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Social Media and Academic Performance: Assisting Academic Achievement for English Language Learners

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Abstract

The purpose of this quantitative retrospective, causal-comparative study was to examine what, if any, statistically significant difference existed between Measures of Academic Progress (MAP) mathematical and reading achievement of English Language Learners (ELL) in a school using Seesaw—a social media platform—and those in a school not using Seesaw in an elementary school setting in Northern California. The population of ELL third and fourth-grade students within each participating school was 52, for a total of 104 participants. All ELL students in this study come from Spanish speaking homes and were Spanish speakers. Collection of data occurred through the MAP Growth assessments. Once both schools administered the assessments, the data were compared through a two-sample *t*-test. The archival data from both schools were analyzed and the data supported the alternate hypothesis that there was statistically significant difference exists between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. Recommendations for further research include allowing for a longer period of time besides one school year, and a larger study using other, but similar platforms to obtain specific data regarding the use of Seesaw within the classroom.

Keywords: ELLs and social media, elementary students and social media, ELLs and Seesaw, elementary schools and social media

Dedication

This doctoral journey is dedicated to my wife, family, friends, and colleagues who have supported me all the way since the beginning of my educational years. Their love, understanding, and patience have helped me attain this milestone. I hope that my sacrifices and constant motivation help inspire others within my family and personal friends to continue on with their own journey and attain their personal goals.

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I would like to express my gratitude towards both administrators from the elementary schools, for graciously allowing me to use their student data to conduct this research. They were very supported and willing to help me in any way. This research opportunity has given me a chance to contribute something to the public-school community, and for that I am thankful.

I would also like to acknowledge Dr. Nicholas Markette for always staying by my side being an advocate during the hard times of this doctoral process. His dedication to me will never be forgotten and I will always remember the pep talks over those countless numbers of phone calls and emails. Also, I would like to acknowledge Dr. Donna Graham and Dr. Yvette Ghormley for always challenging me and helping me become a better researcher and scholar. As a result of this partnership, a meaningful contribution has been fulfilled towards further understanding English Language Learners and social media.

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Chapter 1: Introduction

Introduction

The purpose of this quantitative retrospective, causal-comparative study was to examine what, if any, statistically significant difference existed between MAP mathematical and reading achievement of English Language Learner (ELL) students in an elementary school using Seesaw and those in an elementary school not using Seesaw in Northern California. Seesaw is a social media platform that is student-driven through digital portfolios and allows students to comment, reflect, and collaborate with one another (Seesaw, 2017). By integrating social media into learning and teaching practices, social media has the potential to trigger significant educational innovations, as they enable new forms of interactive and collaborative learning (Abe & Jordan, 2013). Terms such as *comment*, *like*, *emoji*, *friend*, and *Tweet* have taken on a new meaning in the public idiolect. No longer is social media a platform for young individuals such as college students, individuals of all ages to interact with one's friends or contacts via social media (Boyd & Ellison, 2008; Pomerantz, Hank, & Sugimoto, 2015). Although the use of social media continues to grow, there has been little attention to the potential it can bring into learning (Greenhow & Lewin, 2016).

A review of the literature exposed a serious gap in the use of social media within the elementary classrooms. It is unclear how social media allows for rapid assessment of student's needs, collaboration, identification of appropriate student feedback, and enhancement of communication within the classrooms (Blazer, 2012). In an attempt to reduce the achievement gap, classroom environments have become innovative and are now places where students can be creative, given clear goals, and receive feedback about their performance (Lawlor, 2012). Integrating social media into learning enables new forms of interactive and collaborative learning

(Abe & Jordan, 2013). However, there is little in the literature addressing social media at the elementary level but there seems to be an emerging interest the connection between the implementation of social media into the curriculum for diverse learners (Piotrowski, 2015).

Currently, elementary levels do not widely use social media, since it requires an extensive bureaucratic process to ensure student safety (Ahn, Bivona, & DiScala, 2011). Many administrators and teachers see technology as a risk to students' academic success (Zheng & Warschauer, 2015). This ideology can lead districts to forget that measuring success within a classroom in terms of improving certain teaching and learning habits by using other unfamiliar methods is possible, rather than focusing on one accustomed way to teach within the classroom (Earle, 2002). In this second decade of the 21st century, where young minds learn through video, streaming, and other forms of media, having such policies can restrict students and increase student disconnect in using technology. Schools are in a period of rapid change with using technology and teachers need to become curators of this new ideology (Male & Burden, 2014).

The elementary years are a crucial time in a student's' development. The classrooms are a haven for diversity, and educators need to adapt to the social changes that are happening through differentiation of instruction (Crider, Johnston, Rutledge, Doolittle, & Beard, 2014). Crider et al. (2014) discussed how few educators are effectively prepared to use technology themselves, much less teach students in the use of technology. If social media is meant to be effective as an intervention tool in elementary schools, teachers and students must orchestrate learning environments that highlight a plan, collaboration, and innovation (Larson & Miller, 2011).

Background of the Study

Technology can be defined as something valued by human or otherwise, and is instinctively intelligent enough to perform a purpose, or benefit (Carroll, 2017). The first major paradigm shift in technology integration began in 1992, when Wager (1992), argued that it was not the hardware in technology that made the biggest difference, but the process of designing effective instruction that incorporates computer technology and other media appropriately. The more technology is introduced in the classroom, the more it allows educators to be authentic with their pedagogical practices (Kivunja, 2015). Educators must be willing to branch out in how students acquire knowledge to be effective partners in the learning process (Cabellon & Brown, 2017).

The age of technology has had an immense impact on all facets of life, and education is no exception. Social media has become a common tool used by students, faculty members, and administrators at many institutions (Pew Research Center, 2015). As social media has become integrated into education, academic achievement has become a frequent concern based on this technology. Kivunja (2015) discussed that using pedagogues that use these technologies support learning and facilitates active learning.

Teachers have adopted many strategies such as social media in K-12 settings to help increase students' understanding of, and critical thinking about written texts (Zheng & Warschauer, 2015). This study looked at two schools in Northern California with similar demographics and curriculum, but with one of the schools using Seesaw as a social media platform as part of their instruction. Within this study, all ELL participants are from Hispanic/Latino backgrounds and speak Spanish at home (California Department of Education, 2017b).

Furthermore, the school that had already used Seesaw, utilized it with the use of academic language and discussed and highlighted problem strategies in the posting of the students work. Within this school, two teachers of each grade level had been using Seesaw for over two years within their instruction. Students created videos and discussed each other's work using the math academic language, whereas the other school had not implemented this social media tool.

Problem Statement

The use of social media is helpful in enhancing student achievement and meaningful understanding of the content (Warner, Eames, & Irving, 2014). However, it was unknown what, if any, statistically significant difference exists between MAP mathematical and reading achievement of ELL students in an elementary school using Seesaw and those in an elementary school not using Seesaw in Northern California. Currently, studies in education have examined popular social media platforms such as Facebook and Twitter in upper-level classes (Ahn et al., 2011). Furthermore, such studies are based on language arts and writing because social media creates social occasions among students for conversation and discussion through written discourse (Kivunja, 2015). However, the concern with ELL's overall achievement in math and reading was the focus of this study. Particularly since these learners have statistically shown the least amount of growth in their benchmark test scores in the past year (Tira, 2016). This problem has affected many schools including the ones in this study because these students show a decline in their proficiency levels on the CAASSP (California Department of Education, 2017a). There were many possible factors contributing to this problem, including the curriculum and instruction in mathematics, and the need for teachers to address student needs using technology.

According to Dual, Systems, and Single (2016), teachers need to be prepared to face the challenges of closing the achievement gap through meaningful differentiation of instruction. ELLs often need more explicit scaffolding, particularly in performing academic tasks (Willett, Harman, Hogan, Lozano, & Rubeck, 2017). A thoughtful integration of social media will broaden student perspectives, help them become literate and powerful contributors to a technological society, expose them to new ideas, and expand their opportunities to learn about their world (Ahn et al., 2011). However, with this expectation of better involvement comes the realization that teachers need an adequate number of electronic devices to support their student learning (Graham, 2015). Yet, there was a gap in the literature and it was not clear if ELL students exposed to social media in the class performed differently.

Purpose of Study

The purpose of this quantitative retrospective causal-comparative study was to examine what, if any, statistically significant difference exists between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. The implementation of Every Student Succeeds Act (ESSA) requires all schools in each state to establish an accountability system based on multiple indicators, including academic achievement, which will help close the achievement gap for language learners (Dual et al., 2016). Interaction within the learning environment motivates students to understand, become conscious and participative, and increases susceptibility to changing ideas together with fellow students (Othman & Musa, 2014).

This study examined two performance measures: math and reading. The participant schools measured both reading and math every trimester using the Measures of Academic Progress **(**MAP) assessment. This MAP assessment provided data to show as to whether or not

there was a statistically significant difference that existed between mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. The primary goal was to begin to examine how Seesaw, a social media platform that is student-driven through digital portfolios, plays a role in math and reading performance in an elementary setting (Seesaw, 2017).

Research Questions and Hypothesis

This study investigated whether a statistically significant difference existed between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. It is unlikely any key samples will have the same mean test scores, therefore this study specifically looks for statistically significant differences are those differences that are measured by inferential statistics. The primary tool of this study was Seesaw. The MAP assessments, administered at the end of each 10-week marking period were also used. The following are the research questions and hypotheses for this study:

Research Question One (RQ_1). What, if any, statistically significant difference exists in MAP mathematical achievement **b**etween ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting?

$H_{1\,0}$: No statistically significant difference exists between MAP mathematical achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

H_1: A statistically significant difference exists between MAP mathematical achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

RQ_2. What, if any, statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those not in a school using Seesaw in an elementary school setting?

$H_{2,0}$: No statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

H_2: A statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

Significance of this Study

This study investigated the statistically significant difference between social media and academic achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. Within this study was the analysis of one school using social media to enhance academic achievement, compared to another elementary school with similar demographics and curriculum that does not use social media. Examining MAP score assessments helps to assess the impact on student achievement, specifically highlighting the method by which they learn mathematics and reading, identifying learning styles of students and the apparent alignment with the use of social media to address differentiation of skills (NWEA, 2017). The purpose of social media is to aid students with reflection on their learning, have active instruction, increase academic achievement, and become active learners (Balakrishnan & Gan, 2016). The significance to this quantitative retrospective causal-comparative study was that it is not known what, if any, statistically significant difference existed between the academic performance of ELL students using social media and those not

using social media in an elementary school setting. Knowing this statistically significant difference may be useful to practitioners and researchers, this study may add to the body of knowledge and set the stage for more comprehensive research.

Nature of Research Design

The primary tool of this study was the MAP assessments, administered at the end of each 10-week marking period. Each of the trimester assessments aligned with the California Common Core State Standards (CCSS). Northwest Evaluation Association (NWEA) is the organization known for their flagship of interim assessment, Measures of Academic Progress (NWEA, 2017). MAP assessments started with a question appropriate for the student's grade level, then dynamically adapted throughout in response to student performance within a 45-minute period. This progressive modification allows MAP Growth to challenge top performers without overwhelming students with skills that are below their grade level (NWEA, 2017).

Definition of Terms

While most of this research study used plain language, a few terms warranted brief definitions. For the purposes of this study, the following definitions explained the key research terminology:

Academic Achievement. When students can attain learning objectives, acquisitions of skills and competencies, and be able to effectively communicate with others in an academic setting (York, Gibson, & Rankin, 2015).

California Assessment of Student Performance (CAASPP). Known as the standardized test form for California and is a computer-adaptive assessment and performance task (California Department of Education, 2017a).

English Language Learners (ELLs). These are students who are unable to communicate fluently or learn effectively in English. Often come from non-English-speaking homes or backgrounds and require modified instruction (Swanson, Bianchini, & Lee, 2014).

Every Student Succeeds Act (ESSA). Holds its districts and schools accountable for gap-closing goals for student outcomes as well as meaningful differentiation between school based on the progress of all students (Dual et al., 2016).

Measures of Academic Progress (MAP). MAP is an assessment that informs what students know and what they are ready to learn next. It also measures student performance with their RIT scale, which is an equal-interval that is continuous across all grades and tracks longitudinal growth over a student's entire career (NWEA, 2017).

Seesaw. A social media platform with semi-public journals created by users and facilitated by the teachers, who may examine other user's journals and create and share content (Seesaw, 2017).

Assumptions, Limitations, Delimitations

Assumptions. It is assumed that respondents have been honest and truthful in reporting their perceptions of social media, and attitudes towards social media and academic learning. Responses provided have been the result of genuine reflection and thought, representing educated and insightful beliefs. The researcher also analyzed all data (both quantitative and qualitative) from an as unbiased perspective as possible.

Limitations. There was a small sample size due to small district numbers of students. Furthermore, the researcher cannot account for every possible environmental factor. Krutka, Nowell, and Whitlock (2017) mentioned that scholars should consider cultures, environments, and policies relating to social media.

Delimitations. The sample was delimited to participants who are English Language Learners. The researcher set these choices to make the research design reasonable within time constraints and available resources. Additionally, the research setting was easily accessible since the researcher lived near both third and fourth grade schools.

Chapter 1 Summary

The aim of this study was to determine what, if any, statistically significant difference existed between academic performance of ELL students using social media and those not using social media in an elementary school setting in Northern California. Previous research and literature pointed to the lack of research examining the use of social media in an elementary school setting direct this study. While many in higher education have adopted social media for their professional development or are implementing it in their curricular or co-curricular interactions with students, K–12 systems often steer away from social media use (Seaman & Tinti-Kane, 2013).

Educators must remember to close the gap between language learners' identities, intricately tied to language, and the school culture (Agirdag, 2009). This fear of incorporating such tool can lead to disengagement of the student, especially of a language learner, and create a less active constructive meaning for the student in the classroom (O'Malley & Pierce, 1996). With a social media platform such as Seesaw, it will enable deeper learning and reflection for the student (Seesaw, 2017). Seesaw will help create an environment that is interactive and empowers students to independently document what they are learning at school (Seesaw, 2017).

This chapter introduced the basic concepts of this quantitative retrospective causal-comparative study. The background and context of the study highlighted the necessity for the study and elucidate the study's purpose. The chapter presented the research questions this study

sought to clarify and an argument for how the study will be conducted, including the methodology to be used.

Chapter 2 of this research study will provide an understanding of how current theories and trends about social media have changed over time. In addition, a thorough review of literature will develop an understanding of ELLs, academic achievement, the history of technology and the educational implementation, the California Framework in Mathematics and Language Arts, the lack of education within the teaching of technology, and an underrepresentation of social media in elementary schools. The literature review will also examine research studies regarding approaches in using social media to demonstrate the importance of multiple forms of engagement, to help students achieve academic success within the classroom.

Chapter 2: Literature Review

Introduction

The Every Student Succeeds Act (ESSA) of 2015 holds its districts and schools accountable for gap-closing goals for student outcomes, as well as meaningful differentiation between schools based on the progress of all students (Dual et al., 2016). ESSA relies on yearly statewide assessments to provide objective and comparable data on how all students are performing (Dual et al., 2016). Innovative classroom environments and the encouragement of a focus on diversity may contribute to a reduction in the achievement gap. Classrooms are now places where students receive motivation, clear goals, and feedback about their performance (Lawlor, 2012). One feature that is adding to the intricacy of the classroom environment is social media. Teachers require knowledge and an understanding of how to implement social media into the curriculum for diverse learners (Armistead, 2010). Integrating social media into learning enables new forms of interactive and collaborative learning (Abe & Jordan, 2013). However, there was little in the literature addressing this issue at the elementary level.

Engaging students in learning and collaboration is a crucial factor in increasing student enthusiasm in the production of knowledge (Earle, 2002). Schools are being challenged to implement new curriculum and standards that require students to be creative, problem solve, persevere, and work in teams to show mastery (Larson & Miller, 2011). Social media implements multiple learning approaches in which the Internet and portals provide content related to education, promote collaboration, and self-directedness (Akgunduz & Akinoglu, 2016). This warrants study on the implementation of social media in an elementary classroom.

The California Assessment of Student Performance (CAASPP), known as the standardized test form for California, indicates a decline that remains with the continuing

achievement gap for students from low-income families, English Language Learners (ELLs), and some ethnic groups compared to other students (Tira, 2016). The purpose of this quantitative retrospective causal-comparative study was to examine what, if any, statistically significant difference existed between the academic performance of ELL students using social media and those not using social media in an elementary school setting in Northern California. The study found that there was an increase in test scores and mathematical comprehension. Over the past decade, upper-level educational groups have paid considerable attention to the use of social media in comparison to those at the elementary level. It is important to understand that, while social media provides data with a positive correlation in a college or high school setting, the same may not be true at an elementary level (Blazer, 2012). Social media allows for rapid assessment of student's needs, collaboration, identification of appropriate student feedback, and enhancement of communication (Blazer, 2012). Teachers have a critical role in obtaining such tools by teaching the enhancement of networking skills, creating learning communications, and preparing for the future (Blazer, 2012).

