from several different departments and programs offered at the university. A total of 652 students were e-mailed the URL link to the survey, and a total of 208 students responded to the survey. The researcher indicated the response rate was only 31.9%, which was lower than what he had hoped for. However, Sher discovered that students valued the interaction with their instructors more than any other factor. Sher proposed that interaction with the instructor is vital because students often feel geographically isolated from the academic community in which they are enrolled. Sher wrote that the instructor has the burden to facilitate interaction with both the instructor and with other students. Data from the study conducted by Sher also suggested the idea that instructor feedback is an important component to the student-instructor interaction.

Research by Bordelon (2011) also supported the importance of student-instructor interaction. Bordelon attempted to determine whether the differences in student-instructor, student-student, or student-content interaction were related to the differences in perceived satisfaction and achievement. The study invited 300 K-12 teachers enrolled in an online master's program to participate in the survey. Out of the 300 invited, 155 responded to the survey (Bordelon, 2011). The survey indicated student-instructor interaction had the most positive association with perceived satisfaction and achievement.

Although student-student interaction and student-content interaction were still perceived as valuable, student-instructor interaction was the most important factor to perceived satisfaction and achievement for the survey respondents (Bordelon, 2011).

Bordelon (2011) also investigated which components of student-instructor interaction were the most important to the survey respondents. The survey revealed instructor feedback was a vital component to satisfaction with the interaction between student and instructor, which agreed with other studies that feedback is one of the most important factors when it comes to student-instructor interaction (Butz, 2004; Croxton, 2014; Ruey, 2010; Seaberry, 2008; Sher, 2004).

In conclusion, student satisfaction includes interaction with peers and instructors, learning objectives and outcomes that match student and course expectations, support services technologically and academically, and a quality orientation course. The OLC narrowed those components into three factors that affect student satisfaction with online courses: course rigor (design) and fairness, peer-to-peer interaction and student-instructor interaction, and support services (OLC, 2016). Many quantitative studies have been conducted to analyze student perceptions about online learning and some qualitative studies have been conducted as well.

Other Qualitative Studies Involving Online Learning

According to Yang and Cornelius (2004), the literature for online learning is expanding, studies about the quality of online learning is lacking. The researchers conducted a qualitative study to discover student perceptions about their experiences with online learning. The researchers also sought to identify the factors that shaped the students' online learning experiences. Yang and Cornelius used interviews, observations,

and document analysis to collect data from only three college students enrolled at different universities. The researchers discovered the three students indicated flexibility, cost-effectiveness, electronic research availability, and ease of connection to the Internet as positives of online learning. The negatives of online learning included: delayed feedback from teachers, lack of technical support, lack of motivation and self-regulation, and isolation. Yang and Cornelius concluded that the overall quality of education the three students received was moderate. This means that the students were not very satisfied with the quality of education from online learning. The researchers concluded that the isolation and the lack of feedback from teachers contributed the most to this dissatisfaction among the three students.

Another qualitative study (Blackmon & Major, 2012) explored ten other studies of student experiences with online learning to search for common themes. Five themes that were found in the review of the other studies included: school and life balance, time management, personal responsibility, accessibility to the instructor, and peer-to-peer interaction. The study found that the most common barrier to learning was family. However, the study also found that this was also the factor that made students the most grateful for the opportunity to take classes online. Students described maintaining the balance between family life and school work was a tremendous benefit in taking online courses.

Blackmon and Major (2012) found that time management was a concern to online students. Students described the difficulty of managing the workload that comes with online courses with their everyday lives. Along with time management, the study found students enjoyed the autonomy of online learning and the personal responsibility for their

own learning. One of the biggest concerns with online learning came from the interaction and feedback from instructors (Blackmon & Major, 2012; Yang & Cornelius, 2004). Not all of the students in the study had positive experiences with their online instructors. The lack of communication and help when it came to complex assignments lead to dissatisfaction among students in the study. The same result was found with the peer-to-peer interaction in the courses. Not all students in the study had positive experiences with the opportunities for interaction in their online courses and had feelings of isolation (Blackmon & Major, 2012; Yang, 2004).

In conclusion, Yang and Cornelius (2004) and Blackmon and Major (2012) conducted qualitative studies to determine student perceptions of their online education experiences. However, neither of these studies were conducted at the secondary level. Therefore, the purpose of this study is to contribute to the literature related to online learning and student experiences as well as analyze student experiences at the secondary level.

Summary

In this chapter, the researcher presented the history of online education and the evolution of distance learning to what we see today in the world of education. The researcher also presented the advantages and disadvantages of online learning as well as the ethical issues surrounding online learning. The researcher presented the evidence of the key factors related to student satisfaction with online learning. These factors included technology support, teacher interaction, peer-to-peer interaction, and course design (OLC, 2016). Some of the research suggests teacher-student interaction was the most significant factor in determining student satisfaction with online courses (Bolliger &

Martindale, 2004). However, competing research has found that student-content interaction is the greatest indicator of student satisfaction (Chejlyk, 2006; Kuo et al., 2013). The first goal of this study was to measure the perceptions of Missouri high school seniors in relation to their experiences with online coursework. The second goal of this study was to find the most significant factor in predicting overall satisfaction with online learning.

Chapter Three presents the methodology and the instrument used in this study. Chapter Four reveals the findings of the study and the statistical tests used to determine the perceptions of high school seniors in Missouri. Chapter Five discusses the conclusions and recommendations for further study as related to this topic.

Chapter Three

Methodology

Introduction

The purpose of this qualitative study was to analyze students' experiences with online learning at the high school level and to identify patterns and themes in their experiences with online learning. The researcher interviewed students from various school districts in the state of Missouri that offered online courses to secondary students. The sample population was limited to graduated students. The interview included a total of 19 questions (Appendix A).

The research focused on the following research questions:

1. What themes emerge from student experiences with technology support for online learning at the secondary level?
2. What themes emerge from student experiences with teacher and peer interaction for online learning at the secondary level?
3. What themes emerge from student experiences with course design for online learning at the secondary level?
4. What themes emerge from students' overall thoughts and feelings with online learning at the secondary level?

This chapter identifies the participants in the study and describes the method of collecting data, specifically focusing on the selection of the participants. Chapter Three also describes the research setting and design for this study. The instrumentation used in this study is also discussed. Finally, a description of how the data analysis was conducted is included in this chapter.

Participants

The participants in this qualitative study included 20 high school graduates. Participants were selected using criterion sampling in order to obtain a more purposeful sample. The research focused on graduated high school students who had taken at least one online course in their respective districts. The researcher offered a $20 Amazon gift card to each participating student as an incentive. Graduated students were selected due to the research constraints of most school districts in the state and due to the likelihood graduated students had at least one online course during their high school tenure.

Participants were recruited from a variety of sources. The researcher contacted administrators and teachers from various districts across the state asking for potential candidates. The researcher used convenience sampling to recruit potential participants from the researcher's own school district and used the researcher's own personal connections for recruitment. The researcher contacted participants to schedule a day and time for the interview. Due to the nature of this study and the fact participants were selected from all over the state, some interviews were done in person while others were conducted over the phone. The researcher recorded and transcribed each interview and provided the transcripts to each interviewee for their review.

Participants' names were not used in this study. There were no known risks to any of the participants. Each participant in the study completed an informed consent form (Appendix B). Participants' information was all kept confidential and each participant could back out of the study at any time. The data collected from each interview were kept on a password-secured device and were not shared or disseminated to any third party.

Sampling Procedures

The researcher used a mix of criterion-based sampling and convenience sampling to effectively obtain responses from the target population. Criterion-based sampling was used to effectively select participants who had taken at least one online course during their high school tenure. According to Creswell (2012), criterion-based sampling can be used in a qualitative study for quality assurance purposes and to provide insight into the research questions and overall purpose of the study. Some convenience-based sampling was used in order to obtain an appropriate sample size. The researcher recruited graduates from the researcher's own school district as well as used personal connections to recruit participants from across the state. According to O.C. Robinson (2014), convenience sampling can be used in qualitative research when the sample universe is demographically and geographically local.

The researcher interviewed a total of 20 participants from the list of potential participants. The researcher used criterion-based sampling to choose participants that had the most experience with online learning and had graduated from a variety of school districts from across the state. The researcher e-mailed each potential interviewee to introduce them to the study and to confirm their participation. The researcher contacted each participant to set up an interview day and time. Geographic proximity to the researcher determined whether the interview was conducted via phone or in person. The researcher recorded and transcribed every interview and provided the transcripts to each interviewee for their personal review.

Research Setting

The interviews took place at various locations and times across the state. The researcher met with some participants at the researcher's own site building or conducted interviews via a phone call or FaceTime. The scope of this study intended to collect data from graduates from a variety of school districts across the state. The researcher wanted as many school districts represented as possible. The geographic location of each participant determined the interview method (face-to-face or phone call).

Research Design

The focus of this study was to interview academically successful high school graduates with experience in online courses. The goal of the study was to analyze these specific student experiences by identifying trends during the interview process. The researcher used a preexisting survey created by Butz (2004) to help formulate the interview questions contained in the interview guide. The interviews were conducted in the summer and fall of 2018. As required by Southwest Baptist University (SBU), the researcher submitted a request to the Research Review Board for approval to conduct the survey during the summer and fall months of 2018. After the request was approved, the researcher began the recruiting process by using convenience sampling and criterion-based sampling to narrow down the participants for selection.

Participation in the interviews occurred through face-to-face meetings or via phone call/FaceTime. There were no potential risks to the participants of this study. The information collected during the interviews was kept confidential, however, each participant did have to give permission for the researcher to use the results. After

determining which students would be interviewed, the researcher contacted each student to schedule an interview date and time.

In order to encourage participation and gain a sufficient number of responses, the researcher provided an incentive for each participant. The researcher provided a $20 gift card to each participant after the interview. In order to receive a gift card, the participant had to give the researcher permission to use the results of the interview and had to complete the interview in its entirety.

Instrumentation

The instrument used in this study was an interview guide with questions related to a survey created by Butz (2004). Permission to use the survey was granted via e-mail on January 20, 2017. The survey contained a total of 27 items with questions related to specific factors of student satisfaction with online classes. The factors included tech support, interaction with peers and teachers, course design, and overall satisfaction. Each question used a 5-point Likert scale (i.e., 1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, 5 = *strongly agree*). The researcher used the exact ordering of questions as created by Butz. See Table 1 below for the questions and the specific related factor.

Table 1

Survey Items With Related Factor of Student Satisfaction

Item	Related Factor
Technology support at my school is prompt.	Tech support
Technology support at my school is courteous.	Tech support
Technology support at my school is effective.	Tech support
Technology support at my school is available when I need it.	Tech support
My teacher is available for assistance when needed.	Teacher interaction
My teacher gives prompt feedback.	Teacher interaction
My teacher gives appropriate, helpful feedback.	Teacher interaction
My teacher adequately measures and reports academic progress.	Teacher interaction
My teacher shows respect to students' individual differences.	Teacher interaction
My teacher knows my strengths and weaknesses.	Teacher interaction
The online curriculum programs at my school are visually pleasing.	Course design
The only curriculum programs at my school are free of technical problems.	Course design
Logging on to the online curriculum program is efficient.	Course design
The online curriculum programs at my school are easy to navigate.	Course design
The online curriculum program allows me to work independently.	Course design
The social opportunities available through my school are adequate in quantity.	Peer interaction
The social opportunities available through my school are adequate in quality.	Peer interaction
I feel like a part of a school community at my school.	Peer interaction
I have made friends at my school.	Peer interaction
I don't miss going to school every day.	Peer interaction
I am able to learn at my own pace at this school.	Peer interaction
I am able to work at my own level at this school.	Overall satisfaction
I feel comfortable working independently when a teacher is not available.	Overall satisfaction
I am learning as much or more than if I was in a traditional school setting.	Overall satisfaction
The administration at my school is supportive of my needs.	Overall satisfaction
Overall, I am happy with my online education at this school.	Overall satisfaction
I would recommend an online school to my friends.	Overall satisfaction

Although the survey instrument created by Butz (2004) was not used in this study, the researcher created questions in the interview guide that connected to each related factor in the initial survey. The researcher decided to use the survey as the basis for the interview guide questions due to the survey questions relating to the factors of student

satisfaction as determined by the OLC (2016), which was part of the conceptual framework for this study.

Table 2

Interview Questions With Related Factor of Student Satisfaction

Item	Related Factor
What is your name and how old are you?	Demographics
What school district did you attend in high school?	Demographics
How many online courses did you take during high school and which courses were they?	Demographics
Which online platform was used for your online courses?	Demographics
If comfortable sharing, what grades did you receive in your online courses?	Demographics
Describe the technology support available to you with your online course.	Tech support
How did technology support staff interact with you if you had an issue and needed help to resolve it?	Tech support
Describe how your online teacher communicated with you and your class during the course.	Teacher interaction
What were some strengths of your online teacher? Weaknesses?	Teacher interaction
What are some suggestions you would give to your online teacher to improve your online learning experience?	Teacher interaction
Describe how your online course appeared visually and how the course was structured for navigation purposes.	Course design
Describe any issues you may have had with design of your online course.	Course design
What suggestions would you give to improve the overall design, structure, or visual appeal for your online course?	Course design
Describe the opportunities you had to interact with your classmates during your online course.	Peer interaction
How often did you actually communicate with a peer from your online course?	Peer interaction
Describe how you were able to make friends or personal connections to your classmates in your online course.	Peer interaction
What are some suggestions you would give to improve the social interactions or collaboration with your classmates in an online course?	Peer interaction
Describe your overall experience with your online course.	Overall satisfaction
When you reflect on your online courses, what words best describe your experiences?	Overall satisfaction

The questions for the interview guide (Appendix C) relate to each factor in the OLC (2016) student satisfaction pillar, which was the basis for this study and the Butz (2004) study. Five demographic questions were included to establish age of the participants and the respective school districts they attended in high school. One of the goals of this study was to interview graduated students from a variety of students across the state. The researcher piloted the interview questions as suggested by the research committee at SBU in order to test reliability and validity. Both reliability and validity of the interview questions and the interview process were tested through a pilot group, committee and adviser review, and examining and identifying the researcher's own personal bias when creating the study methodology.

The researcher chose two graduated students from the researcher's school district to pilot the interview questions. The researcher contacted the students via e-mail to ask for their willingness to participate in the pilot study. The students were selected due to their fitting the criteria for selection and for convenience. The students and the researcher set up a meeting date and time via email and met face-to-face at the researcher's school for the pilot interview. The researcher provided the informed consent in Appendix B to the students and used the interview guide in Appendix C to conduct the interview. The researcher recorded the interview and used the same procedures that were used in the collection of data.

Validity and Reliability

For validity, the researcher addressed descriptive validity, interpretive validity, theoretical validity, generalizability, and evaluative validity (Thomson, 2011; Walsh, 2003). According to Thomson (2011), descriptive validity refers to the accuracy of the

data. The data must accurately reflect what each student said during the interview. In order to ensure descriptive validity, the researcher e-mailed each participating student the transcript of the interview. Students were able to review the transcript and make adjustments as needed. Interpretive validity refers to how well the researcher records and reports the responses of the participants (Thomson, 2011). The researcher ensured interpretive validity by asking follow-up questions or clarification questions included in the interview guide in Appendix C. Theoretical validity refers to how the researcher relates or connects the study and responses to the broader theories described in Chapter Two (Thomson, 2011). In order to ensure theoretical validity, the researcher compared the responses from each student and the conclusions made by the researcher to the theories addressed in Chapter Two.