Effective instruction is an ongoing innovative process designed to meet instructional learning needs (Robey, 1992). Improvement in teaching and learning, not merely focusing on one accustomed way to teach in the classrooms, measures true success (Earle, 2002). Background knowledge is also essential in the educational field. Access to this knowledge is often through the experience of learning and understanding through new situations (Dutro & Prestridge, 2001). Today, researchers have turned their focus from knowledge acquisition to successfully obtaining and innovating using recent technological advances.

Currently, elementary levels do not widely use social media, since it requires an extensive bureaucratic process to ensure student safety. Many school districts see technology as

a privilege. In this growing world of today, where young minds learn through video, streaming, and other forms of media, having such policies can restrict students and increase student disconnect as they use technology. Schools are in a period of rapid change as they catch up to the realities concerning social media (Ahn et al., 2011). Although this trend is continuing to grow, educational researchers have investigated social media instruction on several levels and from various perspectives. Many universities and high schools are implementing social media in the classroom through Facebook and Twitter (Junco, Elavsky, & Heiberger, 2013), with few studies at the elementary school level for ELLs.

The elementary years are a crucial time in a student's' development. Educators can influence students' moral development by being relating and adapting to the social changes that are happening around them (Benninga, 2013). Larson and Miller (2011) discussed how in reality, it is no longer possible for every teacher to be a greater expert in technology than their students since it is so easily accessible to students today. If social media is meant to be an effective tool in elementary schools, teachers and students must orchestrate learning environments that highlight a plan, collaboration, and innovation (Larson & Miller, 2011).

Statement of the Problem

The research suggests that the use of social media was helpful in enhancing student achievement. However, it is unknown what, if any, statistically significant difference existed between mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. Many studies examined popular social media platforms such as Facebook and Twitter in upper-level classes. Furthermore, such studies were based around language arts and writing because social media lends itself to address the content of these classes; however, outside these mainstream

social media outlets, few studies have a context of primary schools. Nevertheless, the concern with ELLs overall achievement remained a priority, particularly since these learners have statistically shown the least amount of growth in their test scores in the past year (Tira, 2016). This problem has affected many schools including the ones in this study because these students show a decline in their proficiency levels on the CAASSP. There were many possible factors contributing to this problem, including the curriculum and instruction in mathematics, and the need for teachers to address student needs using technology.

Built upon the commitments of Every Student Succeeds Act, teachers need to be prepared to face the challenges of closing the achievement gap through meaningful differentiation of instruction. ELLs often need more explicit scaffolding, particularly in performing academic tasks (De Jong & Harper, 2005). A thoughtful integration of social media will broaden student perspectives, help them become literate and powerful contributors to a technological society, expose them to innovative ideas, and expand their opportunities to learn about their world (Ahn et al., 2011). However, with this expectation of better intervention comes the realization that teachers need an adequate number of electronic devices to support their student learning (Graham, 2015).

Theoretical Framework

Bandura's (1997) social learning theory explained that when students demonstrate ownership over their learning, it produces the most effective learning outcomes. This theory has often been called a bridge between behaviorist and cognitive learning theories because it encompasses attention, retention, reproduction, and motivation (Bandura, 1997). These conditions that this theory encompasses is what Bandura (1997) sees the condition for effective modeling. With attention, retention, reproduction, and motivation, this theory suggested that

individuals are more likely to display a given behavior if they attach importance to the outcomes and respect the person modeling the behavior.

Research suggested listening is an interactive, dynamic, interpretive process in which the listener engages in the active construction of meaning (O'Malley & Pierce, 1996). Allowing students to communicate and evaluate one another is a way to extend their understanding and development. Educators must close the gap between language learners' identities, intricately tied to language, and the school culture (Agirdag, 2009). Creating an environment that is interactive will help create an active community of learners.

One social media tool that helped create an active learning environment that empowers students to independently document what they are learning at school was Seesaw (Seesaw, 2017). This enables deeper learning and reflection for the student. Seesaw helps students capture the learning process through built-in audio recording, drawing and caption tools to reflect on what they have learned, or explain how they got their answer (Seesaw, 2017). As a result, Seesaw allowed for authentic learning to occur since students can get feedback not only from their peers and teachers but also from other learners across the globe.

Nagy and Townsend (2012) expressed that teachers need to model their understanding of academic language and focus on specific structures that may contribute to comprehension by using signal words such as subordinating conjunctions. Being able to address the educational needs of ELLs and allowing relevance to the material presented, is critical to their educational development (Echevarría, Vogt, & Short, 2010). This aids the development of students' academic language proficiency when incorporated within lessons (Echevarría et al., 2010). Teachers must develop the students' academic language proficiency consistently through units of instruction (Echevarría et al., 2010).

Developing oral proficiency is a key element in developing literacy. Research suggested listening is an interactive, dynamic, process in which the learner engages in the active construction of meaning (O'Malley & Pierce, 1996). Allowing students to communicate and evaluate what their teacher and peers are saying is an important part of students' academic achievement (Echevarría et al., 2010). Educators must try to close the gap between language learners' identities, intricately tied to language, and the school culture (Agirdag, 2009).

Research Questions

The primary question of this quantitative retrospective causal-comparative study design was that it investigated the influence of social media as an instructional strategy on mathematics and reading achievement at the elementary school level. This study also addressed the following sub-questions:

Research Question One (RQ_1). What, if any, statistically significant difference exists in MAP mathematical achievement **b**etween ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting?

$H_{1,0}$: No statistically significant difference exists between MAP mathematical achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

H_1: A statistically significant difference exists between MAP mathematical achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

RQ_2. What, if any, statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those not in a school using Seesaw in an elementary school setting?

H_{20}: No statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

H_2: A statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

Review of Literature

As students move through their schooling, modifying their instruction may provide support and allow academic success. Echevarría and Hasbrouck (2009) mentioned that teachers need to ensure that students have sufficient exposure to high-quality teaching that focuses on academic instruction in an environment that is supportive of their language development. Students must feel a connection to what they are learning. They need exposure to opportunities to apply their background knowledge to spark their interests and increase their confidence levels (Greene & Hale, 2017). The literature review includes a description of the different aspects of academic achievement and of effective instructional practices for ELLs, a historical account of the incorporation of technology in the classroom, the evolution of technology, evidence that social media has been used more in upper grades, and an overview of the California Math Framework, historical data for assessments, and theories for learning.

Academic achievement and assessment strategies. Students' academic success in reading, writing, and arithmetic can measure student success (Echevarría et al., 2010). Student success is also in parallel with the real-world success (Echevarría et al., 2010). York et al. (2015) considered that students who succeed can attain learning objectives and acquisitions of skills and competencies and be able to effectively communicate with others. These students

have a grasp on the social and academic aspects of school. They are goal oriented, social, motivated, and maintain a balance of each part.

Academic achievement correlates with positive outcomes for children. Research has shown that the amount of education one receives can play a key role in the type of job and salary someone gets (Brown, 1999; National Alliance of Business, Inc., 1998). Americans will need higher levels of education to tackle the technologically demanding occupations of the future (Brown, 1999; National Alliance of Business, Inc., 1998). This study will offer students more opportunities than those who have not demonstrated higher levels of academics.

Academic achievement should not just be looked at in schools, but also the effect it can have on students. Research shows that all students can become independent, gain stable employment, and be less likely to partake in criminal activity (National Alliance of Business, Inc., 1998). When students develop and achieve academic success, they feel connected and engaged in learning, and become more motivated academically (Reyes, Brackett, Rivers, White, & Salovey, 2012). Technology, including social media, can contribute to this growth and contribution.

Students who come from low socio-economic homes are less likely to be academically successful. Nutrition, parental involvement, and the type of environment children may have a direct impact on their ability to learn (Hart, 2013). According to Thomas and Stockton (2003), poverty has a clear, negative effect on student achievement. Students who attend schools with the high percentages of poor students perform worse on both reading and mathematics tests. If schools do not have sufficient funds, students lose out on sufficient resources such as books, technology, and labs. Parsons and Taylor (2011) found that all forms of technology make it possible for all students to be academically successful.

Retention is another factor that can also have a negative effect on students' academic achievement. Stockton mentions that retained children are most likely to be boys who are more likely to have lower scores in reading and mathematics. The National Research Council (1998) found that the students who are most retained are Hispanics and African Americans. Students will not become engaged in learning if they do not feel connected to the course content (Lenhart, 2015). For example, if schools allow for more authentic learning to occur and if students can access material that highlights their background and interests, then students may make connections and thrive in the classroom. This study looks at whether those connections will occur as students receive exposure to social media (Lenhart, 2015).

The ability to create a connection with students through a lesson is key to creating an effective learning environment. When students can apply their background knowledge, it allows them to make connections and access the content. The relationship between academic background knowledge and academic achievement should be the top priority of school interventions (Marzano, 2012). This study will explore the effects of social media on student's academic achievement by looking to see whether it makes students feel more connected to the curriculum.

Drawing on student's cultures is an essential part of learning. Culture plays a role in oral development, understanding, and helping students to engage in higher order thinking. As technology continues to evolve, so does the understanding that drawing on student's cultures is essential for their academic success (Chesick, 2014). Including student's cultures in the curriculum is a pedagogy that allows for equitable access to education for students from all cultures (Swanson, 2013). It helps to establish a positive classroom community of learners from diverse backgrounds (Junco et al., 2013). Engaging students in activities that help to build a

positive classroom community, allows students to express where they come from and be proud of whom they are. A positive classroom environment builds tolerance, students are more likely to work together and help each other as they learn. This study looks at the role of building a positive classroom community on student academic achievement (Hobbs & Jensen, 2013).

Teachers should be held accountable for planning, developing instructional strategies, cultivate attitudes, cultures, and skills needed within the creative environment, and fostering positive collaborative learning environments (Sahlberg, 2010). According to Williams and Williams (2011), exposing students to positive motivation in instructional practices and including real-world problems in the curriculum has a positive impact on student success. The use of social media allows for that. The use of social media allows for learner control, increased motivation, connections to the real world, and data-driven assessments tied to content standards. This can enhance student achievement, measurable in a variety of ways, including but not limited to standardized achievement tests (Earle, 2002).

Primary language and culture. Vaughn et al. (2011) acknowledged that when effective instructional practices for ELLs also benefit non-ELLs, then teachers have a stronger rationale for implementing them. It is important to look at what teachers are doing to connect with students. We must remember the importance of drawing on students' primary language and cultural background. Educators must look for ways to create a safe and supportive learning environment. It is essential that every lesson considers what students bring to the lesson and build on that existing knowledge (Richards & Bohlke, 2011). Teachers should build on students' prior knowledge. Using the child's native language allows them to connect new learning to prior concepts or language forms.

Including the use of social media provides a platform for students to have a place to share and exchange ideas and examine questions in their target language (Mingle & Adams, 2015). Social media allows them to be in charge. Bandura's (1997) social learning theory explained that the best, most effective learning outcomes are when students have ownership over their own learning (Chen & Bryer, 2012).

Drawing on students' backgrounds and interests. Chamot and O'Malley (1994) argued that an effective curriculum for English Learners must meet their needs. The differences in the languages and background experiences of English Learners must be reflected in the instruction designed for them. It is important that students feel a connection to what they are doing. Having a connection helps spark interest and confidence levels. As mentioned before, a way to promote background knowledge is to draw on the students' home language as part of the instruction and to allow for the use of technology. Zheng and Warschauer (2015) demonstrated that evidence from online teacher-student and student-student interactions suggested that the teachers' online scaffolding and students' peer interactions both contributed to the use of more complex language over time.

Samson and Collins (2012) acknowledged that the more vocabulary the student knows in his or her native language, the more success they will have learning English. When they have academic background knowledge in their primary language, they can apply those skills as they learn English. A substantial body of research suggests that literacy skills and knowledge transfer across languages. That is, if you learn something in one language, you can more easily learn it in another language (Goldenberg, 2008).

Through social media, students can get firsthand feedback and modeling from teachers and peers (Zheng & Warschauer, 2015). Social media allows teacher facilitation and peer

scaffolding to take priority and for students to support their peers' thinking process (Zheng & Warschauer, 2015). What this means is that students can take control of their learning instead of depending only on the teacher, which this study will highlight by exploring how social media can enhance student learning.

Language transfer. Students need sufficient opportunities for both formal and informal learning across the curriculum throughout the instructional day. Dutro and Prestridge (2001) mentioned that this includes everything from interactive practice, building scaffolds from contextualized experiences where visual cues, props, and gestures carry meaning to decontextualized input. Teachers should be using visuals, gestures, and graphic organizers to reinforce concepts. This will provide language output from the student as well as target an important part of the language learning process (Dutro & Moran, 2003). However, little evidence shows how social media does this at the elementary level.

Assessment strategies. When planning to evaluate a student, we as educators must identify their proficiency level, select standard objectives, design activities, and assess learning. The language objectives should provide an opportunity to use complete sentences, share ideas, and use precise vocabulary. This will help cover those critical components such as vocabulary, syntax, grammar, and academic register. An effective way to prepare for this type of evaluation is to increase content knowledge by modeling. Teacher modeling provides a visual example for the student use. Blaz (2013) mentioned that in differentiated instruction, teachers must provide a variety of visuals, props, and manipulatives when modeling. Students also need time to reflect and prepare how to handle the task. The lesson must be at a high language level and be broken into logical steps to support comprehension (Hogan, Bridges, Justice, & Cain, 2011). No evidence shows how this is done in the lower grades using social media.

Educators should also provide and take advantage of teachable moments. Utilizing a teachable moment means to provide the next language skill needed to carry out a task or respond to an unplanned stimulus, such as using a tornado to stimulate a discussion about weather (Dutro & Moran, 2003). For teachers, it is very important to take advantage of moments that may occur throughout the day, which can enhance language skills (Dutro & Moran, 2003). Spontaneous learning is essential. Students always have questions or contribute to a discussion by drawing from their own personal experiences. Being able to take a moment and tie in what the students bring to the table is an effective way to help students make connections (Dutro & Moran, 2003). Chamot and O'Malley (1994) acknowledge that effective literacy instruction for English Learners is comprehensive and multidimensional. It is important to provide adequate instructional attention to all skills and knowledge required for learning. Language functions connect thought and language. Throughout the instructional day, students are asked to analyze, argue, and justify. Teachers must provide support in all these areas to better assist students and build tools needed to communicate by providing support with grammar, sentence structure, and social knowledge Chamot and O'Malley (1994). An effective approach to English language instruction begins with an analysis of the linguistic demands of instruction and assignments (Dutro & Prestridge, 2001).

Hill and Miller (2013) mentioned that ELLs are not able to comprehend the oral language of English if they have had few interactions in that language. Teachers must model the language forms and vocabulary, as well as allow students to be engaged in both written and oral language and provide practice in different contexts (Hill & Miller, 2013). For example, if a class of students is learning about the past tense, they can speak with a partner as to what they did the day

before. It is key for a teacher to provide effective examples and models that students can use to become successful in the language.

Classroom technology. Any advancement in an educational tool that engages students is a form of technology. Evolution of classroom technology dates to the Colonial years when wooden paddles had printed lessons to assist students in learning verses (Purdue University, 2015). When the Chalkboard came around in 1890, followed by the pencil in 1900, it was clear that students were hungry for more advanced educational tools (Purdue University, 2015). This is important to reflect upon because with every advancement, the more influential it should be.

Fast forward a few decades, this next piece of technology was a game changer for all students in 1970; the calculator. The TI-83 paved the way for the use of calculators in the 21st century, but at the time, teachers believed that it undermined the learning of basic skills (Dunn, 2011). This mentality can connect to how teachers view new technology within current computers. Teachers must modify their philosophies while they are in the thick of change and taking risks within their classrooms (Wong, Wong, & Seroyer, 2015).

With this vision of practicality, came the computer in the 1980s (Purdue University, 2015). This machine provided immediate learning resources and was now something viewed as human (Purdue University, 2015). This piece of technology led to further advancements such as the Internet in 1992, which helped evolve the computer further within its usage (Purdue University, 2015). The U.S. Department of Education reported that by this time, high school enrollment compared to 10% in 1900, had now expanded to 95% by 1992 (Purdue University, 2015). This indicates that students are always looking for new ways to communicate, study, and learn (Purdue University, 2015).

These new technologies led to social media. In 2003, the users of the worldwide web were introduced to Myspace, which was an online that platform that allowed people to comment and interact with one another in real time (EdTech, 2016). That led to other outlets such as Facebook, Twitter, and other such platforms (EdTech, 2016). Just as with the 1970s introduction to the calculator, many schools are restricting student access to social media, while others are embracing it (EdTech, 2016). This type of exclusion is what results in a lack of research appropriately conducted regarding the possible positive effects social media may have if allowed in all the classrooms.

Integration of technology. With many advances in technology, comes a struggle in the educational world. It can be traced back to 1991 when teachers first struggled to include computers in their curriculum by having the mentality of having to rather than view them as a resource (Dwyer, Ringstaff, & Sandholtz, 1991). Even now, many educators find it vile to look for research regarding appropriately integrating technology into the classroom (Balakrishnan & Gan, 2016). What is evident is being able to leverage the opportunities technology creates to prepare learners to be globally connected and in tune with diverse backgrounds (Balakrishnan & Gan, 2016). Educators must remember that young minds today are active users of technology outside of school, using technology such as cell phones on a regular basis.

Many educators worry about cell phone usage in the classroom, concerned that students might use the phones for non-educational purposes (Graham, 2015). Therefore, little evidence has been collected to find whether cell phones are an effective tool in the classroom. One valid point to remember is that cell phones of today are not like the original phone that was only used to speak to another person; they are smartphones, which are essentially handheld computers. They can be used in place of a laptop if a school cannot afford one-to-one computers or tablets

(Graham, 2015). If teachers are willing to allow for every part of the room to be the front, then students would know that they could be held accountable for being on task (Graham, 2015). Yet again, it also requires all staff to be on board with such use.

It is important for teachers to understand that evolution and adaptation is necessary in their craft. Teachers must adapt to the changing of times and find a way to successfully incorporate any devices into their own classrooms (Graham, 2015). It is normal to struggle when implementing new technology; but being able to modify, take risks, and change pedagogic practice is essential to professional growth (Rienties, Giesbers, Lygo-Baker, Ma, & Rees, 2016). This also refers to the potential any device has to offer. The social media landscape provides opportunities for more personalization amidst greater collaboration, eventually helping instructors to not only be more effective teachers but also help students embrace new challenges in their future careers (Gan, Menkhoff, & Smith, 2015).

Meaning of social media. It is important to understand what social media offers. Educators must understand that social media begins with one's own experience of contemporary culture that facilitates interaction, participation and literacy development (Piotrowski, 2015). Social media is a tool that people use to share content, collaborate, and profiles that facilitate interactions between groups of people (Obar & Wildman, 2015). It can open the door to a community of learners. Learning has been transformed in a manner that is more interactive, collaborative and involving (Piotrowski, 2015).

Social media serves to create dialogue and connections. In a classroom setting, social media can help develop literacy by enabling dialogue, social interactions with peers and teachers, while literacy skills (Zheng & Warschauer, 2015). Research has shown that social media helps (Zheng & Warschauer, 2015). Results have indicated that a collaborative learning environment

empowers students to take charge of their learning process (Zheng & Warschauer, 2015). Yet this has not been studied at the elementary school level.

Social media today. With many forms of social media outlets besides the major ones such as Facebook and Twitter, there are other forms that can be used as a resource in educational settings (Hughes, 2016). Social media is life in today's world. It opens and connects the world with collaboration and inspires new experiences in ways students are taught (Piotrowski, 2015). It enables students to be able to collaborate and allows them to access a variety of information from their peers, authors, or other experts (Krutka & Carpenter, 2016).

Social media platforms play an integral part in students' lives. Educators should use social media as a resource (Boyd, 2014; Lenhart, 2015). Social media builds upon on the foundation of participation that supports a culture of collaboration, expressing oneself, and encourages users to discover diverse perspectives (Piotrowski, 2015). This allows for a deeper learning than what is typically found in traditional resources such as a textbook. Studies show that elementary school students could experience such things early on. Social media provides educators with a more diverse set of perspectives and allows for students learning that expands beyond the classroom (Krutka & Carpenter, 2016).

Studies have shown that social media support groups improve self-directed tasks. Akgunduz and Akinoglu (2016) found that there was a higher test score average for students associated with social media supported learning in 7th grade than those not provided with such opportunities. Yet a similar study has not been conducted to see if the same effects would be relevant in lower grades. If done correctly, social media can help mold a community of learners to be more self-guided and self-driven. It can allow students to easily obtain the information

they need without limitations from the Internet and educational sites (Akgunduz & Akinoglu, 2016).

Students and social media. The use of social media has continued to rise among teens between the ages of 13–17 (Pew Research Center, 2015). More than 56% of teens have reported going online several times a day, while 12% reported once a day use (Lenhart, 2015). What has made the use of social media such an attainable platform is the use of mobile and handheld devices (Pew Research Center, 2015). It is important to recognize that data such as this, only relates to students within their teens and not lower age groups. There is no data showing the percentage of younger kids using social media. One must recognize that students do not need to rely on a computer to have access to such technology. It is about the accessibility.

One thing to point out is that with social media, comes diversification. There are many platforms that students are using in today's world, and 71% of the teens are using more than one (Lenhart, 2015). These platforms include Facebook, Google +, Instagram, and Snapchat. Facebook is still the most widely used social media platform with 38% of the users being under the age of 13 and 25% being under the age of 10 (Pew Research Center, 2015).

It is crucial for educators to understand that social media is reaching out to more age groups. Teachers still struggle with appropriate and effective implementation of this new technology in their classrooms (Svihla, Reeve, Sagy, & Kali, 2015). To help students be academically successful, they must learn about the technology, the process is it, practice, and provide consistent encounters (Svihla et al., 2015). To do so effectively comes accountability and monitoring. Strictly banning such use due to distraction will discourage authentic conversations students may have (Shein, 2017).

Social media helps students to acquire proper grammar and punctuation use, engage in authentic conversations, and improve their technological capabilities (Shein, 2017). For example, one school in Brooklyn, "Magnet School of Math, Science and Technology" had a teacher that was using Twitter in his 3rd-grade classroom to help his students create well concise statements with references. In return, when one of his students made a reference to marine biology on his twitter post, a college professor from North Carolina responded with great insight that could not have been easily accessible through a textbook (Shein, 2017). Even though this was an experiment, it shows the potential of using social media in the classroom. Selecting the right social media outlets, tools, and expectations can lead to an authentic education in the classrooms (Shein, 2017).

Digital citizenship. With effective policies in place, technology may open many doors for young minds. Technology is a great tool, but also causes concerns, especially regarding cyberbullying and relationships with younger students and teenagers (Jones & Mitchell, 2016). Digital citizenship goes beyond the mere understanding and use of digital tools. It highlights the importance of teaching leadership behaviors within the contexts created by these tools (Cabellon & Brown, 2017). Even though the students of today are more tech-savvy and have easy access through all forms of devices, it is a fallacy to assume that they are experts at using technology in the appropriate way (Cabellon & Brown, 2017).

To have effective digital citizenship, educators themselves must continue to remain current with technological trends, so they can be effective partners in the learning process with students (Cabellon & Brown, 2017). They must understand the skills and knowledge technology presents, as well as how specifically to use social media as a learning tool. Educators must be provided appropriate professional development that highlights best practices for using social

media in the classroom. Once this is done, then there can be an effective assessment of whether the technology presented will have a positive outcome in the classroom setting (Cabellon & Brown, 2017).

It is also important that schools have policies in place that promote and define digital citizenship. This will help teachers to better control issues such as cyberbullying and allow students to understand their expectations through this alignment (Jones & Mitchell, 2016). It has been proven that having policies increases youth engagement and participation in larger communities (Jones & Mitchell, 2016). Overall, these policies can help clarify the goals of social networking in the classroom and increase the students' active learning (Jones & Mitchell, 2016).

Academics and social media. As social media is more widely used, educators must understand how it can help students to be academically successful. ELLs need teachers who will be open to new technologies and use them as tools within their craft. Educators need to understand that learning to use technology as a teaching tool; will help their teaching pedagogies (Manca & Ranieri, 2016). Specifically, the use of technology can help motivate ELL students and develop their language and literacy skills (Zheng & Warschauer, 2015).

Teachers must understand that for any form of technology to work, they must believe in its value and not discern it (Manca & Ranieri, 2016). Technology will continue to play an important role when it comes to any form of task-based language teaching. Although, globally teachers still find themselves not being well prepared to use technology as a teaching tool, and show a low level of faculty adoption, which has led to a resistance (Manca & Ranieri, 2016). Lack of this professional development is a leading factor in the lack of evidence on the effects of the use of social media as a teaching tool in lower grades. When teachers understand the

pedagogical value that technology offers, it enables them to continue on to experiment with new tools and serve as effective teachers for their learners (Manca & Ranieri, 2016).

It is important to keep in mind that 21st-century learning environments should be support systems that enhance the conditions in which students learn best. Learning environments should allow students to be unique and develop positive relationships needed for effective learning (Greene & Hale, 2017). Studies have shown that blended learning environments empower learners by leading to meaningful and purposeful engagement in the process of cognitive growth (Greene & Hale, 2017). Therefore, it is important to activate such learning in lower grades. When this type of environment is present, it enables both advanced and at-risk students to learn at their own pace (DreamBox Learning, 2016). It frees the student from any constraints and gives more opportunities for learning to occur**.**

Social media in higher education. Integrating social media for entertainment and learning is common among students in higher level of education (Othman & Musa, 2014). College students use various platforms that social media offers for their personal and learning use and are among the heaviest users (Wang, Niiya, Mark, Reich, & Warschauer, 2015). However, due to the rapid growth of social media, it can be called as very limited in use or non-educational in a school setting (Kahveci, 2015). It is important to conduct such studies in elementary school settings.

Studies have shown that between the ages of 18–36, there has been a positive correlation between social media and academic performance. Othman and Musa (2014) highlighted that within this age group, an increase of interactive activity between peers and teachers contributed to the improvement of academic performance. This study could further be enhanced by; collecting data from younger age groups to demonstrate how social media affects students

learning outcomes over the years. Students at all levels are encouraged to use 21st-century skills, so they can interact and engage. Social media can also aid with this.

The California Math/Language Arts Framework. According to Freeman and Crawford (2008), mathematics contains two types of language, the language of vocabulary (*diagram, scale*) and the language of symbols (> [greater than], *n* variables)). For language learners, it is critical that they continue to receive academic support with the vocabulary and get comfortable with it (Huang, Eslami, & Hu, 2010). This study will help enhance this theory. The California Department of Education (2015), recommends that students at the third-grade level experience mathematics as a rigorous, coherent, useful, and logical subject. Student themselves need to be able to explain the meaning of math problems and look for ways to solve them (California Department of Education, 2015). Social media provides opportunities for students to practice such skills.

California concentrates on four critical areas: (1) developing understanding of multiplication and division, including strategies for multiplication and division within 100; (2) developing an understanding of fractions, especially unit fractions (fractions with a numerator of 1); (3) developing an understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes (California Department of Education, 2015). Within all these standards, students need to make sense of the problems and persevere in solving them by constructing arguments using concrete referents, participating in mathematical discussions, acting out the problem, the use of charts, reflection on their results, and making predictions or generalizations (California Department of Education, 2015).

Historical data for benchmark assessment. California uses an assessment called, "The Smarter Balanced Assessment System" that utilizes computer adaptive tests and performance

tasks that allow students to demonstrate what they know and can do (California Department of Education, 2017a). These assessments are administered to grades three through twelve. This assessment includes three components designed to support learning throughout the year: the summative assessments, the interim assessments, and the Digital Library of formative assessment tools (California Department of Education, 2017a). These components include comprehensive assessments in English language arts/literacy (ELA) and mathematics that are aligned with the Common Core State Standards (CCSS) for English language arts/literacy (ELA) and mathematics and measure progress toward college and career readiness (California Department of Education, 2017a).

Historically, the California school system has had a significant number of ELLs. According to the Fall 2015 California Language Census, the majority of English learners (73 percent) are enrolled in the elementary grades, kindergarten through grade six (California Department of Education, 2017b). The other 27 percent are enrolled in the secondary grades, seven through twelve, or in the ungraded category (California Department of Education, 2017b). These numbers show the importance of incorporating more effective instructional strategies such as social media in the younger grades. Furthermore, in the state of California, ELLs make up 22% of the total enrollment in public schools and 43% of students speak a language other than English at home. Below is a table that shows the top ten languages in the state (California Department of Education, 2017b).

Table 1

Top Ten Languages in California, other than English

Language	Percent
Spanish	83.5%
Vietnamese	2.2%
Mandarin (Putonghua)	1.5%
Filipino (Pilipino or Tagalog)	1.3%
Arabic	1.3%
Cantonese	1.2%
Korean	0.8%
Hmong	0.8%
Punjabi	0.7%
Russian	0.6%

Note. All data gathered from the California Department of Education (2015).

California state superintendent Torlakson stated that the achievement gap is a big problem and educators need to work together to find solutions that help all groups be more academically successful, which would begin to close the gap (California Department of Education, 2016). Statewide scores have demonstrated that the achievement gap remains constant with significantly lower scores from English learners compared to non-English learners. Thirty-seven percent of Latinos and 31 percent of African American students meet or exceeded standards in English language arts compared with 64 percent of White students (California Department of Education, 2016). As shown on the table below, scores have been rising in both subjects, but the percent is small. Torlakson explained that scores should continue to rise, as students become more experienced using online testing (California Department of Education, 2016). This shows the importance of students having opportunities to use technology as a learning tool on a regular basis.

As shown in Tables 1 and 2, a significant percentage of third-grade learners in both language arts and mathematics who still did not meet the standards. The tables showed 32% for language arts and 29% for mathematics. Tables 3 and 4 show that Hispanics and Latinos are amongst the highest groups of students that have not met the standards with a 36% for language arts and 45% for mathematics (California Department of Education, 2016). In mathematics, the largest gains were seen amongst third graders with 46% meeting or exceeding the standards as shown in Table 2.

This shows that the playing field must become more even. In tables 4 and 5 there are over a million students who are economically disadvantaged. A large percentage of those are language learners. It is crucial for schools to address those numbers and provide the necessary tools for all students to succeed. This gap shows the need for educators to look for different instructional strategies as well as authentic learning opportunities through Web-based technologies (Herrington, Reeves, & Oliver, 2014). Looking at how the use of technology, specifically social media can be used as an instructional tool, it will help address these questions and needs. Among other things, social media will also contribute to the ELLs sociopragmatic awareness (Jabbari, Boriack, Barahona, Padron, & Waxman, 2015). It is important to provide authentic learning in a classroom that allows any student to be successful.

Table 2

2015–16 Smarter Balanced for English Language Arts/Literacy Statewide Numbers, Percentage of Students, and Percentage Point Change from 2015 by Grade and Achievement Level

Grade	Number of Students Tested with Scores	Percent of Students who Exceeded Standards	Percent of Students who Met Standards	Percent of Students who Nearly Met Standards	Percent of Students who Did Not Meet Standards	Percentage Point Change who Met or Exceeded Standards 2015-2016
Grade 3	455,796	22	21	25	32	+5
Grade 4	470,823	23	21	20	36	+4
Grade 5	462,277	21	28	21	31	+5
Grade 6	458,667	17	31	26	26	+6
Grade 7	456,591	15	33	24	28	+4
Grade 8	449,940	14	34	27	25	+3
Grade 11	433,920	26	33	22	19	+3
All California Students	3,188,014	20	29	24	28	+5

Note. All data gathered from the California Department of Education (2015).

Table 3

2015–16 Smarter Balanced for Mathematics Statewide Numbers and Percentage of Students and Percentage Point Change from 2015 by Grade and Achievement Level

Grade	Number of Students Tested with Scores	Percent of Students who Exceeded Standards	Percent of Students who Met Standards	Percent of Students who Nearly Met Standards	Percent of Students who Did Not Meet Standards	Percentage Point Change who Met or Exceeded Standards 2015-2016
Grade 3	457,540	18	28	26	29	+6
Grade 4	473,184	15	23	33	28	+3
Grade 5	464,150	17	16	28	39	+3
Grade 6	460,064	17	18	30	35	+2
Grade 7	458,138	17	19	30	34	+2
Grade 8	451,198	19	17	25	39	+3
Grade 11	432,108	13	20	25	43	+4
All California Students	3,196,0382	17	20	28	45	+4

Note. All data gathered from the California Department of Education (2015).