Generalizability refers to the researcher being able to apply the results from the study on a larger scale or universally (Thomson, 2011). Although generalizability can be difficult for qualitative studies (Thomson, 2011), the researcher addressed generalizability by ensuring the participants came from a variety of school districts across the state of Missouri as well as various online programs. Evaluative validity refers to assessing the conclusions made by the researcher (Thomson, 2011). The researcher ensured evaluative validity by recording and transcribing each interview for each participant's review and through the use of triangulation of data. According to Fusch, Fusch, and Ness (2018), triangulation of data refers to using multiple sources of data to enhance validity and reliability in the data. The researcher recorded and transcribed all of the in-person interviews for the study. The researcher also analyzed handwritten notes during the interview and compared the notes to the transcripts of each interview. Finally,

the researcher sent each participant a copy of the transcript to allow the participants to make any adjustments as necessary. All of these sources of data and the use of triangulation ensured evaluative validity.

In order to ensure reliability, the researcher used triangulation of the data collected to ensure no bias or errors in the researcher's data collection. The researcher also sent each participant the transcripts and allowed the participants to make any adjustments or changes as necessary. The researcher created an interview guide and described the data collection procedure in detail in Chapter Three to ensure the study could be replicated in the future.

Data Analysis

The analysis of the qualitative data collected in this study used both content analysis and thematic analysis to identify themes and patterns in the data collected. The researcher recorded and transcribed each interview and provided the transcriptions to each interviewee for review to ensure accuracy. The interviewees had an opportunity to clarify or add any further details based on the transcription. If any clarifications or adjustments needed to be made, the researcher made these adjustments in the transcriptions and notes from the interview.

The researcher used personal memos and the transcripts from the interviews to conduct the data analysis from the data collected. In order to ensure trustworthiness in the results, single and cross-question analyses was performed. The researcher examined themes within each question as well as within the questions related to each pillar. The researcher conducted a cross-question analysis by examining the data across all of the questions. Data were analyzed by identifying common words, patterns, and key phrases

and segmenting these into categories by coding. After segmenting the data through coding, the researcher identified common themes by completing a content analysis of the data with coding to identify key words and patterns. In order to interpret the meaning of the data collected, the researcher performed a thematic analysis of the coded data to identify common themes. Once the themes had been identified through the thematic analysis, the researcher interpreted the themes and patterns based on the research questions. Using interviews to collect qualitative data is a common approach (Gill, Stewart, Treasure, & Chadwick, 2008) and using content and thematic analysis are two appropriate methods to analyze qualitative data (Vaismoradi, Turunen, & Bondas, 2013).

Data were viewed through the lenses of the student satisfaction pillar (OLC, 2016). Each interview question related to a factor included in the student satisfaction pillar. The student satisfaction pillar was determined to be the most important factor in determining academic success for the online student in the review of literature. These factors formed the basis of the interview guide and served as a structure to interpret the experiences of the participants from the data collected.

Summary

This chapter presented the methodology that was used in collecting and analyzing the interview responses for this study. High school graduates were the participants in this study. Graduates had to have taken an online course during their high school career. The researcher chose 20 participants to interview based on the criteria. Interviews were conducted face-to-face and over the phone. The researcher transcribed all interviews and conducted a content analysis by coding to identify patterns and key words in the data.

Once all of the data were coded, the researcher conducted a thematic analysis to identify themes in the data and used the research questions in order to interpret the data collected.

The fourth chapter in this study provides an analysis of the qualitative data collected from the interviews. Chapter Five provides conclusions and recommendations based on the data analysis as well as recommendations for further research.

Chapter Four

Analysis of the Data

Introduction

The purpose of this study was to analyze students' experiences of online learning at the secondary level and to find common themes related to student satisfaction. This chapter presents the results from the interviews conducted for this qualitative study. The Online Learning Consortium (OLC, 2016) has identified three factors related to student satisfaction. These factors include technology support, interaction with the instructor and peers, and course structure and design. The researcher used an existing survey created by Butz (2004) to create qualitative interview questions contained in the Interview Guide (Appendix C). This study strived to identify common themes in each question and each overall factor of student satisfaction. The goal of the researcher was to add to the research about online learning and to expand this research into secondary education.

The researcher interviewed a total of 20 participants. In order to be interviewed, participants must have completed at least one online course during their high school tenure. The researcher used convenience sampling to identify participants. Out of the 20 participants, 10 had graduated from the researcher's school district. The other 10 were chosen from local universities. The researcher conducted interviews both in person and via phone depending on distance and convenience for the participants. The findings from the researcher's interviews are presented in this chapter.

Chapter Four is presented in three parts. The first part focuses on the demographics of the participants. The second part of the chapter examines the results of

the data collected from the interviews. The third part addresses the research questions for this study:

1. What themes emerge from student experiences with technology support for online learning at the secondary level?
2. What themes emerge from student experiences with teacher and peer interaction for online learning at the secondary level?
3. What themes emerge from student experiences with course design for online learning at the secondary level?
4. What themes emerge from students' overall thoughts and feelings with online learning at the secondary level?

Demographics

The participants of this study were graduated students who had taken at least one online course during their high school tenure. The research setting was limited to the state of Missouri and included face-to-face interviews as well as phone interviews. Questions 1-5 of the interview guide were demographic questions. These questions included the following:

1. What is your name and how old are you?
2. What school district did you attend?
3. How many online courses did you take during your high school career and which courses were they?
4. Which online platform was used for your online courses?
5. If comfortable sharing, what grades did you receive in your online courses?

Participants. The participants from this study were selected using criterion-based sampling and convenience sampling. Criterion-based sampling can be used in a qualitative study for quality assurance purposes and to provide insight into the research questions and overall purpose of the study (Creswell, 2012). Criterion-based sampling was used to effectively select participants who had taken at least one online course during their high school tenure. Convenience-based sampling was also used in order to obtain an appropriate sample size. Graduates from the researcher's own school district were recruited as well as participants in surrounding area colleges and universities. According to O.C. Robinson (2014), convenience sampling can be used in qualitative research when the sample universe is demographically and geographically local.

Of the 20 selected participants, 10 were graduates from the researcher's school district. The other 10 were current students at local universities in the area. The researcher personally contacted 10 participants from the researcher's own school district via phone calls and e-mail messages for recruitment. These 10 participants are identified as Group A in this analysis. Group A consisted of four males and six females all within the age range of 18-20. Only one participant out of Group A had taken more than one online course during their high school tenure. However, all participants in Group A had used the same online platform for their online courses.

The 10 participants selected from local universities and colleges are identified as Group B in this analysis. Group B consisted of one male and nine females within the age range of 18-22. All 10 participants of Group B had taken multiple online courses during their high school tenure using various online platforms and learning programs. Out of the 20 interviews, eight were conducted face-to-face and 12 over the phone. The face-to-face

interviews occurred at the researcher's school and a public library. The researcher and the participants scheduled phone interviews in advance.

For both Group A and Group B, students received a mix of A's and B's for their course grades. The online platforms used differed for Group A and Group B. Group A used Canvas for their courses while Group B mainly used Blackboard. Out of the 10 participants in Group B, seven used Blackboard exclusively. Demographics are represented in Table 3 through Table 5.

Table 3

Group A Demographics

Demographic Category	Percent of Participant Population
Gender – Male	40%
Gender – Female	60%
Platform – Canvas	100%
Interview – Face-to-face	70%
Interview – Phone	30%

Table 4

Group B Demographics

Demographic Category	Percent of Participant Population
Gender – Male	10%
Gender – Female	90%
Platform – Canvas	10%
Platform – Blackboard	70%
Platform – Other	20%
Interview – Face-to-face	10%
Interview – Phone	90%

Table 5

Group A and B Geographic Regions

Geographic Region	Percent of Group A	Percent of Group B
Southwest Missouri	100%	30%
Central Missouri		30%
North Central Missouri		10%
East Missouri		10%
Northwest Missouri		10%
Homeschooled		10%

Tables 3-5 show the demographics of the participants in this study. The researcher interviewed 20 participants and divided these participants into two groups based on the platform used and whether they attended the researcher's school district for their online courses. All members of Group A attended school in Southwest Missouri and Group B had participants from across the state of Missouri. Overall, the researcher interviewed more females than males and conducted more phone interviews than face-to-face interviews.