Table 4

2015–16 Smarter Balanced for English Language Arts/Literacy Statewide Numbers, Percentage of Students Achievement Level, and Percentage Point Change from 2015

Student Groups	Number of Students Tested with Scores	Percent of Students who Exceeded Standards	Percent of Students who Met Standards	Percent of Students who Nearly Met Standards	Percent of Students who Did Not Meet Standards	Percentage Point Change who Met or Exceeded Standards 2015-2016
All Students	3,188,014	20	29	24	28	+5
Gender						
Male	1,626,536	16	26	24	33	+4
Female	1,561,478	23	31	23	23	+5
Race Ethnicity						
Asian	287,372	45	31	14	11	+4
Black or African American	178,551	9	22	25	44	+3
Hispanic or Latino	1,707,944	11	36	27	36	+5
White	761,540	30	34	20	16	+3
Student Subgroups						
English Learner (EL)	580,720	3	10	25	62	+2
Economically Disadvantaged	1,889,074	10	25	27	38	+4
Students with Disabilities	333,681	4	10	18	68	+2

Note. All data gathered from the California Department of Education (2015).

Table 5

2015–16 Smarter Balanced for Mathematics Statewide Numbers, Percentage of Students Achievement Level, and Percentage Point Change from 2015

Student Groups	Number of Students Tested with Scores	Percent of Students who Exceeded Standards	Percent of Students who Met Standards	Percent of Students who Nearly Met Standards	Percent of Students who Did Not Meet Standards	Percentage Point Change who Met or Exceeded Standards 2015-2016
All Students	3,196,382	17	20	28	35	+4
Gender						
Male	1,631,107	17	20	27	36	+3
Female	1,565,275	16	21	29	34	+3
Race Ethnicity						
Asian	290,692	45	24	17	11	+2
Black or African American	178,039	8	13	27	54	+3
Hispanic or Latino	1,710,844	7	17	31	45	+2
White	761,255	26	27	27	21	+4
Student Subgroups						
English Learner (EL)	590,158	3	9	25	63	+1
Economically Disadvantaged	1,892,864	7	16	30	46	+2
Students with Disabilities	332,076	4	7	16	73	+2

Note. All data gathered from the California Department of Education (2015).

Theories for learning. Many studies have shown that students have different learning styles **(**Freeman & Crawford, 2008). Research has shown that academic achievement for ELLs depends on sufficient opportunities for learning. Echevarría et al. (2010) extended Freeman and Crawford's (2008) theory using visual aids, models, demonstrations, and peer tutoring to make

content material comprehensible for ELLs. Sharing a connection with this theorist, Freeman and Crawford's (2008) research focused on Web-based supplemental curriculum comprised of a series of interactive lessons that looked at how using technology to teach mathematical vocabulary and academic concepts could promote student learning. This characterized learning was an 8-component process that provided results in effective content-based instructional design and delivery: lesson preparation, building background knowledge, comprehensible input, strategies, interaction, practice and application, lesson delivery, and review and assessment (Echevarría, Vogt, & Short, 2004). According to Echaverría et al.'s (2004) model, it is a framework for comprehensive academic interventions for students' increased academic language proficiency. This framework will shed light on this study because it is not known whether ELL students exposed to social media in the classroom perform differently than those not exposed.

The Interactive Literacy Design by Herrera, Perez, & Escamilla (2010) has some key elements. These elements are awareness, phonics, vocabulary, comprehension, and fluency. Herrera et al. (2010) stated that if a language learner has had adequate formal schooling in their country of origin and enter US schools in fourth grade, the student would have already developed the deep reservoirs of academic knowledge that can be drawn on while learning English. The authors argue that proper instruction and academic experiences will help ELLs be academically successful. Resources such as culturally relevant texts, as well as good relationships with the people who are teaching them are important. What keeps a child interested in reading is not only related to whether the student can culturally relate to the text, it is also important to draw on their interests, personalities, and different learning styles. This study will look at how a curriculum that includes these factors within social media affects learning outcomes for ELLs.

Students learn when they presented with an opportunity to share similar inquiries together, thus allowing for collaboration and honoring their individual learning styles (Bell, 2010). Being able to address the educational needs of ELLs and allowing relevance in the material being presented to them is critical, especially because they are the future of this country and their numbers are increasing. There are many ways to help these students by looking beyond the social-cultural aspect of the student's lives.

Comprehension can be more attainable using visual aids, models, demonstrations, and peer tutoring (Echevarría et al., 2010). These help with the development of the students' academic language proficiency because it is being incorporated within the lessons. Teachers must develop the student's' academic language proficiency consistently and regularly as part of the lessons and units they plan to deliver (Echevarría et al., 2010). For example, having students create a video about themselves and their culture can contextualize writing a formal essay and make the lesson of writing an essay much more meaningful to the student. In this framework of the study, it will demonstrate how ELLs are supported in their development of literacy because they can use their primary language and culture as an aid.

Not only is it important to concentrate on the comprehension part of literacy, such as reading and writing, but also on the oral part as well. Developing oral proficiency is another key element in developing literacy. Research suggests listening is an interactive, dynamic, metacognitive process in which the listener engages in the active construction of meaning (Vandergrift & Goh, 2012). Allowing students to communicate and evaluate dialogue is a wonderful way to extend their understanding and development. There is also other research that supports learning in the first language since it aids in the acquisition of English. Educators must try to close the gap between language learners' identities, which are intricately tied to language,

and the school culture (Agirdag, 2009). This study will show that creating a classroom that includes technology will help create an active community of learners.

Review of Methodological Topics

Search strategy. Research was conducted primarily using the online databases available through Concordia University – Portland Library. While many different databases were retrieved, the specific databases used to locate most the research were ERIC, Education Database, SAGE, and JSTOR. Supplementary articles were utilized from other databases, but these represent a fraction of the amount of the literature reviewed.

Many search terms were employed to ensure the highest return of applicable research. These terms included many combinations of the following phrases: social media, social networking, 21st-century skills, history, classroom technology, technology, elementary schools, elementary students, and classrooms. Many of these search terms were paired with (and, or, in) to retrieve relevant literature. An example of a search would be "Elementary students" and "social media." This strategy was instilled to elude unwanted research, such as social media use for leisure purposes, or concerns surrounding major platforms such as Facebook or Twitter.

An ample amount of Internet resources were also utilized. *Google Scholar* was used to cross-reference citations and determine exemplar research articles. Google searches were conducted regularly to find information regarding ongoing social media challenges in academics, particularly those positioned sections titled Elementary School and Social Media. Data were collected from several organizations, including the ASCD, California Department of Education, IIRODL, and the Pew Research Center.

Selection criteria. An area of concern was to see an ongoing investigation on students and social media. Articles and journals were examined based on the following factors: quality of

data, date of publication, and significance. This allowed excluding many irrelevant articles. While most of these studies were omitted, some presented relevant information on upper-grade use on social media and were integrated. McMillan and Schumacher (2010) indicated that data quality should be an important factor in all studies; however, given the scarcity of reports available on this subject at the elementary level, it was important to include work that included all types of sample sizes, new types of study, and ongoing studies. Date of publication was a key factor given how recently social media has been tied in with technology and schools. An effort was made to retrieve data that was produced at the time social media was first introduced, 2003, to see its evolution (Purdue University, 2015). Furthermore, every effort was made to include both qualitative and quantitative research in this literature review.

Study descriptions. There were two approaches to conducting research for this literature review. The first approach was to include quantitative findings such as; descriptive statistics of trends, academic need, and usage. Some of these studies were descriptive, describing the demographic information of social media users, description of social media use between age groups, and the frequency of access in the classrooms. Others discussed the ways that social media was utilized as a tool for learning, claiming its ongoing use and its necessity in the classrooms (Balakrishnan & Gan, 2016). However, the scarceness of quantitative data surrounding how elementary schools used social media and students under the age of 13, demonstrated a large gap in the literature (Pew Research Center, 2015).

Most of the research utilized in this review is qualitative, drawn from research experts and established authors, historical information surrounding the development of 21st-century skills and social media. Often these areas would overlap. For example, experts often interpret social media as empowering to students, parents, and teachers to share information in new ways

and build a new sense of community (Hughes, 2016). Similarly, history has provided us with ways to measure these trends that are appraised. This can be seen through the developments of social media, which first started with Myspace in 2003, and evolved in many other platforms, such as Facebook and Twitter. By investigating these trends, it could allow one to project future expansions.

Methodological considerations. As the research was considered in the literature review, it was important to keep these issues in mind. The issues were: (a) method of data; (b) the lack of data; (c) and researcher bias. It was also important to consider why a quantitative retrospective causal-comparative study would be the best option in this study.

It was important to keep in mind the method used to collect data. The studies reviewed from both quantitative and qualitative research on social media show a tendency to rely heavily on self-reported data. A self-reported design included some negative aspects, such as bias, social prestige, demand personalities, and response sets, which can affect the outcomes (Paulus & Vazire, 2007). Although quantitative research can report a parallel in legitimacy, qualitative research heavily relies on the researcher and participant to govern such flaws.

Next, there was an inconsistency in the amount of data available on social media. When evaluating the amount of social media content, the information available can be overwhelming. For example, Facebook is the largest social network that boasts more than 100 million members (Wang & Chen, 2013). The quantity of research available is immense, even when it is sorted using quotations or other computer tools. On the contrary, within this issue, there was a lack of data available surrounding elementary students and social media. As of today, there has been no research conducted on this issue. For example, there was no data on how many times an average elementary student uses social media daily, or what percentage of that time falls under academic

use. There was also minimal data on the influence social media has on district and state assessments, or whether it can be used as an instructional tool to help aid in student scores.

Finally, an enduring concern was the potential bias by the researcher. Quantitative research can address many of these concerns such as discarding issues since they do not fit within the parameters of the hypothesis, issues that were unknown prior to the test may be overlooked, or researchers make a hypothesis based on assumptions, but might interpret the test findings incorrectly (Akers, 2018). One recurring issue is the lack of effort to address reflexivity within the studies (Mays & Pope, 2000). Minimal research has been provided regarding personal characteristics of elementary schools and social media, which included outside observation or a repeated analysis. Also, it was evident that few lacked the effort to seek out opposing views or offered multiple theories. A lot of the qualitative research presented within the area of education eluted itself to be a continuation of improvement with further research and other methods.

Due to these considerations, this study had lent itself to the method of a causal-comparative design. There was a need to determine the cause or consequence of differences that already existed among the groups of elementary students. This design allowed the researcher to look for a potential statistical difference in performance between two schools with similar demographics and curriculum with no manipulation. The distinguishing factors between both schools were that one school is using social media and the other one is not. This allowed for analyzation by comparing averages or tables between the groups and included opposing views.

Synthesis of Research Findings

This review of the literature highlighted these key themes: (1) Academic achievement and assessment strategies; (2) Classroom technology is evolving; (3) social media is effective when all educators are on board with its use; (4) administrators and educators are struggling with

the integration of social media and technology; and (5) educators need to be ready to meet the new challenges presented by social media.

The first theme that appeared was the understanding of academic achievement and assessment strategies. It was evident that the amount of education a student receives plays a key role in success in their lives (Brown, 1999; National Alliance of Business, Inc., 1998). Although few schools have sufficient funds to provide equity of success for all students, they often contribute to weaker assessment strategies and results (Mathis, 2010). Highlighting these augmentative points, key inferences can be drawn. First, it was important to highlight that although many schools do not have sufficient funds, more than 88% of today's teens have cell phones. Second, it was understandable that technology is expanding, and Americans need to keep up with times (Brown, 1999; National Alliance of Business, Inc., 1998). Taking these two points provided enough evidence that technology is growing and is important to use it to our advantage.

The next theme displays how technology has evolved and is now readily available in many ways. More than 56% of teens have cell phones and have reported the use of social media (Pew Research Center, 2015). Research has shown that if the correct setting for lessons, tools, and expectations are made, then social media can lead to authentic learning (Shein, 2017). Similarly, studies have shown that in college students, an increase of collaborative activity within peers and teachers contributed to an improvement in academic performance (Othman & Musa, 2014). Higher education institutions are using various platforms that social media must offer to increase personal and learning use (Cao & Hong, 2011; Dahlstrom, 2012). All levels of educational institutions appear to appreciate 21st-century skills and value the increase in technology.

Next, it was noticeable that there was an ongoing struggle with the effective use of social media and technology among educators. Not every educator was on board with more innovative teaching practices. Teachers must believe in the value of education and the value of what technology can bring into the classroom (Lai & Li, 2011). Nevertheless, it must be understood that technology and social media will continue to play an important role in our daily lives and any avoidance will challenge best practices because learning can take place anywhere (Gikas & Grant, 2013). Administrators have found themselves in a fragile situation, being progressive and at the same time trying to accommodate different teaching styles.

Also, it was evident that administrators and educators are struggling with the integration of social media and technology. A major challenge for many educators is implementing new technology and being able to modify, take risks, and face uncertainty for professional growth (Buabeng-Andoh, 2012). While others believe that social media is creating new opportunities, problems, and priorities within the classrooms (Hobbs & Jensen, 2013). An argument can be made that proper professional development and appropriate research relevant to all grade levels will help enhance this willingness by teachers to implement new ways of teaching using social media.

Finally, educators needed to adapt to meet the new challenges presented by the CAASPP. It is now a computerized test and to help raise test scores, students need a familiarity of online test-taking skills, use of interim tests, and continued use of technology (California Department of Education, 2016). Furthermore, there was a gap in the data that shows scores are not progressing due to teachers not being able to balance different instructional approaches in a comprehensive program (Cammarata & Tedick, 2012). This study did not only explore the need for using social

media, but it allowed for the accessibility of using the native language to support the transition of students' primary language to English (García, Kleifgen, & Falchi, 2008**)**.

Sources of data. For this research, a single procedure was used to collect data. This study looked for a statistically significant difference in students' academic achievement using social media through archived MAP scores data. The MAP assessment was administered at the end of each trimester to provide evidence of growth through the analysis of scores. This model was distinctively suited to help collect the data needed for the problem and research questions.

Critique of previous research. The crucial critique concerning prior research was its scarcity. There was sufficient research that exists surrounding social media in many practices, from their use in strategies, tools and assimilated within higher education. Research also showed that for every hour increase on average in social media exposure or cell-phone communication, average face-to-face social interaction also increased about 10 to 15 minutes within university students (Jacobsen & Forste, 2011).

One challenge came from the hypothetically biased nature in covering social media, an issue of age appropriateness and training. A considerate amount of discussion about social media came from those who have taken the time to show interest, specifically professors and upper-grade teachers. Those educators, regardless of how their research was funded, stand by the benefits of incorporating social media within the classroom setting. Understandably, it was proposed that it was important that we introduce all children to social media in appropriate and meaningful ways, regardless of their age, so that they can connect to a global audience and develop as empowered, networked learners (Holland, 2013). This is not to say that there was substantial evidence to back this claim, but that this coverage on social media comes from research that has already been done in other educational areas.

Chapter 2 Summary

The purpose of this chapter was to provide relevant literature for a dissertation. It was done in multiple ways. To begin with, the following problem statement was identified: It is unknown what statistically significant difference, if any, exists between the academic performance of ELL students using social media and those not using social media.

After identifying the problem statement, a theoretical framework was conveyed to develop a theoretical structure for the study. As a result, from the theoretical framework, the central research question was formulated:

What statistically significant difference, if any, exists between the academic performance of ELL students using social media and those not using social media?

The study will magnify upon the main research question with the following sub-questions:

- What is the difference in mathematical achievement between ELLs who use social media for intervention and those ELLs who were taught without it?
- What, if any, statistically-significant difference exists in reading achievement between ELLs who use social media for intervention and those ELLs who were taught without it?

Following, a review of the literature was conducted to highlight the understanding of current research and develop arguments that support the study. The study's proposed arguments were that the use of social media would offer students more opportunities than those who have not demonstrated higher levels of academics. As well as enable a type of world of collaborators, where students can access a variety of information by their peers, authors, or other experts. It is also unknown what percentages of students under the age of 13 have used social media in an

educational setting.

As social media grows, educators must understand the uniqueness it brings to the classroom and the enhancement it provides to the students. Due to the rapid growth of social media, few strategies have been created for using social media across certain grade levels. This could further enhance results if data is collected from younger age groups to show how the use of social media transferred over throughout the years.

Finally, a critique of previous literature and methodology exposed two challenges for this study. First, there was little research on this topic at the elementary school level, which makes it difficult to provide relevant supporting data. Second, much of the information on social media came from the use in the collegiate level and those institutions and groups may have their own built-in bias. By recognizing these challenges and considering them within the design, it was possible they can be alleviated.

Chapter 3 of this research study will provide the methodology utilized for this research. It will discuss the use of the archived MAP assessment data. In addition, it will discuss the use of a *t*-test and an Analysis of Covariance to examine what, if any, statistically significant difference exists between the academic performance of ELL students using social media and those not using social media in an elementary school setting in Northern California.