Interviews. Semistructured interviews took place from early November 2018 to early December 2018. Participants chose whether they wanted to interview in person (face-to-face) or via a phone call. Out of the 20 participants, eight chose face-to-face and 12 chose via phone. The Interview Guide (Appendix C) was used to conduct the interview. Participants were given the Informed Consent Form (Appendix B) before the interview to ensure each participant understood the purpose of the study and to give the researcher consent to use the interview data for research purposes.

The researcher conducted a pilot interview individually with two participants from the researcher's school district in order to test reliability and validity before moving

forward with the study. Interview data consisted of audio transcriptions and personal notes taken by the researcher during each interview. After each interview, the researcher used a transcribing service to transcribe the interview. Once the researcher received the transcriptions, the researcher e-mailed each participant their individual transcripts for their review. Each participant received a $20 gift card to recognize their participations in the study. After the researcher ensured all consent forms had been received, the researcher analyzed the data collected from each interview.

Data Analysis

This study used both content analysis and thematic analysis to identify themes and patterns in the data collected. Themes within each question and within the questions related to each factor were examined. A cross-question analysis was conducted by examining the data across all of the questions. The researcher used coding to identify common words, patterns, and key phrases. Common themes were identified by the researcher completing a content analysis of the data with coding to identify key words and patterns. Themes were identified when there were at least four or five participants corroborating the same overall theme.

To interpret the meaning of the data collected, the researcher performed a thematic analysis of the coded data to identify common themes within each question in the Interview Guide (Appendix C). Each interview question related to a factor included in the student satisfaction pillar (OLC, 2016). Once the themes had been identified for each question, the researcher interpreted the themes and patterns based on the overall research question. The data analysis in this chapter identifies themes and common themes for each

interview question (excluding demographics). This chapter also examines the overall themes related to each of the research questions that guided this study.

Question 6. This question asks the participants to "Describe the technology support available to you with your online course." This question had the participants identify to whom they would turn to if they experienced any technical issues with their online course. Common themes and patterns that emerged are outlined in Table 6.

Table 6

Common Themes/Patterns in Question 6

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
Provided e-mail	5/10	6/10	11/20
Provided phone number	5/10	7/10	12/20
Contact teacher	2/10	7/10	9/20

Both Group A and Group B participants indicated they were given e-mail addresses and phone numbers to call in case of technical issues. One student responded, "They had a tech number, IT number you could call if you needed assistance in logging in or any of that." "Contact Teacher" also emerged as a theme, because 70% of Group B shared this experience. A participant responded, "We were allowed to email the teacher and she would respond within 24 hours." Overall, the common support mechanisms were provided through email, phone, or the instructor.

Question 7. The researcher asked students "How did technology support staff interact with you if you had an issue and needed help to resolve it?" This question had

participants identify the manner in which support staff assisted them if they were to encounter any issues with their online course. Table 7 consists of the common themes and patterns identified from the interviews.

Table 7

Common Themes/Patterns in Question 7

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
No issues in course	8/10	5/10	13/20

The majority of the students indicated they had no issues with their online course and never had to contact technology support. One participant responded, "I really didn't have an issue, so I didn't ever have to contact anyone." Another student replied, "I never had any issues with the course." Only three participants indicated they had to contact technology support, which two described as helpful and one as useless. The participant that described the support as useless responded, "I played phone tag for awhile and when I did get a hold of someone, they always referred me to someone else." Because of the limited interaction with technology support by the students, the researcher did not include these responses as a common topic or pattern. Overall, students did not experience many issues in their courses.

Question 8. This question asked students to "Describe how your online teacher communicated with you and your class during the course." A subset question asked participants "How often would your teacher communicate with the class?" Common themes and patterns are identified in Table 8.

Table 8

Common Themes/Patterns in Question 8

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
Posting announcements	7/10	8/10	15/20
Email	7/10	5/10	12/20

Both Groups A and B indicated their teachers would mainly communicate via posting announcements on their course pages and sending emails class-wide and individually. A student replied, "They would post announcements and would send out emails if they needed to communicate directly with me." Another responded, "For the most part, communication was through email and announcements." The researcher noted that a few students indicated their teachers would send out daily or weekly videos to the class. One student responded, "The teacher would send weekly emails and every Monday night she would upload videos of herself saying what we were supposed to do that week." However, video announcements and video lectures were rare.

The subset question of "How often would your teacher communicate with the class?" did not have any identifiable themes or patterns. There was a wide variety of answers to this question ranging from daily to very rarely. Overall, the online instructor communicated via announcements and email.

Question 9. The researcher asked participants "What were some strengths of your online teacher? Weaknesses?" This question was an attempt to identify the quality

of teaching in online courses. The common themes and themes associated with this question are identified in Table 9.

Table 9

Common Themes/Patterns in Question 9

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
Delayed feedback	5/10	5/10	10/20
Distant/Disconnected	4/10	5/10	9/20
Good instructor	6/10	8/10	14/20

Both Groups A and B identified a weakness of delayed feedback for their online teachers. One student responded, "There would be a variable wait from one day to upwards of a week." Another student replied, "There were times when it would be a day, like 24 hours before a question was answered." In a response to a probing question about grading, a participant said, "We would turn in an assignment and they wouldn't grade it until weeks later."

Another weakness indicated by Group B was distant or disconnected. Most participants acknowledged this weakness was part of the nature of taking an online course. One student replied, "I know it's hard because it's online, but they're also not trying to get to know you." Another student responded, "Neither of my teachers ever reached out to me personally or sent me a message to see how everything was going."

A common strength found in both groups was the perception of having good instructors for their online courses. One student described their teachers as "both very

good at helping me understand what exactly I needed to do for each assignment." Another student responded, "you could tell he was very experienced" and "seemed to know what he was talking about and if I did have questions, he could answer them." Participants were also asked the subset question "Describe how the teacher's strengths and weaknesses contributed to your experience with your online course." There were no identifiable themes or patterns associated with this subset question. Students had a variety of experiences with their teachers. Group A did have six participants indicate the teacher made their course easy. Five participants also enjoyed being able to work independently. However, not enough participants made these claims to include them as a topic or pattern.

Question 10. This question asked participants "What are some suggestions you would give to your online teacher to improve your online learning experience?" Table 10 identifies the common themes and patterns.

Table 10

Common Themes/Patterns in Question 10

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
More interaction with students	6/10	7/10	13/20

This question led to a variety of answers but one pattern was apparent in the research. Both Groups A and B indicated they felt teachers should interact more with their students. One student responded, "I think it has to be more personable and emphasize student success instead of just getting them through the course." Another student replied, "I would say to interact with your students more since none of my

teachers tried to interact with me individually." Participants suggested live videos and class sessions and getting to know students in the class.

Question 11. The researcher asked participants, "Describe the opportunities you had to interact with your classmates during your online course." Table 11 identifies the common themes and patterns found in the analysis.

Table 11

Common Themes/Patterns in Question 11

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
Discussion board posts	9/10	9/10	18/20

Both Group A and B indicated discussion board posts were the main method of interacting with their peers in their online course. A student replied, "The only opportunity that I had was on a discussion board." Another responded, "The only way was to do discussion boards." Mention of group projects and assignments was rare and did not present a pattern when analyzing the data.

Question 12. This question asked participants, "How often did you actually communicate with a peer from your online course?" A subset question also asked, "What was the primary form or design of communication?" The common themes and patterns are identified in Table 12.

Table 12

Common Themes/Patterns in Question 12 and 12a

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
Once a week	6/10	8/10	14/20
Discussion boards (12a)	9/10	9/10	18/20

According to the data, discussion boards were the primary form of communication with peers and posts would occur once a week. A student responded, "The only time we communicated was in the discussion boards when we were, more or less, forced to communicate with each other." Another student replied, "The only times that I ever did communicate was through discussions online, which wasn't much interaction." A few participants reported no discussion board posts or interaction and one reported posting three times a week.

Question 13. The researcher asked participants to "Describe how you were able to make friends or personal connections to your classmates in your online course." This question attempted to identify whether students were able to build relationships with any of their peers through their interactions in their online course. This question also included a subset question asking participants "If you didn't make any friends or personal connections, describe why this was the case." Table 13 identifies the common themes and patterns for this question.

Table 13

Common Themes/Patterns in Question 13 and 13a

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
Didn't make friends or personal connections	9/10	7/10	16/20
Lack of opportunity (13a)	8/10	6/10	14/20

Both groups indicated a lack of making personal connections or friendships in their online courses. One student noted "it was primarily due to a lack of opportunity." Another responded, "The only interaction with other students was focused on the course. There was nothing to bond over." Four students said they made a connection only because they recognized their friends taking the same classes. However, only one student indicated they made a new personal connection from their online course.

Question 14. This question asked participants "What are some suggestions you would give to improve the social interactions or collaboration with your classmates in an online course?" The common themes and patterns are identified in Table 14.

Table 14

Common Themes/Patterns in Question 14

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
Groups projects/assignments	8/10	7/10	15/20

Both groups indicated the need for assigning more group projects and assignments to improve the social interaction with their peers. One student suggested "having live class sessions via a video meeting application once a week for discussion." Another student suggested "have group projects, discussions within a classroom setting online." Another response was "You might make them do a video chat or something; that would probably help. Like make more group projects." Two of the participants did not feel the need to interact with peers in an online course and suggested keeping all work independent. Overall, students desired more group projects and assignments to improve social interactions with their classmates.

Question 15. The researcher asked participants to "Describe how your online course appeared visually and how the course was structured for navigation purposes." The common themes and patterns are presented in Table 15.

Table 15

Common Themes/Patterns in Question 15

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
Easy to navigate	10/10	8/10	18/20
Organized	8/10	6/10	14/20
Visually bland	2/10	5/10	7/20
Visually appealing	8/10	4/10	12/20

Both groups indicated their online courses were organized and easy to navigate. However, there was a defined split between Group A and Group B when it came to visual

appeal. As mentioned previously in this chapter, Group A participants all utilized Canvas for their online course. Group B members used a mix of other platforms but mainly Blackboard. Group A indicated their online courses were visually appealing with the courses utilizing pictures and vibrant colors. One student described their course as "It was pretty visually appealing. It was more visually appealing than even some of my college ones now." Another student responded, "It looked a bit more modern." Group B mainly reported bland visuals with little visual appeal. A student in Group B replied, "You didn't want to sit there and just do the work for six hours in a row because it was just very bland." Another responded, "It was kind of boring." Overall, students felt their courses were organized and easy to navigate.

Question 16. This question was "Describe any issues you may have had with the design of your online course." Responses were varied with both groups. One student responded, "I didn't really have any issues with it. It was pretty user-friendly." Another replied, "The biggest issue I had with the actual design of the course was finding information from the past." Since the responses were varied, there was no defined topic or pattern identified with this question.

Question 17. Participants were asked "What suggestions would you give to improve the overall design, structure, or visual appeal for your online course?" Responses varied with both groups. Four participants in Group B indicated making the online course more visually appealing. One student responded, "I would say use more colors and bold colors" and another replied, "Maybe provide different layouts that students can choose from with more colors." Another student suggested, "Somehow get us a physical copy of

the book because reading it on the computer was not always user friendly and kind of a pain." The responses were overall varied; therefore no topic or pattern was identified.

Question 18. This question was "Describe your overall experience with your online course." Table 16 identifies common themes and patterns for this question.

Table 16

Common Themes/Patterns in Question 18

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
Satisfactory	5/10	5/10	10/20
Independent	2/10	6/10	8/20

This question had two common themes but answers varied between both groups. Even though many responses were critical of certain aspects of their online course, participants had a satisfactory experience with their courses when asked this question. One student responded, "I think it was an experience that I'm glad I did because it helped me learn in different ways." Another student replied, "It was worth the price of admission. I got the education that I came for and the price was reasonable." Another common topic within Group B was the independence associated with taking an online course. Participants in Group B indicated online courses are catered and designed for learners who enjoy working independently. A student responded, "It was something you can do in your own time and fit best into your schedule." Another student replied, "I liked teaching myself. I could go at my own pace and get as much done as I wanted." Overall, respondents were satisfied and enjoyed the independence of their online courses.

Question 19. The researcher asked participants "When you reflect on your online courses, what words best describe your experience?" Common themes and patterns are identified in Table 17.

Table 17

Common Themes/Patterns in Question 19

Common Themes/Patterns	Group A (out of 10)	Group B (out of 10)	Total
Independent	5/10	5/10	10/20
Boring	7/10	3/10	10/20

Both Groups A and B thought of the word *independent* when reflecting on their online courses. Another topic that became a consistent pattern for both groups involved the online course being monotonous and boring. A student replied, "Long, easy, and boring" and another responded, "Can I be honest? A waste of time." One student said, "If I'm being completely honest, kind of boring." This question inspired a variety of answers with nine participants responding with positive words and phrases and 11 participants responding with negative words and phrases. Word or phrases included "utilitarian", "monotonous", "boring", "long", a "waste of time", "time-consuming", "stressful", and "dreaded." Although there were only two identifiable themes with Question 19, more than half of the participants used negative words and phrases when asked this question.

Not every question asked by the researcher had identifiable common themes or patterns. However, each question was related to a factor of student satisfaction as described by the OLC (2016). The next section of the data analysis will discuss the

overall themes identified by the researcher in relation to each factor of the student satisfaction pillar.

Research Questions

The research questions were the guide of this study; therefore, the researcher grouped questions from the Interview Guide (Appendix C) into each factor of the student satisfaction pillar. Table 18 identifies the questions that were associated with each research question.

Table 18

Research Questions and Interview Questions Associated

Research Question	Questions Associated
1. What themes emerge from student experiences with technology support for online learning at the secondary level?	6 – 7a
2. What themes emerge from student experiences with teacher and peer interaction for online learning at the secondary level?	8-14
3. What themes emerge from student experiences with course design for online learning at the secondary level?	15-17
4. What themes emerge from students' overall thoughts and feelings with online learning at the secondary level?	18-19

Research Question 1. Questions 6 and 7 related to the technology support factor, which was the basis of this research question. Research Question 1 was "What themes emerge from student experiences with technology support for online learning at the secondary level?" Table 19 presents the themes identified for Research Question 1.

Table 19

Identified Themes for Research Question 1

Identified Themes	Number of Participants	Number or Times Theme Appeared in Data
Accessible	20	19

The theme of "accessible" was identified based on the responses of the participants to Questions 6 and 7. Resources identified from the analysis of common themes and patterns included technology support email and phone numbers if participants had issues with the course. Technology support email was mentioned 11 times and technology support phone number was mentioned 12 times during the course of the interviews. Nine participants mentioned the online teacher being helpful for technology issues. The nine participants who did not mention emails or phone numbers varied in their responses to the questions. Three participants mentioned a built-in chat or messaging function they could use to contact technology support. Only one participant indicated they were not given any information on how to get help if they had issues with technology. Based on the individual responses from participants, technology support was overall accessible to the participants who ran into issues and needed assistance.

Research Question 2. From the Interview Guide (Appendix C), Questions 8 through 14 are related to the interaction factor in the student satisfaction pillar. Research Question 2 was "What themes emerge from student experiences with teacher and peer interaction for online learning at the secondary level?" Table 20 identifies the themes that emerged from the data analysis.