Chapter 3: Methodology

Introduction

The purpose of this quantitative retrospective causal-comparative study was to examine what, if any, statistically significant difference existed between mathematical and reading achievement of English Language Learner (ELL) students in an elementary school using Seesaw and those in an elementary school not using Seesaw in Northern California. Fifty-two ELLs participated in this study from two Northern California Elementary schools. The study retrospectively investigated the difference in district administered MAP between the two groups. The archived MAP scores from each participating school were collected and analyzed for statically significant differences.

Brannen (2017) noted that a quantitative approach examines significant differences through a test of hypothesis and provides an initial round of descriptive data between variables to a population. Due to the nature of this research, a quantitative approach best fit this study because it was examining statistically significant differences between two variables to a parent population. Specifically, this design enabled an examination of the differences in MAP scores between ELL students who were exposed to social media in class, and a class that was not.

Purpose of the Study

The purpose of this quantitative retrospective causal-comparative study was to examine what, if any, statistically significant difference existed between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. All schools in each state are required to establish an accountability system based on multiple indicators, including academic achievement, that help close the achievement gap for language learners (Dual et al., 2016). With

interaction, students are motivated to understand, become conscious, participative, and are more susceptible to changing ideas together with fellow students (Othman & Musa, 2014). However, based on the research, it remains unclear as to whether an ELL student exposed to social media in the elementary setting demonstrated different test scores than those that were not exposed to social media.

Significance of the Study

As noted in chapter 1, the findings in this study may serve practitioners and researchers serving the English Language Learner community. Due to the rise of the immigrant population, this study, may influence the teaching of ELLs**,** is both timely and significant. According to Verplaetse and Migliacci (2017)**,** 40% of all public-school children will be English Language Learners by the year 2030**.** It is unavoidable that becoming literate in the 21st century puts new demands on learners to be able to use technology to access, analyze, and be self-directed (Blaschke & Hase, 2016)**.** However, for ELLs, this study helped to highlight one possible solution in supporting this growing population in academic achievement**.** Additionally, this research may encourage engagement in the increasingly interactive nature of technology**.** Findings from this study may create new opportunities for students to learn by allowing them to analyze, receive feedback, and then build new knowledge (Blaschke & Hase, 2016).

The state of California mandates that each district issues standardized assessments to measure student achievement. Specifically, the MAP portion measures mathematics and reading (NWEA, 2017). The purpose of social media is to help students reflect on their learning, have active engagement, and become improved learners (Jabbari et al., 2015). Furthermore, the significance of this study was to investigate the difference in MAP scores between the use of Seesaw and ELLs mathematical and reading achievement levels, as noted by the district

administered assessments. Knowing it may be useful to practitioners and researchers, this study may add to the body of knowledge and set the stage for more comprehensive research.

Research Questions

This quantitative retrospective causal-comparative study investigated whether there was a significant difference that existed between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. Trends indicated that social media use in virtually all demographics is on the rise and will likely continue to rise for those under the age of 13 (Pew Research Center, 2015). According to Othman and Musa (2014), further research can be conducted regarding the use of social media and the effect it has with engagement to improve students' academic performance. Considering there were many recent studies that surround the use of social media in upper grades and very little in elementary schools, there was a need for this study. The specific line of inquiry follows:

Research Question One (RQ_1). What, if any, statistically significant difference exists in MAP mathematical achievement **b**etween ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting?

$H_{1,0}$: No statistically significant difference exists between MAP mathematical achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

H_1: A statistically significant difference exists between MAP mathematical achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

RQ_2. What, if any, statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those not in a school using Seesaw in an elementary school setting?

$H_{2,0}$: No statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

H_2: A statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

Population and Sampling

According to the California Department of Education (2016) ELLs constitute 22.1% (1.3 million) of the total enrollment in California public schools. Seventy-three percent of the ELLs are enrolled in the elementary grades, kindergarten through grade sixth, with the other 27% being enrolled in the secondary grades, seventh through twelfth (California Department of Education, 2016). It is possible that these numbers are conservative estimates and it may be excluding those that have language development issues (California Department of Education, 2016).

Since this study focuses exclusively on the MAP scores of ELL students, the MAP scores were selected using a convenience and homogenous sampling technique. According to Etikan, Musa, and Alkassim, "This form of sampling...focuses on candidates who share similar traits or specific characteristics. For example, participants in Homogenous Sampling would be similar in terms of ages, cultures, jobs or life experiences" (p.3). In this case, that similarity is that they are all students in third and fourth grade ELL classes.

The population of ELL third and fourth-grade students within each participating school was 52, resulting in 104. All ELL students in this study come from Spanish speaking homes and were Spanish speakers. Since the data was archived, the target was also 52 from each school, and the expected sample similarly was 52 from each school. This study targeted all 52 because the MAP scores were archived and readily available in the spring.

According to the California Department of Education (2017b), both schools are very similar in English Language Learner demographics. The school that used Seesaw in their instruction is at 36.1% of all students that are ELLs, while the other school that did not use Seesaw was at 37.2%. Also, the school that used Seesaw in their instruction had 55.2% of their overall school population that was Hispanic, while the school that didn't use Seesaw was at 52.3% Hispanic overall (California Department of Education, 2017b).

Instrumentation

Since this was a quantitative retrospective causal-comparative study, the data came from archived MAP assessments. More specifically, the archived MAP scores were available at the NWEA (2017) website. The Map is a valid assessment tool as certified by the AICPA utilizing the SOC 2 Type 1 Audit. The AICPA Assurance Services adheres to benchmarks—description criteria—that help provide assurance that the objectives of the assessment are reliable. The NWEA Map Growth assessment was audit report meet the AICPA Trust Services Security and Availability Principles and Criteria (NWEA, 2017).

MAP assessments were administered at the end of each 10-week marking period, on an assigned date, by each of the elementary school teachers to all general education and basic skills students. Northwest Evaluation Association (NWEA) is the organization known for their flagship of interim assessments known as MAP (NWEA, 2017). These assessments foster

educators' ability to accelerate student learning and modify instructional methodology (NWEA, 2017). MAP assessments started with a question appropriate for the student's grade level, then dynamically adapt throughout the test in response to student performance within a 45-minute period. This progressive modification allowed the MAP assessment to challenge top performers without overwhelming students with skills that were below their grade level (NWEA, 2017). Every question on this assessment was calibrated to its organization RIT scale, which is the most dependable in the industry (NWEA, 2017). Since the equal-interval scale is continuous across grades, educators can rely on it to track longitudinal growth over a student's entire educational career (NWEA, 2017).

Each of the trimester assessments was aligned with the California Common Core State Standards (CCSS). The archived MAP assessments generate data instantly with a personalized assessment experience that accurately measured performance whether a student performs on, above, or below grade level (NWEA, 2017). These assessments also served as a diagnostic tool to modify instructional methodology, as well as identify best practices and lesson objectives for the following marking periods (NWEA, 2017). Teachers used them to differentiate instruction and pinpoint individual student needs. For the purpose of this study, this assessment assessed what, if any, statistically significant difference existed between mathematical and reading performance of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California.

Data Collection

After IRB approval, the data collection phase in this study started. This phase included collecting the archived MAP scores from the participants in each school. The archived data is stored and maintained by the California Department of Education and was audited by the AICPA

SOC 2 Type 1 Audit (California Department of Education, 2017a; NWEA, 2017). This data served as the basis to examine if a difference existed in academic achievement between students exposed to Seesaw in the classroom and those who were not. Moreover, the MAP Math scores and the MAP reading scores were analyzed for any statistically significant difference between the two groups. The archival data was all the MAP scores available from September 2017 to the time of data collection. NWEA (2017) uses anonymous assessment data from over 10.2 million students to create national norms, placing students and schools within a representative national sample. Raw data was prepared for analysis by downloading from SPSS and checking for missing data. A password-encrypted file in an external hard drive was used to secure the data until results were analyzed and compared after the second phase was completed. Once the results were compared, the file will be deleted from the external hard drive, and the drive will be reformatted.

Participating schools received a site authorization letter. This letter informed the administrators about the goal of the research study, and it assured all parties that their data would remain anonymous and present minimal risk, if any, to the students. The consent letter also explained how to contact the researcher and Concordia University's Institutional Review Board should they have concerns over the ethical use of their data.

Data Analysis

The major goal of this quantitative retrospective causal-comparative research was to examine if there was a significant difference that existed between the academic performance of ELL students using social media and those not using social media in an elementary school setting in Northern California. NWEA (2017) provided an analysis of whether learning styles and instructional strategies influenced the outcome of student achievement. The archival data

from both schools were analyzed to see if there was a difference between a school using Seesaw and a school not using Seesaw. NWEA (2017) mentioned that its MAP Growth system is the most appropriate for implementing a statistical analysis because it informs what students know and what they are ready to learn next. The MAP Growth system also measures student performance with their RIT scale, which is an equal-interval that is continuous across all grades and tracks longitudinal growth over a student's entire career (NWEA, 2017). The analysis of the quantitative data provided a measure of the difference in student mathematics and reading achievement scores.

Collection of data occurred through the MAP Growth assessments. Once both schools administered the assessments, the data was compared through a two-sample *t*-test. Since a t-test is an inferential statistic, which determines whether significant differences exist between the means of two groups, which may have similar characteristics, a two sample t-test best fits this study because the research was comparing the means of two sample groups (Harding University, 2017). For example, in this study, it was investigating academic performance in the groups: ELLs using Seesaw in an elementary school setting and those not using Seesaw in an elementary school setting. The archival data from both schools' MAP assessments will help determine if there are significant differences in the behavior of a single group (Harding University, 2017).

The Shapiro-Wilk (Wilk test) test was used to confirm the assumption of normality (Statistics Solutions, 2018). This test is appropriate for small sample sizes (<50 samples) but can also handle sample sizes as large as 2000 (Laerd, 2018b). The significance value was set at .05. If the significance value of the Wilk test was greater than .05, the data was considered as normal (Laerd, 2018b). If it fell below .05, it was determined that the data significantly deviates from a normal distribution (Laerd, 2018b).

A two-sample *t*-test with a two-tailed distribution helped determine if there were any differences between the groups this study is comparing (Laerd, 2018a). It widened the range for the possibility of positive or negative differences. For each *t*-test, there were three assumptions regarding the scores. The statistical significance of these differences was reported with an alpha set at $p < .05$ and the confidence interval set at 95%.

Additional analyses included Levene's Test for Equality of Variances to assess the equality of variances for a variable calculated for both groups (Nordstokke, Zumbo, Cairns, & Saklofske, 2011). This test addressed the assumptions that the variances of the populations for each group were equal (Nordstokke et al., 2011). The statistical significance of these differences was reported with an alpha set at $p < .05$ because the use of greater levels of alpha entailed a risk of more type I errors (Schumm, Pratt, Hartenstein, Jenkins, & Johnson, 2013). This was needed because those in the group that used social media would be hypothesized to have a statistically significant difference in academic achievement.

If Levene's test did not establish homoscedasticity, then the Welch-Satterthwaite method (Welch's *t*-test) was utilized. This method is more reliable when both samples have unequal variances and maintain type I error rates close to nominal (Zimmerman, 2004). The Levene's test is also similar to that of the *t*-test even when the population variances are equal (Ruxton, 2006). For this unequal variance *t*-test, a nominal α value of 0.05 was set to compare the central tendency of both populations based on samples of unrelated data. After running the statistical analyses, this researcher stored the data on multiple external password-protected hard drives for safety and security.

If the results ended up being nonparametric from two independent samples *t*-test, the Mann-Whitney test was utilized (Laerd, 2018a). This test permitted to draw different

conclusions about the data depending on the assumptions made from the data's distribution (Laerd, 2018b). If the data was not normally distributed, then this test permitted to see if the distributions of the scores have the same shape; if not, then the Mann-Whitney test allowed to compare the mean ranks (Laerd, 2018b).

In order to detect any outliers, the data was run through an SPSS system to detect outliers using "casewise diagnostics" (Laerd, 2018b). This study followed the common outlier detection rule, which was based on a 2.5 or 3 standard deviations difference from the mean (Pollet & van der Meij, 2016). Turkey's boxplot was used to visualize the variables in order to investigate the spread of data and highlight the outliers (Walker et al., 2011). Finally, two sample *t*-tests were performed. One *t*-test consisted of not removing any outliers and one *t*-test consisted of all the outliers being removed in order to indicate which one yields a statistically significant result (Pollet & van der Meij, 2016).

The tool for this analysis was SPSS. SPSS is a powerful statistical program that uses a variety of statistical procedures (Fraenkel, Wallen, & Hyunn, 2015). This tool offered a detailed analysis that looked deeper into the data and spotted trends that the researcher may have not noticed. SPSS has capabilities to present survey results using nesting, stacking and multiple response categories, and manages missing values. SPSS also provided a wide variety of analytics capabilities including descriptive statistics, presentation quality graphing and reporting (IBM SPSS software, 2016).

Limitations

Despite several key advantages, causal-comparative research does have some limitations to keep in mind. Since the independent variable has already occurred, the same kind of controls cannot be exercised as in an experimental study (Fraenkel et al., 2015). Also, for the researcher,

there was a lack of control, randomization, and manipulation. According to Fraenkel et al. (2015), in causal-comparative studies, there is a risk that other variables will influence the effect.

There can be a major threat to the internal validity in which the subject selection is bias (Fraenkel et al., 2015). Other threats to internal validity that can be present in causal-comparative studies include location, instrumentation, and loss of subjects. As in any quantitative research, if the participants drop, it can influence the outcomes of the researcher's data (Fraenkel et al., 2015).

Reversal causation was another issue that could have risen in this type of study. This is when it is not clear whether or not the independent variable caused the changes in the dependent variable, or if the dependent variable caused the independent variable to occur (Salkind, 2010). If this was the case, the researcher will be required to determine which event occurred first (Salkind, 2010).

Another limitation found was sampling. The 52 participants from each school, 104 total, in this study may not be considered an adequate sample size by lead methodology experts (Creswell, 2009; Krejcie & Morgan, 1970). Given the total population of ELL's constitutes 1.3 million of the total enrollment in California public schools (California Department of Education, 2016). A larger sample size would have been ideal. However, this sample size was unattainable due to resource limitations.

Furthermore, the researcher cannot account for every possible environmental factor. Krutka et al. (2017) mentioned that scholars should also consider cultures, environments, and policies relating to social media. It was challenging to control the types of before and after school programs that are offered in both schools to support academic achievement. As well as the type of accessibility to tutors, experienced teachers, and technology students have in each

school. Beuermann, Cristia, Cueto, Malamud, and Cruz-Aguayo (2015) mentioned that having one-to-one access in devices improves student's skills in using this specific type of technology.

Other specific limitations existed because of this study's use of an online assessment methodology. Student motivation was a factor due to it being the first time 3rd graders see the format of the MAP assessment on a computer. Students may find it difficult to test due to this test will require to type or manipulate moving objects with a mouse for the first time.

Delimitations

The sample was delimited to participants who were ELLs in either third or fourth grade. These students were also the ones who have continued working extensively using Seesaw on a weekly basis. Due to the use of Seesaw, these students were under an instruction that offered many opportunities for oral language development (Chun, Kern, & Smith, 2016). With multiple solutions presented, students and their peers can grow, reflect, and acquire the necessary academic language through the engagement of such technology (Chun et al., 2016).

The researcher set these choices to make the research design reasonable within time constraints and available resources. Additionally, the research setting was easily accessible since the researcher lived near the school districts of the study. Although this may appear to be a narrow focus, the analysis of ELL's that were instructed to use Seesaw may lead to some generalizable findings about the implementation of this social media platform.

Internal and External Reliability

In this study, convenience and homogenous, non-probability sampling (Etikan, Musa, & Alkassim, 2016) was applied using a clearly defined population (English Language Learners). NWEA (2017) designed expertly created assessments to measure the students' skills aligned with

the Common Core State Standards. Using retest reliability establishes a consistency of the measure to determine how valid the results are NWEA, 2017).

A retrospective causal-comparative design best fit this study because the researcher was investigating the effect of an independent variable on a dependent variable by comparing two groups of individuals (Salkind, 2010). The event or action has already occurred, and the researcher is determining what may have caused something to occur (Salkind, 2010). Also, this designed offered to be less time consuming given the fact that the school districts do not have the necessary resources readily available until after the school year (Salkind, 2010). Finally, to counter any threats to internal validity, this design allowed the researcher to impose selection techniques of matching, use homogeneous subgroups, randomly selecting participants from previously established groups, and or test the hypothesis with several different population samples (Salkind, 2010).