Table 20

Identified Themes for Research Question 2

Identified Themes	Number of Participants	Number or Times Theme Appeared in Data
Forced	20	18
Lack of opportunity to connect to peers	20	14
Desire more interaction with instructor	20	13
Desire more interaction with peers	20	14

The theme of "forced" was identified after 18 of the 20 participants identified discussion boards as the primary form of interaction with their peers. Participants indicated discussion boards were for points in the course and required students to make a post then reply to two other students' posts. Participants described this process as being forced and superficial. One student responded "forced, in one word. They were absolutely not necessary." The theme of "lack of opportunity" was identified with Question 13 and 13a. A student said, "It's just the lack of communication. The work was individualized and didn't require doing anything with anybody else." Seven participants described having group projects and assignments in their courses but noted these were rare. Sixteen of the 20 participants responded they did not make any connections or friends from their online course and 14 indicated there was a lack of opportunity to make those real, personal connections to their peers.

The theme of "desire more interaction with instructor" was identified with Question 10. Thirteen of the 20 participants responded they wanted more teacher communication and interaction during their course. One student suggested "maybe more interactions with students" and another suggested "be more intentional about getting to know students." Five participants suggested the teacher create videos of instruction and possibly even have live class sessions via a video meeting application. Six participants suggested online teachers should reach out individually to students and attempt to get to know them on a more personal level.

The theme of "desire more interaction with peers" was identified from Questions 13 through 14. This theme ties into the theme of "lack of opportunity" since participants overall revealed a desire to have more real-life interaction with their peers. One student suggested "have more assignments where you need to work with other people." Fifteen of the 20 participants suggested more group projects and assignments as a way to improve the social interactions in their course. Five participants suggested assigning projects or assignments that required the use of a video chat application for groups. Three participants even suggested creating group projects or assignments that required students to meet in person if geographically possible.

Overall, students felt their interactions with their classmates were forced and believed there was a lack of opportunity for making meaningful connections to their classmates. Students also desired more interaction with their instructors and their peers.

Research Question 3. Questions 15 through 17 in the Interview Guide (Appendix C) were related to the course design and rigor factor in the student satisfaction pillar. Research Question 3 was "What themes emerge from student experiences with course

design for online learning at the secondary level?" Table 21 identifies the themes that emerged from the data analysis.

Table 21

Identified Themes for Research Question 3

Identified Themes	Number of Participants	Number or Times Theme Appeared in Data
Easy to navigate	20	18
Organized	20	18

The theme of "easy to navigate" was identified from Question 15. Eighteen of the 20 participants responded their course was set up efficiently and was easy to navigate. Only two participants indicated their course was difficult to navigate. Eighteen participants described their online course as having tabs set up on the side of their screen that were tied to grades, assignments, quizzes, lectures, and notes. Participants described these tabs as making it easy to find whatever they needed.

The theme of "organized" was identified from Question 15. Fourteen of the 20 participants responded their online course curriculum was organized in an easy, efficient format. When asked about the level of difficulty of their online course as a probing question, there was no identifiable theme. Overall, students felt their online courses were organized and easy to navigate.

Research Question 4. Questions 18 through 19 in the Interview Guide (Appendix C) were related to overall satisfaction. Research Question 4 asked, "What themes emerge from students' overall thoughts and feelings with online learning at the secondary level?" Table 22 identifies the themes that emerged from the data analysis.

Table 22

Identified Themes for Research Question 4

Identified Themes	Number of Participants	Number or Times Theme Appeared in Data
Independent	20	18
Nonengaging	20	17

The theme of "independent" was identified based on the participants' responses to both Questions 18 and 19. The term was mentioned or alluded to 18 times in these questions. Participants described having to be accountable for their work and relying on themselves to get through their courses. Three participants mentioned having to learn time management skills to get through their courses. Five participants indicated enjoying the freedom to work at their own pace and be responsible for their own learning.

The theme of "nonengaging" was identified across Questions 18 and 19. Five participants described their course work in the class as busy work and not beneficial to learning the content. Ten of the 20 participants alluded to their coursework being boring and monotonous. When describing assignments, one student responded, "I think they were just time fillers." Participants described their courses as being stressful and unnecessarily complicated, time consuming, and not beneficial. A student replied, "The course was just unnecessarily difficult, complicated, and inconvenient." The responses from the other 10 participants varied. One student described the course as "satisfactory" and another replied, "The course broadened my horizons." Overall, students enjoyed the independent aspect of online courses but felt the courses were nonengaging and uninteresting.

Summary

Chapter Four presented the demographics of the participants of this qualitative research study and the method of analyzing the data collected. The researcher recruited a total of 20 participants using convenience sampling and criterion-based sampling. All participants had at least one online course in high school and had to have graduated high school. Ten participants were recruited from the researcher's own school district and the other 10 were recruited from local colleges and universities.

Chapter Four also presented the common themes and patterns found in each question of the Interview Guide (Appendix C). Each of the questions asked during the interviews were related to one of the four research questions that guided this study. The researcher identified the overall themes found in each research question in this chapter. The researcher discovered a total of nine themes for the research questions that guided this study. Chapter Five provides conclusions and recommendations based on the data analysis as well as recommendations for further research.

Chapter Five

Conclusions and Recommendations

Introduction

This research focused on identifying themes related to each of the factors related to the student satisfaction pillar of the quality framework for online courses developed by the OLC (2016). These factors include technology support, interaction with the instructor and peers, and course structure and design. The purpose of this research was to analyze student perceptions by finding these themes but also to add to the literature for research of online courses at the secondary level. The researcher used the following research questions to guide the study:

1. What themes emerge from student experiences with technology support for online learning at the secondary level?
2. What themes emerge from student experiences with teacher and peer interaction for online learning at the secondary level?
3. What themes emerge from student experiences with course design for online learning at the secondary level?
4. What themes emerge from students' overall thoughts and feelings with online learning at the secondary level?

This chapter presents the summary of methods, a summary of the findings for each research question, the implications of this study, the limitations that might have hindered the research process, and recommendations for further research.

Summary of Methods

This qualitative study was completed using 19 interview questions contained in the Interview Guide (Appendix C). These questions were developed from a preexisting survey created by Butz (2004). The researcher obtained permission to use the survey from Butz and altered the questions from the survey into open-ended interview questions. The first five questions were demographic questions. Questions 6-19 were all grouped to answer the four research questions that guided this study. The researcher conducted a pilot study by individually interviewing two graduated students in order to confirm validity and reliability of the questions.

This study interviewed a total of 20 participants from November 2018 to December 2018. Participants were recruited using convenience and criterion-based sampling. Each participant was given an informed consent form before the researcher disseminated the information into the research paper. The researcher used coding to identify common words, patterns, and key phrases. Common themes were identified for each question in the Interview Guide (Appendix C). After determining the common themes and patterns for each individual question, the researcher identified the overall themes for each research question by analyzing data across the interview questions.

Summary of Findings

This study had four research questions. All four research questions had at least one theme identified.

Research Question 1 theme. Research question one was "What themes emerge from student experiences with technology support for online learning at the secondary level?" The theme of accessible was identified after analyzing both the questions related

to this research question and the individual responses of all participants. Participants described technology support as being helpful with many resources available to them if they needed help with their online course.

Research Question 2 themes. Research Question 2 was "What themes emerge from student experiences with teacher and peer interaction for online learning at the secondary level?" Four themes were identified after the researcher analyzed the questions related to the research question and the individual responses by the participants. The theme forced was determined after participants described their interactions with their peers solely based on getting the grade for their discussion posts. Participants described these posts as forced and superficial. The theme lack of opportunity was identified after participants described the primary form of interaction with their peers was through posting on discussion boards. Participants did not make connections or friendships in their courses and cited the lack of opportunity as the primary reason.