To approach trustworthiness and increase the internal validity of the study, the researcher employed several strategies in the research process. The researcher studied quantitative research methodology and became familiar with the causal-comparative method through seminal authors such as Fraenkel et al. (2015). To establish credibility, the researcher utilized the following procedures recommended by Laerd (2018a): Run a two-sample *t*-test assuming the variances of the two groups being measured are equal, and if the variances are unequal, the assumption of homogeneity of variance can be tested using Levene's Test of Equality of Variances. These results are already produced in SPSS Statistics when running the two-sample *t*-test procedure (Laerd, 2018a).

The use of a two-sample *t*-test in this study also provided valid results on the research that it is testing for, a difference between two sample groups to test hypotheses related to the

means of the two overall populations represented by the samples (Harding University, 2017). For example, this study was investigating the academic performance of ELLs using social media and not using social media in two different schools. With the implementation of a two-sample *t*-test, it determined if there are significant differences in the behavior within those groups (Harding University, 2017).

Due to the type of sampling that was conducted in this study, one drawback of using convenience and homogenous sampling is the potential for bias, due to the lack of random sampling and the subjective judgment of the researcher (Etikan et al., 2016). Additionally, due to this sample size, this could also affect results within this study (Palinkas et al., 2015). Other potential internal threats to validity were the possibility of confounding variables, such as students who dropped out during the school year due to external reasons, as well as the communication between students of the schools using social media and not using social media.

Also, within this study, further potential threats included the generalization of results to other demographics and locations, particularly if the sample size is small. Button et al. (2013) stated that such sampling of participants negatively affects the likelihood that a nominally statistically significant finding actually reflects a true effect. This study focused on two schools from different districts with similar demographics and curriculum. Although, the selection and treatment may influence external validity due to the sample size may be too small to generalize to another population, and provide inaccurate and biased results (Collins, Ogundimu, & Altman, 2016).

Ethical Issues

Conflict of interest. There was no conflict of interest. According to Creswell (2012), ethical research is research that is honest and has not been previously published, plagiarized, or

influenced by personal interest. Upon completing the requirements for an earned doctorate, the author did not benefit in any way from this report.

Researcher's position. The researcher observed students during the period to confirm the incorporation of the learning style strategies during mathematics instruction to increase academic achievement. There were two groups in this study: the school using social media and the school not using social media. The school using social media was made up of 52 students from eight third and fourth-grade general education classes that will receive social media as an instructional strategy. The school not using social media was made up of 52 students from eight third and fourth-grade general education classes that had traditional instruction with no social media.

There was no immediate contact with students to sway results of district testing or procedures. Also, no training in relation to this study was completed to impact results. All archival data was confidential, and a data usage agreement was completed with the school district to analyze the archival data for this study.

This study complied with the tenants of the Belmont Report. Specifically, this study observed three key principles that are respect for persons, beneficence, and justice (US Department of Health and Human Services, 2017). Students treated were also informed that they are voluntarily giving consent to partake in the research study, in which remained anonymous. Students and parents had an understanding that no harm resulted in participating, but that there will be a maximum benefit for them in doing so. Finally, everyone was in an even playing field and no one will benefit more than the other (US Department of Health and Human Services, 2017).

To honor the Belmont Report, first participants were informed of any possible risks and benefits before consenting to join the study (Adams, 2013). Also, by assigning each participant an alias, it preserved confidentiality. Second, to follow the integrity of the Belmont Report, no one was harmed because of a breach of confidentiality, or an unwillingness to partake in the study. Finally, educators can increase their knowledge by knowing if there is a statistically significant difference exists between MAP mathematical and reading achievement of English Language Learner (ELL) students in an elementary school using Seesaw and those in an elementary school not using Seesaw in Northern California. Participating teachers will also increase their knowledge of using social media such as Seesaw, to improve student achievement in all content areas.

Summary

This section provided the rationale for choosing a quantitative retrospective causal-comparative study that examined the statistically significant difference between social media and academic achievement in mathematics and reading with third and fourth-grade students. The district administered MAP assessments provided the quantitative data for the archival collection. The SPSS was the tool used to analyze such data because it provides a wide variety of analytics capabilities including descriptive statistics, presentation quality graphing and reporting (IBM SPSS software, 2016). The data analysis of this quantitative investigation also addressed the four research questions.

Furthermore, the use of social media in the educational field is an ongoing challenge. The results of the study could assist educators and districts if there is a statistical difference between the academic achievements of ELL students using social media. The results could yield data that inform the professional development of educators and may also determine whether

further implementation and development of social media in the classrooms will be beneficial for students.

Chapter 4 will summarize the collected data. An analysis of the research questions and hypothesis will be provided to report the study's main findings. There is also discussion on the interpretation of any findings that were not anticipated when the study was first defined.

Chapter 4: Data Analysis and Results

Introduction

The purpose of this quantitative retrospective causal-comparative study was to examine what, if any, statistically significant difference exists between mathematical and reading achievement of English Language Learner (ELL) students in an elementary school using Seesaw and those in an elementary school not using Seesaw in Northern California. A total of 104 ELLs (52 from each school) participated in this study from two Northern California Elementary schools. This study retrospectively investigated the difference in district administered MAP assessments between the two groups. The archived MAP scores from each participating school were collected and analyzed for statically significant differences.

An SPSS program was used to provide a variety of statistical procedures (Fraenkel et al., 2015). This tool offered a detailed analysis that looks deeper into the data and spots trends that the researcher may not have noticed. This SPSS program also provided a wide variety of analytics capabilities including descriptive statistics, presentation quality graphing and reporting (IBM SPSS software, 2016).

Previous research stated that ELLs need teachers who are willing to take risks with new technologies and use them as tools within their classrooms (Manca & Ranieri, 2016). Manca and Ranieri (2016) mentioned how educators need to understand that in order to stay current with their teaching pedagogies, learning new forms of technology plays an important role as a teaching tool. Technology can encourage ELL students within the classroom and develop their English language skills (Zheng & Warschauer, 2015). Yet, it was not known if there was a difference in test scores between an ELL class using a social media platform for education (Seesaw) and one not using it. This study as pursued to address that issue.

The data collected in this study includes information that shows if there is a statistically significant difference that exists between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. Research is lacking at this level that shows how students engage in higher-order thinking by the use of social media when researching or interpreting information. There is no current research available that shows the use of a social media platform such as Seesaw, which helps create an active learning environment that, empowers students to independently document what they are learning at school (Seesaw, 2017). The results of this study may assist administrators and teachers in supporting the English Language Learner population in efforts to enhance learning in the classroom.

Research Questions

The primary question of this quantitative retrospective causal-comparative study design was to investigate the influence of social media as an instructional strategy on mathematics and reading achievement at the elementary school level. This study addressed the following sub-questions:

Research Question One (RQ_1). What, if any, statistically significant difference exists in MAP mathematical achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting?

$H_{1,0}$: No statistically significant difference exists between MAP mathematical achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

H_1: A statistically significant difference exists between MAP mathematical achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

RQ_2. What, if any, statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those not in a school using Seesaw in an elementary school setting?

$H_{2,0}$: No statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

H_2: A statistically significant difference exists in MAP reading achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting.

Description of Sample

The sample consisted of ELL third- and fourth-grade students within each participant school 52 totaling 104. All ELL students in this study came from Spanish speaking homes and were Spanish speakers. As noted in chapter 3, the archived data was stored and maintained by the California Department of Education and was audited by the AICPA SOC 2 Type 1 Audit (California Department of Education, 2017a; NWEA, 2017). Since the data was archived, the target was also 52 from each school, and the expected sample similarly was 52 from each school. This study targeted all 52 because the MAP scores were archived and readily available in the spring.

According to the California Department of Education (2017b), both schools are similar in English Language Learner demographics. The school that used Seesaw in their instruction was

at 36.1% with ELLs, while the other school that did not use Seesaw was at 37.2%. Also, the school that used Seesaw in their instruction had 55.2% of their overall school population that was Hispanic, while the school that did not use Seesaw was at 52.3% Hispanic overall (California Department of Education, 2017b).

Summary of Results

MAP score data from both groups were compared using the p-values from a two-sample *t*-test with a predetermined alpha of (.05), and the standard deviation results assisted in determining the significance between samples. McMillan (2012) mentioned that this approach allows for a comparison between MAP scores when using a two-sample *t*-test. If the *p*-value is less than the predetermined alpha (.05), then it is statistically significant. Adams and Lawrence (2015) stated that any *p*-value that is less than the given alpha is statistically significant.

This study's initial proposal called for two groups from one grade level; however, after considering the nature of the sample, it was believed appropriate to include two grade levels. This decision reinforced the internal validity by allowing for a broader range of student scores and increasing the confidence interval across all of the data sets. The overall student MAP data was collected through one academic school year 2017–2018 to assess the difference that existed between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw.

Although, due to this sample size being 104, 52 students from each school, this could have also affected the results within this study (Palinkas et al., 2015). Other potential internal threats to validity in this study was the possibility of students dropping out during the school year due to external reasons, as well as the communication between students of the schools using

social media and not using social media. These results were produced in SPSS Statistics running the two-sample *t*-test procedure.

The research questions and associated hypotheses were tested using *t*-tests for two independent samples. These analyses compared the difference that existed between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. The first research question and associated hypothesis investigated if there was a statistically significant difference that existed in MAP mathematical achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting. The results were statistically significant, t (51) = 3.36, p = .001, suggesting that the result is less than the predetermined alpha level of .05, and that data supports the alternate hypothesis that there is a true difference in the means of MAP mathematical achievement with Seesaw and MAP mathematical achievement without Seesaw was significantly different from zero.

The second research question and associated hypothesis investigated if there was a statistically significant difference that existed in MAP reading achievement between ELL students in a school using Seesaw and those not in a school using Seesaw in an elementary school setting. The results were statistically significant, t (51) = 13.79, $p < .001$, suggesting that the result is less than the predetermined alpha level of .05, and that data supports the alternate hypothesis that there is a true difference in the means of MAP reading achievement with Seesaw and MAP reading achievement without Seesaw was significantly different from zero. This finding provided evidence that there is a significant difference that exists between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California.

Detailed Analysis

A two-sample *t*-test was conducted to examine whether the difference between MAP mathematical achievement with Seesaw and MAP mathematical achievement without Seesaw was significantly different from zero. Before the analysis, the assumptions of normality and homogeneity of variance were assessed. All decisions on the statistical significance of the findings were made using a criterion alpha level of .05.

Normality. A Shapiro-Wilk test was conducted to determine whether difference could have been produced by a normal distribution (Razali & Wah, 2011). The results of the Shapiro-Wilk test were significant, $W = 0.94$, $p = .013$. This suggests that difference is unlikely to have been produced by a normal distribution; thus, normality cannot be assumed. However, the mean of any random variable will be approximately normally distributed as sample size increases according to the Central Limit Theorem (CLT). Therefore, with a sufficiently large sample size ($n > 50$), deviations from normality will have little effect on the results (Stevens, 2009). An alternative way to test the assumption of normality was utilized by plotting the quantiles of the model residuals against the quantiles of a Chi-square distribution, also called a Q-Q scatterplot (DeCarlo, 1997). For the assumption of normality to be met, the quantiles of the residuals must not strongly deviate from the theoretical quantiles. Strong deviations could indicate that the parameter estimates are unreliable. Figure 1 presents a Q-Q scatterplot of the difference between MAP mathematical achievement with Seesaw and MAP mathematical achievement without Seesaw.

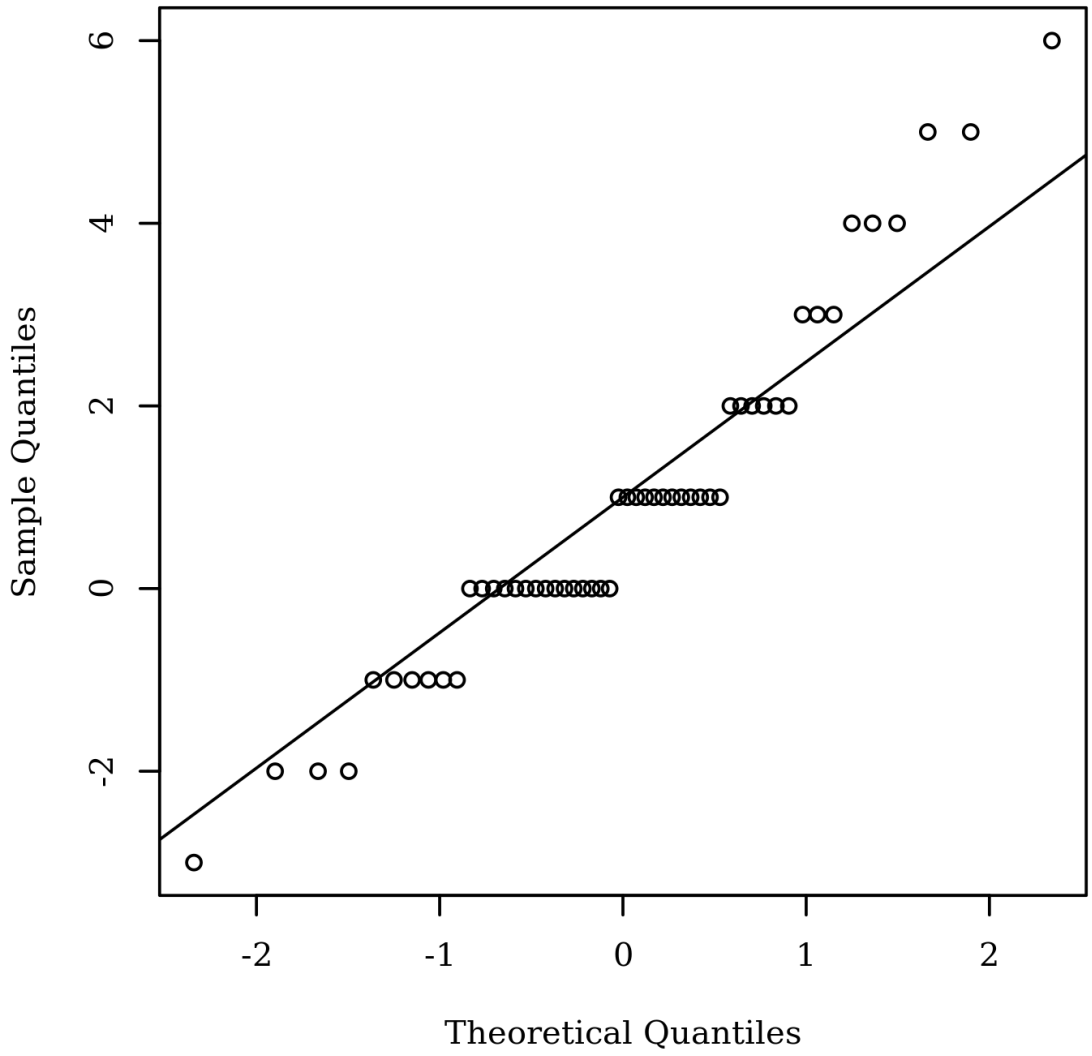

Figure 1. Q-Q scatterplot for normality for the difference between MAP Mathematical Achievement With Seesaw and MAP Mathematical Achievement Without Seesaw.

Homogeneity of variance. Levene's test for equality of variance was used to assess whether the homogeneity of variance assumption was met (Levene, 1960). The homogeneity of variance assumption requires the variance of the dependent variable is approximately equal in each group. The result of Levene's test was not significant, F (1, 102) = 0.05, p = .824, indicating that the assumption of homogeneity of variance was met.

Research Question 1 Results. The result of the two samples *t*-test was significant, *t* (51) = 3.36, *p* = .001, suggesting that the result is less than the predetermined alpha level of .05, and that data supports the alternate hypothesis that there is a true difference in the means of MAP mathematical achievement with Seesaw and MAP mathematical achievement without Seesaw was significantly different from zero. The mean of MAP mathematical achievement with Seesaw (*M* = 196.12) was significantly higher than the mean of MAP mathematical achievement without Seesaw (*M* = 195.23). Table 6 presents the results of the paired *t*-test. Figure 2 presents the mean of MAP mathematical achievement with Seesaw and MAP mathematical achievement without Seesaw.

Table 6

Paired Samples t-test for the Difference between MAP Mathematical Achievement With Seesaw and MAP Mathematical Achievement Without Seesaw

MAP Mathematical Achievement With Seesaw		MAP Mathematical Achievement _ Without Seesaw				
M	*SD*	*M*	*SD*	*t*	*p*	*d*
196.12	12.21	195.23	12.91	3.36	.001	.07

Note. Degrees of Freedom for the *t*-statistic = 51. *d* represents Cohen's *d*.

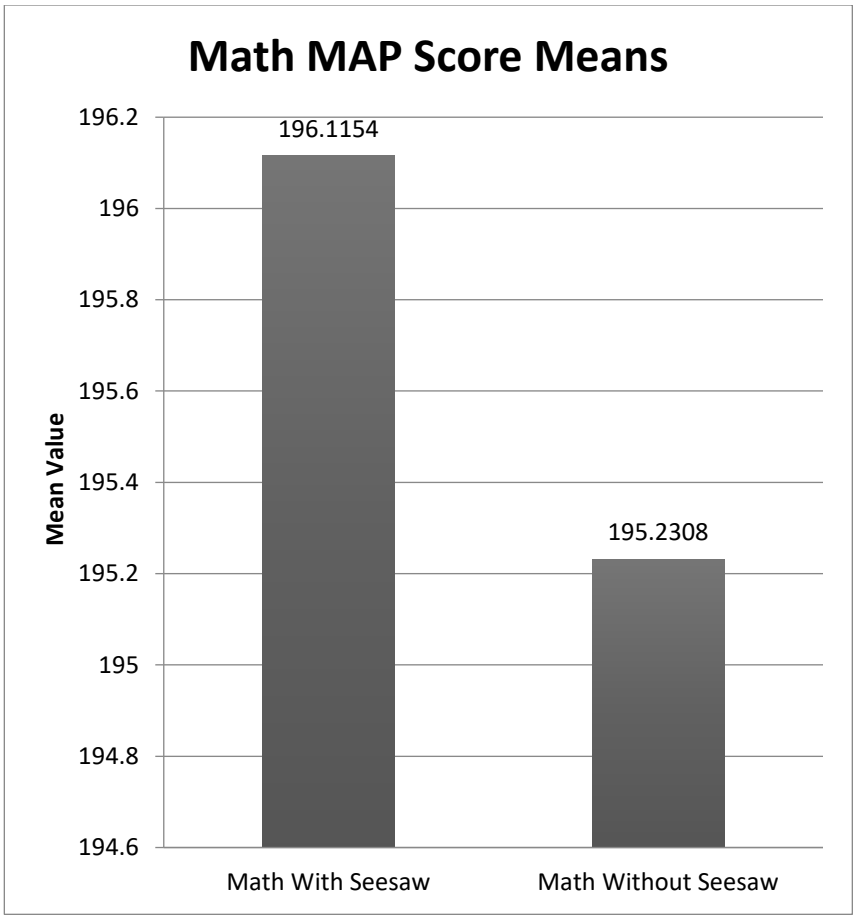

Figure 2. The means of MAP mathematical achievement with Seesaw and MAP mathematical achievement without Seesaw.

A two-sample *t*-test was also conducted to examine whether the difference between MAP reading achievement with Seesaw and MAP reading achievement without Seesaw was significantly different from zero. Before the analysis, the assumptions of normality and homogeneity of variance were assessed. All decisions on the statistical significance of the findings were made using a criterion alpha level of .05.

Normality. A Shapiro-Wilk test was conducted to determine whether difference could have been produced by a normal distribution (Razali & Wah, 2011). The results of the Shapiro-Wilk test were significant, $W = 0.89$, $p < .001$. This suggests that difference is unlikely to have been produced by a normal distribution; thus normality cannot be assumed. However, the mean

of any random variable will be approximately normally distributed as sample size increases according to the Central Limit Theorem (CLT). Therefore, with a sufficiently large sample size ($n > 50$), deviations from normality will have little effect on the results (Stevens, 2009). An alternative way to test the assumption of normality was utilized by plotting the quantiles of the model residuals against the quantiles of a Chi-square distribution, also called a Q-Q scatterplot (DeCarlo, 1997). For the assumption of normality to be met, the quantiles of the residuals must not strongly deviate from the theoretical quantiles. Strong deviations could indicate that the parameter estimates are unreliable. Figure 3 presents a Q-Q scatterplot of the difference between Reading_With_Seesaw and Reading_Without_Seesaw.

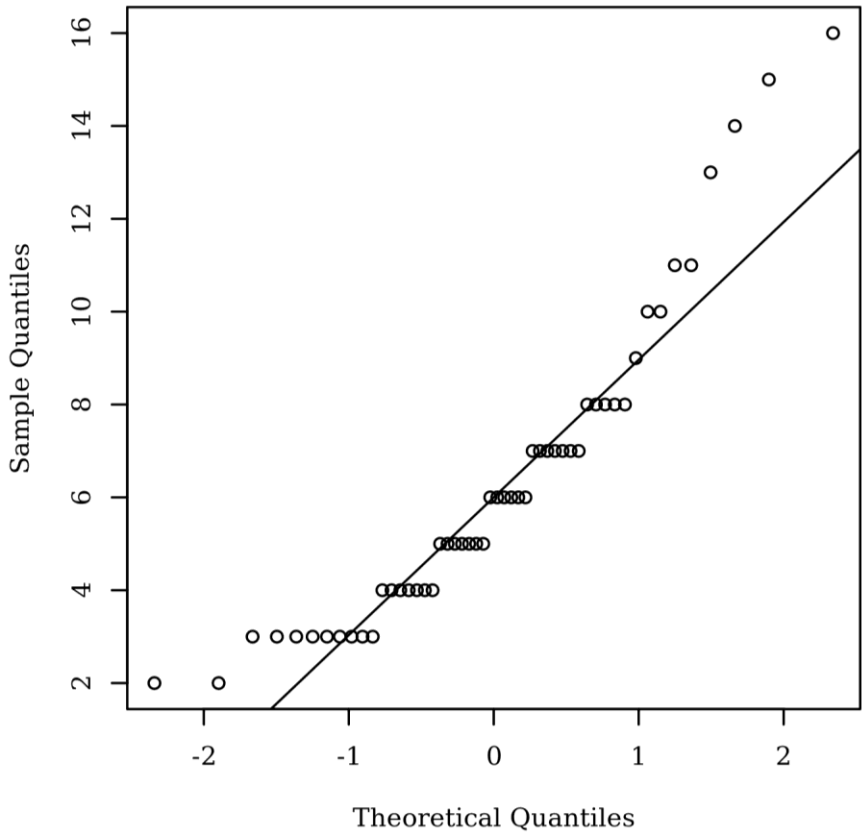

Figure 3. Q-Q scatterplot for normality for the difference between MAP Reading Achievement with Seesaw and MAP Reading Achievement without Seesaw.

Homogeneity of variance. Levene's test for equality of variance was used to assess whether the homogeneity of variance assumption was met (Levene, 1960). The homogeneity of variance assumption requires the variance of the dependent variable is approximately equal in each group. The result of Levene's test was not significant, F (1, 102) = 1.05, p = .307, indicating that the assumption of homogeneity of variance was met.

Research Question 2 Results. The result of the two sample *t*-test was significant, t (51) = 13.79, $p < .001$, suggesting that the result is less than the predetermined alpha level of .05, and that data supports the alternate hypothesis that there is a true difference in the means of MAP reading with Seesaw and MAP reading without Seesaw was significantly different from zero. The mean of MAP reading with Seesaw (M = 196.88) was significantly higher than the mean of MAP reading without Seesaw (M = 190.58). Table 7 presents the results of the paired samples *t*-test. Figure 4 presents the mean of MAP Reading Achievement With Seesaw and MAP Reading Achievement Without Seesaw.

Table 7

Paired Samples t-test for the Difference between MAP Reading Achievement with Seesaw and MAP Reading Achievement Without Seesaw

MAP Reading Achievement With Seesaw		MAP Reading Achievement _ Without Seesaw				
M	*SD*	*M*	*SD*	*t*	*p*	*d*
196.88	12.23	190.58	14.72	13.72	< .001	0.47

Note. Degrees of Freedom for the *t*-statistic = 51. *d* represents Cohen's *d*.

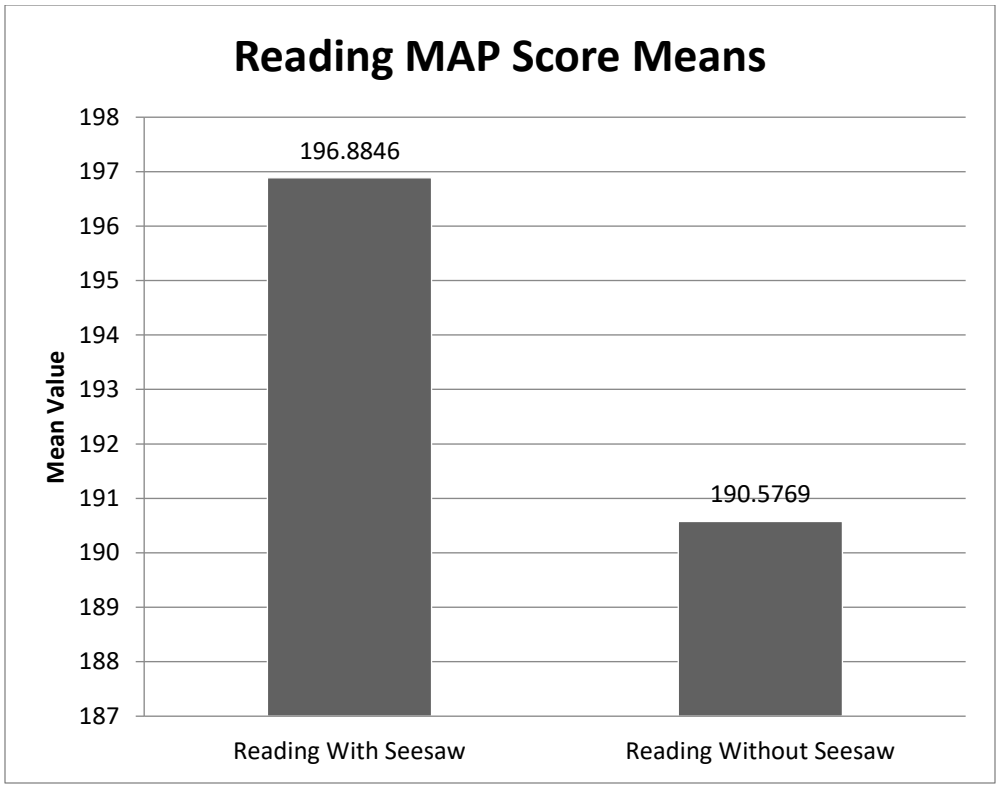

Figure 4. The means of MAP Reading Achievement with Seesaw and MAP Reading Achievement without Seesaw.

Chapter 4 Summary

The purpose of this quantitative retrospective causal-comparative study is to examine what, if any, statistically significant difference exists between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. The sample consisted of ELL third and fourth-grade students within each participant school 52 totaling 104. All ELL students in this study came from Spanish speaking homes and were Spanish speakers. The result of the two samples *t*-test was significant, $t\ (51) = 3.36$, $p = .001$, suggesting that the true difference in the means of MAP mathematical achievement with Seesaw and MAP mathematical achievement without Seesaw was significantly different from zero. The mean of MAP mathematical achievement with Seesaw ($M = 196.12$) was significantly higher than the mean of MAP

mathematical achievement without Seesaw (M = 195.23). For MAP reading, the results of the two sample t-test were also significant, t (51) = 13.79, $p < .001$, suggesting that the true difference in the means of MAP reading with Seesaw and MAP reading without Seesaw was significantly different from zero. The mean of MAP reading with Seesaw (M = 196.88) was significantly higher than the mean of MAP reading without Seesaw (M = 190.58).

The research questions and associated hypotheses were tested using a two-sample t-test. The results were statistically significant for the first research question and associated hypothesis investigated, suggested that the true difference in the means of MAP mathematical achievement with Seesaw and MAP mathematical achievement without Seesaw was significantly different from zero. The second research question and associated hypothesis investigated also suggested that there is a true difference in the means of MAP reading achievement with Seesaw and MAP reading achievement without Seesaw was significantly different from zero. This finding provided evidence that there is a significant difference that exists between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California.

The next chapter will discuss how the information gained by this research study will contribute to the lack of quantitative data in existence regarding the effective integration of social media into the classroom to significantly help with increasing MAP scores. This study may be used to assist school district administrators in improving professional development opportunities concerning the use of social media to enhance the integration of technology into the classroom to improve student learning in the classroom and promote achievement. Findings and suggestions are presented in the next chapter to extend the knowledge for future practice and further research.

Chapter 5: Discussion and Conclusion

Introduction

The purpose of this quantitative retrospective causal-comparative study was to examine what, if any, statistically significant difference exists between mathematical and reading achievement of English Language Learner (ELL) students in an elementary school using Seesaw and those in an elementary school not using Seesaw in Northern California. This study retrospectively investigated the difference in district administered MAP assessments between the two groups. The archived MAP scores from each participating school were collected and analyzed for statically significant differences.

An SPSS program was used to provide a detailed analysis that looked deeper into the data and spotted trends that the researcher may have not noticed (Fraenkel et al., 2015). Prior research also indicated that ELLs needed teachers who were willing to test their limits with new technologies and use them as tools within their craft. Manca and Ranieri (2016) stated that teachers needed to be willing to stay current with their teaching pedagogies and be open to new teaching tools that require the use of technology. ELL students can be encouraged to develop their language skills through the use of Technology (Zheng & Warschauer, 2015).

As noted in Chapters One and Two research was lacking at the elementary level that shows how students engage in higher-order thinking by the use of social media when researching or interpreting information. Specifically, there was no current research available that shows the use of a social media platform such as Seesaw, which helps generate an active learning environment that inspires students to independently document what they are learning at school (Seesaw, 2017).

Prior to this study, Bandura (1997), Nagy and Townsend (2012) expressed that students need to demonstrate ownership over their learning through effective modeling due to it produces the most effective learning outcomes. These results enhance these researches theories. This study adds to the body of knowledge and the results could be used to assist administrators and teachers in supporting the English Language Learner population in efforts to enhance learning in the classroom.

Summary of Results

The sample consisted of ELL third and fourth-grade students within each participant school 52 totaling 104. All ELL students in this study came from Spanish speaking homes and were Spanish speakers. Since the data was archived, the target was also 52 from each school, and the expected sample similarly was 52 from each school. This study targeted all 52 because the MAP scores were archived and readily available in the spring.

The research questions and associated hypotheses were tested using *t*-tests for two independent samples. The first research question and associated hypothesis investigated if there was a statistically significant difference that existed in MAP mathematical achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting. The mean of MAP mathematical achievement with Seesaw (M = 196.12) was significantly higher than the mean of MAP mathematical achievement without Seesaw (M = 195.23). The results were statistically significant, t (51) = 3.36, p = .001, suggesting that the true difference in the means of MAP mathematical achievement with Seesaw and MAP mathematical achievement without Seesaw was significantly different from zero.

The second research question and associated hypothesis investigated if there was a statistically significant difference that existed in MAP reading achievement between ELL

students in a school using Seesaw and those not in a school using Seesaw in an elementary school setting. The mean of MAP reading with Seesaw (M = 196.88) was significantly higher than the mean of MAP reading without Seesaw (M = 190.58). The results were statistically significant, t (51) = 13.79, $p < .001$, suggesting that there is a true difference in the means of MAP reading achievement with Seesaw and MAP reading achievement without Seesaw was significantly different from zero. This finding provided evidence that there is a significant difference that exists between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California.

Discussion of the Results

The purpose of this quantitative retrospective causal-comparative study was to examine what, if any, statistically significant difference exists between mathematical and reading achievement of English Language Learner (ELL) students in an elementary school using Seesaw and those in an elementary school not using Seesaw in Northern California. The research questions asked if there was a statistically significant difference that existed in MAP reading and mathematical achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting. This study helped build on a gap identified by California state superintendent Torlakson who stated that the achievement gap is a big problem and educators need to work together to find solutions that help all groups be more academically successful, which would begin to close the gap (California Department of Education, 2016). Previous research also indicated that the scarceness of quantitative data surrounding how elementary schools used social media and students under the age of 13, demonstrated a large gap in the literature (Pew Research Center, 2015).

The primary tool of this study was the MAP's assessments, which were administered at the end of each 10-week marking period. NWEA (2017) provided an analysis of whether learning styles and instructional strategies influenced the outcome of student achievement. The archival data from both schools were analyzed using SPSS to see if there was a statistical difference between a school using Seesaw and a school not using Seesaw. All decisions on the statistical significance of the findings were made using a criterion alpha level of .05.

There was a statistically significant difference that existed in MAP mathematical achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting. The mean of MAP mathematical achievement with Seesaw (M = 196.12, SD = 12.21) was significantly higher than the mean of MAP mathematical achievement without Seesaw (M = 195.23, SD = 12.91). The results suggested that there was a greater MAP mathematical achievement with Seesaw than without Seesaw.