The theme of desire more interaction with instructor was determined after participants responded they wanted their online teachers to reach out individually to them and try to get to know each student. Participants wanted their teachers to try and bridge the digital gap by communicating with them more and making their interactions more personal. The last theme identified with Research Question 2 was desire more interaction with peers. This theme was determined after participants expressed their desire to collaborate more with their classmates on group projects and group assignments. Some participants even suggested projects and assignments that required the use of a video chat application.

Research Question 3 themes. Research Question 3 was "What themes emerge from student experiences with course design for online learning at the secondary level?" Two main themes were identified after analyzing each question related to this research question and the individual responses of the participants. The theme of easy to navigate was determined after participants indicated their online courses were all set up efficiently and had no issues finding materials in their courses. The theme of organized was determined after participants described their curriculum as organized and efficient. Participants knew what to expect each week and could follow the class easily.

Research Question 4 themes. Research Question 4 was "What themes emerge from students' overall thoughts and feelings with online learning at the secondary level?" Two main themes were identified from analyzing the data of each question related to this research question and the individual responses of the participants. The theme independent was determined after participants described the ability to work at their own pace, having to learn time management skills, and being in charge of their own learning. The theme nonengaging was determined after participants described their online courses as boring, monotonous, busy work, and time consuming. All of these themes found in each research questions have implications for the educational field.

Implications

The implications of this research are specific to the research questions that guided this study. The purpose of this study was to analyze student perceptions of their online courses by identifying themes related to each factor in the student satisfaction pillar of the quality framework for online courses (OLC, 2016). The first research question was about the technology support students received in their online course. According to the data

analysis, participants felt technology support was accessible and helpful for their online courses. The participants reported they had access to emails, phone numbers, and sometimes actual teachers to help them if they encountered an issue with their course. Some of the participants described having a messaging system within their online course to contact technology support. According to the OLC (2016), proper technology support is an important factor for student satisfaction with online learning. Based on this study, the researcher concluded that providing contact email and phone numbers for technology support to online students is a vital piece in ensuring their success and overall satisfaction with the course. This aligns with ISTE (2017) Standard 5, which stated online teachers should facilitate learning with proper technology to support student achievement. One interviewee stated that he/she did not know whom to contact and was not provided any information at the beginning of the course. This student felt immediately frustrated from the lack of support and responded with mainly negative responses during the interview. Providing contact information should be a basic requirement in the design of all online courses and programs. This aligns with Standard 4 of the ISTE Standards for Education Leaders. Standard 4 stated resources for supporting the effective use of technology for learning should be sufficient.

The second research question was about the interactions with instructors and peers. According to the data analysis and the themes that were revealed, online teachers need to make an effort to get to know their students and keep in contact with them regularly. According to Kuo et al. (2013), interaction with the instructor is a key component to student satisfaction. Standard 4 of the ISTE (2017) also reinforces the idea of instructors interacting and co-collaborating with their students. Participants in this

study indicated they wanted their instructors to be more hands on and personal in their learning. According to Bolliger and Martindale (2004), student and teacher interaction was the most significant predictor of student satisfaction with online courses. Based on the researcher's analysis, participants who described their teachers as effective communicators had generally more positive responses to the questions. Based on this study, the researcher believes online teachers should make an effort in reaching out to all their students in the course. Even though this may seem like a monumental effort, especially in large classes, this study supports the literature that students want a personal connection with instructors.

The second part of Research Question 2 was about the interaction with peers. According to the researcher's data analysis and the themes that were revealed in this research question, participants not only desired more interaction but also more authentic interaction with their peers. ISTE (2017) Standard 7 for students relates to the importance of collaboration among students stating students should use digital tools to enhance learning and to broaden their perspectives. Discussion boards were revealed to be the primary form and sometimes the only form of peer interaction. Participants described the discussion boards as fake, shallow, superficial, and forced. When asked what suggestions they had to improve their social interactions in their courses, participants suggested more group projects and assignments. Some suggested using video chat applications to have real-life interactions with their classmates. Havice et al., (2010) suggested using interactive media tools like videos to interact, and this study reaffirms this suggestion.

Participants also suggested possibly using social media and creating a social media presence for the class to improve interaction, which aligns with the suggestions of

Richardson and Swan (2003), Croxton (2014), and Standard 3 of the ISTE (2017). Based on the findings of this study, the researcher suggests online teachers should intentionally create as many group assignments, projects, and live-discussions as possible. Online teachers should facilitate live discussions online for the class using online video applications to encourage real-life interactions among students. Online teachers should also limit the number of discussion board prompts and discussions for their course. Participants found these posts and replies to be shallow and forced. In order to foster more natural discussion, online teachers should attempt to incorporate as many real-life class discussions via online video chat as possible. Interaction has been found to be the most important factor in student satisfaction with online learning (Bolliger & Martindale, 2004; C. Cavanaugh et al., 2004; Croxton, 2014; Frederickson et al., 1999; Harris & Martin, 2012; Kauffman, 2015; Kuo et al., 2013; Ni, 2013; Nguyen, 2015; Roach & Lemasters, 2006; Sinclaire, 2011), so the researcher recommends online teachers place a tremendous emphasis on both student-instructor interaction and peer-to-peer interaction.

The third research question was about the design and structure of the course. According to the researcher's data analysis and themes discovered, participants indicated their online courses were easy to navigate and the curriculum was organized, making the courses easy to follow. Participants described their courses as being user-friendly and easy to find assignments, quizzes, lectures, and notes. Based on the participants' responses and the themes identified during the study, the researcher recommends online teachers always ensure their courses are clearly designed and organized. A few participants did complain that their teachers did not know how to utilize the technology of the course and would sometimes have assignments that were hidden or locked without

knowing it. The researcher recommends all online teachers should be adequately trained in designing and implementing online curriculum. Online teachers should also have technology support available to them if they need help with the functionality of their course. All of these recommendations reaffirm the research of Croxton, (2014), Frederickson et al., (1999), Kauffman, (2015), Nguyen, (2015) and Sinclaire, (2011).

The fourth research question was about the overall experiences in the online courses. The researcher discovered participants described the courses as independent and nonengaging. Participants responded that they had to take control of their own learning and not rely on others to help them through the course. Some described figuring out how to manage their time and a few enjoyed the flexibility of being able to work at their own pace. However, the researcher discovered participants described their online courses as boring, monotonous, nonengaging, and not beneficial. Student-content interaction is an important indicator of student satisfaction with online learning (Chejlyk, 2006; Kuo et al., 2013). Based on the results of this study, the researcher recommends online teachers utilize a variety of learning activities. According to Ke and Xie (2009), the integrated model of online learning is the best model for student satisfaction in online courses. However, their research only involved undergraduate and graduate students. Although this model may work fine for those age groups, the researcher recommends high school online teachers design their courses using the wraparound model (Ke & Xie, 2009). This model is highly structured and utilizes video lectures and a variety of assignments. The wraparound model is also highly focused on interaction with peers and the instructor, which was a suggestion by the participants in this study. The researcher also suggests

utilizing a variety of interactive media tools to engage students in their learning (Havice et al., 2010).

The researcher's recommendations for improving student satisfaction are based on the themes found in this study. The researcher identified recommendations for further research to help expand the size and scope of future research.

Recommendations for Future Research

There are four recommendations for future research. The first is related to sample size. The researcher limited the study to only 20 participants. This was due to the fact this study explored new research into the field of online learning at the secondary level. As mentioned in the purpose of this study, there has been plenty of research involving online learning at the undergraduate and graduate levels but hardly any at the secondary level. The researcher found one study that had surveyed high school students but the study also involved elementary and middle school students (Butz, 2004). Also, the study was a quantitative study involving surveying 195 total students at three different schools.