There was also a statistically significant difference that existed in MAP reading achievement between ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting. The mean of MAP reading with Seesaw (M = 196.88, SD = 12.23) was significantly higher than the mean of MAP reading without Seesaw (M = 190.58, SD = 14.72). The results suggested that there was a greater MAP reading achievement with Seesaw than without Seesaw.

The results of this study may be used to develop an understanding of student academic achievement by integrating a social media platform such as Seesaw into the classroom. The baseline of MAP student achievement is that Seesaw as related to the integration of technology into an elementary classroom is effective. There was a significant difference in these MAP results, however, this is based on one school year experience in the classroom. This study is

noteworthy because it may be used to provide the groundwork for other elementary schools and Seesaw to continue with student-driven through digital portfolios, allowing students to comment, reflect, and collaborate with one another (Seesaw, 2017).

The data from this research suggests teacher and students experience with the use of Seesaw is important to consider when selecting a school that aims at improving student skills and abilities. Prior knowledge and ownership of learning provide the knowledge scaffolding for new learning, as described in the theoretical framework for this study (Bandura, 1997). In order to be academically successful, students and educators must learn about the technology, the process is it, practice, and provide consistent encounters (Svihla et al., 2015). The use of social media is more effective when fully integrated to support student-centered instruction (Blackwell, Lauricella, & Wartella, 2016). This researcher also recognized that selecting the right social media outlet, tools, and expectations can lead to an authentic education in the classrooms (Shein, 2017).

Discussion of the Results in Relation to the Literature

Social learning theory is the theoretical lens that was used to focus this study, and the research methodology for the study was quantitative retrospective causal-comparative study is to examine what, if any, statistically significant difference exists between mathematical and reading achievement of ELL students in an elementary school using Seesaw and those in an elementary school not using Seesaw in Northern California. This study was based on the fact that California mandates that each district issues standardized assessments to measure student achievement. All schools in each state are required to establish an accountability system based on multiple indicators, including academic achievement, t that help close the achievement gap for language

learners (Dual et al., 2016). Researchers indicate that teachers still struggle with appropriate and effective implementation of this new technology in their classrooms (Svihla et al., 2015).

This retrospective quantitative study looked for a statistically significant difference in students' academic achievement using Seesaw through archived MAP scores data. No previous research was available that connected the academic achievement of students regarding the effectiveness of social media as related to the integration of Seesaw into the classroom. There is research regarding higher test score average for students associated with social media supported learning in 7th-grade middle school than those not provided with such opportunities (Akgunduz & Akinoglu, 2016); however, there is not any research in an elementary level. There is current research related to the use of Twitter in a 3rd-grade classroom to help create well concise statements with references (Shein, 2017), but this research is not directly related to the demographic factors associated with the present study.

Bandura's (1997) social learning theory explained that when students demonstrate ownership over their learning, it produces the most effective learning outcomes. This theory suggests that individuals are more likely to display a given behavior if they attach importance to the outcomes and respect the person modeling the behavior (Bandura, 1997). With Seesaw, students were allowed that ownership and modeling by being able to comment, reflect, and collaborate with one another (Seesaw, 2017). By integrating social media into learning and teaching practices, this study shows a statistical significant difference and enabled new forms of interactive and collaborative learning (Abe & Jordan, 2013). This study also validates that teachers need to model their understanding of academic language and focus on specific structures that may contribute to comprehension (Nagy & Townsend, 2012).

Despite the focus on instilling technology into school districts, policy makers and administrators need to ensure that teachers have positive value beliefs towards technology in order to overcome their perception of external barriers to technology integration (Vongkulluksn, Xie, & Bowman, 2018). Educators need to understand that learning to use technology as a teaching tool will help enhance their teaching pedagogies (Manca & Ranieri, 2016). It is normal for educators to struggle when implementing new technology; but being able to modify, and take risks is crucial to their pedagogic practice and professional growth (Rienties et al., 2016).

Prior research indicated that historically, the California school system has had a substantial number of ELLs. According to the Fall 2015 California Language Census, 73% of English learners are enrolled in the elementary grades, kindergarten through grade six (California Department of Education, 2017b). In the state of California, ELLs make up 22% of the total enrollment in public schools and 43% of students speak a language other than English at home (California Department of Education, 2017b). ELLs need teachers who will be open to new technologies and use them as tools within their craft to help motivate and develop language and literacy skills (Zheng & Warschauer, 2015). Teachers must understand that when integrating technology such as social media, they must believe in its value and not discern it (Manca & Ranieri, 2016).

Research has shown that if the appropriate setting for lessons, tools, and expectations are made, then social media can lead to authentic learning (Shein, 2017). Similar studies have shown within college students, that an increase of collaborative activity within peers and teachers contributed to an improvement in academic performance (Othman & Musa, 2014). The social media landscape provides opportunities for more personalization through collaboration, eventually helping instructors to not only be more effective teachers but also help students

embrace new challenges (Gan et al., 2015). When classrooms allow a sense of feel empowerment, it enables both advanced and at-risk students to learn at their own pace (DreamBox Learning, 2016).

This quantitative retrospective causal-comparative study was completed to examine what, if any, statistically significant difference exists between mathematical and reading achievement of ELL students in an elementary school using Seesaw and those in an elementary school not using Seesaw in Northern California. There was no previous research that determined the statistically significant difference in students' academic achievement using Seesaw through archived MAP scores data. The results in this study showed that there was a greater MAP mathematical and reading achievement with Seesaw than without Seesaw.

Limitations

As discussed in Chapter 3, limitations in this causal-comparative study included a lack of control, randomization, and manipulation. According to Fraenkel et al. (2015), in causal-comparative studies, there is a risk that other variables will influence the effect. As in any quantitative research, if the participants drop, it can influence the outcomes of the researcher's data (Fraenkel et al., 2015).

The findings were limited to the population sampled in this study. The 52 participants from each school, 104 total, in this study may not be considered an adequate sample size by lead methodology experts (Creswell, 2009; Krejcie & Morgan, 1970). Given the fact that the total population of ELL's constitutes to 1.3 million of the total enrollment in California public schools, a larger sample size would have been ideal (California Department of Education, 2016).

In addition, since all respondents were elementary ELL students, the findings may not be relevant to middle and high school students. As this study was limited to public elementary

schools governed by state law on performance evaluations, the findings may not be generalizable to private schools. As participants in this study were from the State of California, students in other states may be subject to different assessments.

Implication of the Results for Practice, Policy, and Theory

The results of this study pointed to a statistical difference that existed between mathematical and reading achievement of ELL students in an elementary school using Seesaw and those in an elementary school not using Seesaw in Northern California. ESSA relies on yearly statewide assessments to provide objective and comparable data on how all students are performing (Dual et al., 2016). This research provides additional information that can assist policymakers, local school district administrators, principals, and teachers increase the effect that social media such as Seesaw have on shaping quality teaching and learning.

Based on this research, educators should reassess how social media platforms such as Seesaw can improve academic achievement regarding the quality and use of this study. School districts should engage stakeholders in a dialogue about how student academic performance may increase in the process and lead to improved outcomes. Evaluation committees comprised of district administrators, elementary principals, and teachers can help develop data to heighten the confidence that stakeholders to help improve teaching and learning. These findings can also be used by district leadership to help create other pedagogical practices in the classrooms, professional development, and benefit from having more practice with technology.

Results of this study may help professional development for elementary teachers to better understand how social media may improve feedback between them and students. Such professional development would be most successful when offered within the school site or district so that it is continuous, reflective, and supportive (Hennessy & London, 2013). Teachers

should also be involved in developing recommendations for the effective use of technology within their classroom. For example, data collected in this study suggested that student academic achievement would benefit from having time to practice and collaborate via social media. This viable time with technology should be desired and teachers and principals need to develop similar views to enhance the usefulness of this research. These actions do not require spending but can involve the organization of a professional learning community with educators offering one another support and training in the use of a variety of technologies (Kopcha, 2012).

State policymakers may also use these study results to clarify the achievement gap for students from low-income families, English Language Learners (ELLs), and some ethnic groups compared to other students (Tira, 2016). California state superintendent Torlakson stated that the achievement gap is a big problem and educators need to work together to find solutions that help all groups be more academically successful, which would begin to close the gap (California Department of Education, 2016). Although both schools that participated in the study appear to be benefiting from the process, as evidenced by their MAP assessment scores, they may not value the feedback enough to allow it to direct important decisions within the state.

In regard to theoretical implications, this study suggests support for Bandura's (1997) theory that that when students demonstrate ownership over their learning, it produces the effective learning outcomes. The results from this study further suggest that ownership of learning provides the knowledge scaffolding for new learning (Bandura, 1997). Seesaw may be a factor that allows students to have that ownership by being able to collaborate with one another on a social media platform (Seesaw, 2017). In this case, integrating social media into the classroom demonstrated a statistical significant difference and may offer prescriptive guidance to education leaders and practitioners.

Recommendations for Further Research

The findings for this research provide an initial step into understanding that a statistical difference exists between mathematical and reading achievement of ELL students in an elementary school using Seesaw and those in an elementary school not using Seesaw. Increasing the area to other schools from which the respondents are located could offer greater insight to allow for greater generalizability of the findings. Also, since this study mainly looked at ELL students that had a Spanish background, it may be beneficial to replicate this study with ELL students of different language backgrounds.

Additional research may be beneficial to further explore teacher perceptions and the usefulness of social media in fostering improvement in student achievement, as well as student qualitatively. A qualitative research design using a case study approach could provide in-depth information on the uses of teacher and student perceptions. Creating a study with a pre and post-survey, of students' and teachers' attitude towards the implementation of the use of Seesaw or other social media platforms to help enhance academic achievement would be valuable. Research is also needed to determine how other stakeholders in the school district view the role of social media in order to enhance academic performance.

The study should be replicated using English Language Learners of other elementary schools that also offer other forms of assessments besides MAP. As other school districts are specific to a different form of assessment, research is needed to determine if the use of Seesaw is appropriate for all forms of assessments. Recommendations for further research include allowing for a longer period of time besides one school year, and a larger study using other, but similar platforms to obtain specific data regarding the use of Seesaw within the classroom.

Conclusion

The purpose of this quantitative retrospective causal-comparative study was to examine what, if any, statistically significant difference exists between MAP mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. The literature indicated that in order to reduce the achievement gap, classroom environments have become innovative and are now places where students can be creative, given clear goals, and receive feedback about their performance (Lawlor, 2012). Social media allows educators to facilitate, peer scaffolding to take priority, and for students to support their peers' thinking process (Zheng & Warschauer, 2015). Although, little evidence showed how social media did this at the elementary level.

The results of the study showed a statistically significant for the research questions and associated hypotheses investigated, suggesting that there was a difference in the means of MAP mathematical and reading achievement with Seesaw and MAP mathematical achievement without Seesaw was significantly different from zero. These outcomes provided evidence that there is a significant difference that exists between MAP mathematical and reading achievement of ELL students in a school using Seesaw than those in a school not using Seesaw in an elementary school setting in Northern California. These findings from this study may prove helpful in developing goals among educational leaders that may assist with the selection of professional development and opportunities that are more beneficial to their staff. School district administrators need data to drive decision-making that will support the best practices for professional development for educators.

The main goal of this study was to take a quantitative retrospective causal-comparative approach to examine what, if any, statistically significant difference exists between MAP

mathematical and reading achievement of ELL students in a school using Seesaw and those in a school not using Seesaw in an elementary school setting in Northern California. This study illustrates the mean scores of the students that used Seesaw in comparison to those who did not use Seesaw. The results of this study may help lay the foundation for a task force within a school district to study professional development as related to the integration of social media into the classroom. The results may also assist with improving professional development opportunities in the integration of technology into the classroom to improve learning and to potentially raise the proficiency levels of students as they grow and develop to become college and career ready adults.

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Appendix A: IRB Approval Letter

CONCORDIA UNIVERSITY

-PORTLAND, OREGON-

June 15, 2018

Eduardo Moreno

Concordia University - Portland IRB (CU IRB)

[1243444-1] IRB SOCIAL MEDIA AND ACADEMIC PERFORMANCE: ASSISTING ACADEMIC ACHIEVEMENT FOR ENGLISH LANGUAGE LEARNERS

EDD-20180514-Markette-Moreno

New Project

APPROVED

June 6, 2018 June 6, 2019 Facilitated Review

Thank you for your submission of New Project materials for this project. The Concordia University–Portland IRB (CU IRB) has APPROVED your submission. All research must be conducted in accordance with this approved submission.

This submission has received Facilitated Review based on the applicable federal regulations and applicable exempt categories (see below). The CU IRB conducted an IRB review – and approved your project. At the same time, the CU IRB noted that the project could fit the criterion of Exempt Research because the study is primarily for Educational Research* (see below). Whether or not to grant this exemption is at the discretion of the local IRB(s). Therefore, if you are conducting research within another institution, you will have to present this research to that institution and have permission before you can begin your research.

The goal is primarily instruction and program development. Publication should description the study as being initiated as educational research within a school environment. The results cannot identify the name of the school in any publication or report without expressed permission by the

school.

You are responsible for contacting and following the procedures and policies of Concordia University and any other institution where you conduct research.

You requested a waiver of written documented informed consent. You qualify for this because this is educational research fitting Federal Exemption and because this is a minimal risk study. Furthermore, you are utilizing a method of implied consent and providing detailed information about the implied consent that individuals must express to volunteer for the study. Attached is a stamped copy of the approved wording for consent, which you are presenting in the form of a letter to the participants.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. The form needed to request a revision is called a Modification Request Form, which is available at www.cu-portland.edu/IRB/Forms.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please email the CU IRB Director directly, at obranch@cu-portland.edu, if you have an unanticipated problem or other such urgent question or report.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of March 27, 2018.

You must submit a close-out report at the expiration of your project or upon completion of your project. The Close-out Report Form is available at www.cu-portland.edu/IRB/Forms.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

* **Federal Regulations** *45 CFR 46* **Exemption Category: Educational and/or Classroom Research.** Research conducted in established or commonly accepted educational settings, involving normal educational practices such as: (i) research on regular and special education instructional strategies; or (ii) research on the effectiveness of, or the comparison among, instructional techniques, curricula, or classroom management methods. As noted above, research must be conducted in "established or commonly accepted educational settings" and involve "normal educational practices" to be exempt under this category. The study must not contrast one group with and the other without the instructional strategy, and must not divide into subpopulations based upon race, gender, or other protected class. The study must not have a risk

greater than everyday risk for the population under study; that is, the study must be a “minimal risk” study. Whether or not to extend this exemption is at the discretion of the local IRB(s). (Summary of this exemption was written by the CU IRB)

If you have any questions, please contact Amon Johnson at (503) 280-8127 or amjohnson@cu-portland.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Concordia University–Portland IRB (CU IRB)'s records. June 15, 2018

Appendix B: Statement of Original Work

The Concordia University Doctorate of Education Program is a collaborative community of scholar-practitioners, who seek to transform society by pursuing ethically-informed, rigorously-researched, inquiry-based projects that benefit professional, institutional, and local educational contexts. Each member of the community affirms throughout their program of study, adherence to the principles and standards outlined in the Concordia University Academic Integrity Policy. This policy states the following:

Statement of academic integrity.

> As a member of the Concordia University community, I will neither engage in fraudulent or unauthorized behaviors in the presentation and completion of my work, nor will I provide unauthorized assistance to others.

Explanations:

What does "fraudulent" mean?

"Fraudulent" work is any material submitted for evaluation that is falsely or improperly presented as one's own. This includes, but is not limited to texts, graphics and other multi-media files appropriated from any source, including another individual, that are intentionally presented as all or part of a candidate's final work without full and complete documentation.

What is "unauthorized" assistance?

"Unauthorized assistance" refers to any support candidates solicit in the completion of their work, that has not been either explicitly specified as appropriate by the instructor, or any assistance that is understood in the class context as inappropriate. This can include, but is not limited to:

- Use of unauthorized notes or another's work during an online test
- Use of unauthorized notes or personal assistance in an online exam setting
- Inappropriate collaboration in preparation and/or completion of a project
- Unauthorized solicitation of professional resources for the completion of the work.

Statement of Original Work (Continued)

I attest that:

1. I have read, understood, and complied with all aspects of the Concordia University- Portland Academic Integrity Policy during the development and writing of this dissertation.

2. Where information and/or materials from outside sources has been used in the production of this dissertation, all information and/or materials from outside sources has been properly referenced and all permissions required for use of the information and/or materials have been obtained, in accordance with research standards outlined in the *Publication Manual of The American Psychological Association*

Eduardo Moreno

Digital Signature

Eduardo Moreno

Name (Typed)

8/31/18

Date