The second recommendation relates to further research focused on secondary students in online courses. Due to the limited research involving secondary students with online learning, the researcher recommends further studies surveying and interviewing secondary students about their online learning experiences. The researcher believes a study involving a larger scale survey about student perceptions of their online courses would be beneficial to the online learning community. A survey given statewide to thousands of online students in a variety of online learning programs would reveal more data about student perceptions and experiences within their online courses. Using a large sample size would add to the validity of the research.

The third recommendation is related to comparing gender experiences with online learning. The researcher also recommends quantitative or qualitative studies comparing the experiences of high school males versus females in online courses. This study had more female participants than males and it would be beneficial to compare the needs and wants of both genders to determine the best practices for online course structure and learning.

Another recommendation would be to compare online learning platforms and programs. The state of Missouri has several large online high school programs including the Launch Program developed by Springfield Public Schools, eCampus developed by the North Kansas City School District, and Mizzou K-12. Comparing the experiences of students in these programs could help determine best practices and course designs for online learning. Another way to identify best practices would be to compare online learning in the state of Missouri to other states. With these recommendations, the researcher believes online learning at the secondary level could be better understood and lead to improvements for online courses.

Summary

The purpose of this qualitative study was to analyze student perceptions of their online courses by discovering themes within the factors of the student satisfaction pillar of the quality framework of online learning (OLC, 2016). The researcher interviewed 20 participants who had taken at least one online course during their high school tenure. The researcher used in-person interviews as well as phone interviews to collect data.

Several themes emerged from the results of the study. For Research Question 1, the theme of accessible was discovered. The themes of forced, lack of opportunity,

"desire more interaction with the instructor", and "desire more interaction with peers" were all discovered in Research Question 2. Research Question 3 revealed the themes of easy to navigate and organized. Finally, the themes of independent and nonengaging were discovered in Research Question 4. The researcher made many recommendations from the research including encouraging more interaction with both peers and teachers, providing contact information to students for technology support, training online teachers on proper design and implementation for online classes, and designing online courses to be more engaging.

The researcher discovered themes that will add to the research and literature for online learning. However, the researcher made several recommendations for further research including using a larger sample size, comparing male and female experiences, and comparing online learning programs across the state of Missouri. Further research of online learning for secondary students should continue to emphasize student satisfaction as an important factor in determining the success or failure of online courses.

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Appendix A

Interview Questions

Demographics

1. What is your name and how old are you?
2. What school district did you attend?
3. How many online courses did you take during your high school career and which courses were they?
4. Which online platform was used for your online courses? For example – Canvas, Blackboard, Angel, etc.?
5. If comfortable sharing, what grades did you receive in your online courses?

Tech Support

6. Describe the technology support available to you with your online course.
7. How did technology support staff interact with you if you had an issue and needed help to resolve it?

Teacher Interaction

8. Describe how your online teacher communicated with you and your class during the course.
9. What were some strengths of your online teacher? Weaknesses?
10. What are some suggestions you would give to your online teacher to improve your online learning experience?

Peer Interaction

11. Describe the opportunities you had to interact with your classmates during your online course.
12. How often did you actually communicate with a peer from your online course?
13. Describe how you were able to make friends or personal connections to your classmates in your online course.
14. What are some suggestions you would give to improve the social interactions or collaboration with your classmates in an online course?

Course Design

15. Describe how your online course appeared visually and how the course was structured for navigation purposes.
16. Describe any issues you may have had with design of your online course.
17. What suggestions would you give to improve the overall design, structure, or visual appeal for your online course?

Overall Satisfaction

18. Describe your overall experience with your online course.
19. When you reflect on your online courses, what words best describe your experiences?

Appendix B

Informed Consent

Greetings!

You have been invited to participate in my interview study to analyze your experiences with the online courses you took in high school.

In this interview, you will be asked questions about your experiences with online classes you took in high school. The interview will last approximately 15-20 minutes.

Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the interview at any point.

It is very important for me to learn your opinions. Your responses will be strictly confidential. Your information will be coded and will remain confidential. If you have questions at any time about the interview or your responses, you may contact Jared Wooderson by email at jlw62987@hotmail.com.

In order to participate in this interview, informed consent is REQUIRED. If you agree to allow me to use your interview responses for research purposes, please sign below.

_____
Signature of Participant

_____
Signature of Researcher

Appendix C

Interview Guide

Introduction

Thank you for meeting with me today. My name is Jared Wooderson and I'm working toward my doctorate degree in educational leadership. Today I'm going to ask you a series of questions related to your personal experiences with online courses you took in high school. I'm simply looking for any themes or patterns that develop from your responses.

Informed Consent

Participation in this interview is completely voluntary and you may back out of this study at any time. I have provided a consent form for you to sign if you'd like to continue. I will not be using your name in my dissertation and your information will be kept strictly confidential. I will be recording and transcribing this interview for research purposes and will provide the entire transcript to you for your review. (Give them the consent form and have them read over it and sign before moving on).

Purpose for the Study

The purpose of my study is to look for patterns and themes related to students' experiences with online courses they took in high school. I'd like to know your personal feeling and thoughts related to your experiences in your online course. My overall goal is to help improve online courses for high school students since these courses are relatively new to education. Do you have any questions at this time about the study or the informed consent process?

Interview Questions

If you're ready, we can go ahead and start the actual interview questions. Please don't hesitate to stop me if you need to clarify or provide more information during the course of the interview.

My first series of questions is simply **demographic** questions.

1. What is your name and how old are you?
2. What school district did you attend?
3. How many online courses did you take during your high school career and which courses were they?
4. Which online platform was used for your online courses? For example – Canvas, Blackboard, Angel, etc.?
5. If comfortable sharing, what grades did you receive in your online courses?

My next series of questions is related to the **technology support** for your online courses.

6. Describe the technology support available to you with your online course.
7. How did technology support staff interact with you if you had an issue and needed help to resolve it?
    a. If you never had to contact support staff, describe the resources available to you if you were to have had any technical issues with your course.

The next series of questions is related to your **interactions** with both your **teachers** and your **peers**.

8. Describe how your online teacher communicated with you and your class during the course.
    a. How often would your teacher communicate with the class?

9. What were some strengths of your online teacher? Weaknesses?
    a. Describe how the teacher's strengths and weaknesses contributed to your experience with your online course.
10. What are some suggestions you would give to your online teacher to improve your online learning experience?
11. Describe the opportunities you had to interact with your classmates during your online course.
12. How often did you actually communicate with a peer from your online course?
    a. What was the primary form or design of communication?
13. Describe how you were able to make friends or personal connections to your classmates in your online course.
    a. If you didn't make any friends or personal connections, describe why this was the case.
14. What are some suggestions you would give to improve the social interactions or collaboration with your classmates in an online course?

The next series of questions relates to the **overall course design and structure**.

15. Describe how your online course appeared visually and how the course was structured for navigation purposes.
16. Describe any issues you may have had with design of your online course.
17. What suggestions would you give to improve the overall design, structure, or visual appeal for your online course?

The last series of questions relates to your **overall satisfaction** with your online courses.

18. Describe your overall experience with your online course.
19. When you reflect on your online courses, what words best describe your experiences?

Possible Probing Questions

1. Please tell me more about…
2. I'm not quite sure I understood…please tell me about that some more?
3. I'm not certain what you mean by…please give me some examples?
4. Please tell me more about your thinking on that?
5. You mentioned….Please tell me more about that? What stands out in your mind about that?
6. This is what I thought I heard…Did I understand you correctly?
7. So what I hear you saying is…
8. Please give me an example of…
9. What makes you feel that way?

Concluding the Interview

Before we conclude, is there anything else you wish to add or clarify to the questions you were just asked? I will be transcribing this interview and I will email you the entire transcript once this has been performed. If you read over the transcript and would like to add or clarify to any of your responses, you may contact me by email at jlw62987@hotmail.com. If you have any further questions related to this interview or my study in general, please don't hesitate to reach out to me via email. Thank you again for your time and I'm very grateful you met with me today to discuss your experiences!