

EXPERIENCES WITH TECHNOLOGY AMONG HISPANIC HIGH SCHOOL
GRADUATES: A PHENOMENOLOGICAL STUDY

by

Robert Jerrell Donaldson, Jr

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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APPROVED BY:

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ABSTRACT

The purpose of this transcendental phenomenological study was to describe Hispanic high school graduates' experiences with access to technology in a southeastern suburban area near Atlanta, Georgia. Although there is research that focuses on factors that lead to Hispanics graduating from or dropping out of high school, the existing research has not focused on the experiences with technology among Hispanic high school graduates. The following research question guided this study: What are the described experiences with access to technology among Hispanic high school graduates near Atlanta, Georgia? Kearsley and Shneiderman's engagement theory (1998) and Brown, Collins, and Duguid's situated cognition theory (1989) was used to examine the results of this study. Participants were selected from a Hispanic educational advocacy group, located about 30 miles outside of Atlanta, GA. The participants included 7 Hispanic high school graduates, including both males and females. Participants were selected by a survey. Data were collected using questionnaires, a focus group, and journal prompts. Data analysis was conducted using Creswell's (2014) multi-step approach. The findings revealed that the experiences with technology among Hispanic high school graduates is influenced by both educational usages, as well as personal usages. Furthermore, the findings revealed how the positive and negative experiences with technology prepared Hispanic students for post-secondary education and prepared them to face some of the challenges present during the Covid pandemic. Recommendations for future research include how these findings can guide future studies.

Keywords: Hispanic, high school, students, graduation, technology access

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Dedication

I would like to dedicate this my wife Kelly and my children, Kennedy, Henry, Charlotte, and Arden. You will never fully understand the love and appreciation I have for your support, patience, and understanding as I have worked towards this terminal degree. Daily, I thank my Lord and Savior, Jesus Christ for each of you. May this work encourage you to pursue your dreams and persevere to see them through.

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To Kennedy, Henry, Charlotte, and Arden, thank you are being such amazing, loving, and caring children. You inspire me daily to work on becoming a better person. Nothing I ever accomplish will be as important as being your father. May you always be grounded in your faith, chase Jesus, and persevere until you fulfill God's calling on your life.

To my parents, Jerrell and Sue, you have always demonstrated the importance of faith, family, and education to me. I cannot thank you enough for the prayers and words of encouragement for me during this educational journey.

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CHAPTER ONE: INTRODUCTION

Overview

Not earning a high school diploma can present many challenges. Poorer quality of health, lower income rates, lack of job opportunities, greater chance of ending up in prison, and more likely to receive government assistance are just some of the things high school dropouts are likely to face (Alliance for Excellent Education, 2011). Which means, high school graduates can have a higher quality of life (Freudenberg & Ruglis, 2007). By increasing graduation rates among students, society could greatly benefit. This includes focusing on the fastest growing population group in this country, Hispanics, which also has the lowest high school graduation rates (Gramlich, 2017; Stepler & Lopez, 2016). This research aims to describe the experiences of Hispanic high school graduates with technology. Chapter One provides a framework for this study. This chapter provides the background of Hispanics in this country, as well as the situation to myself. The problem statement, purpose statement, and significance of the study are explained. The chapter ends with the research questions, definitions, and a summary of the chapter.

Background

Historical Context

Hispanics have been one of the fastest growing populations in the United States (Stepler & Lopez, 2016). Even though they are contributing to society, Hispanics have struggled for educational equality for a while. Although *Brown v Board of Education* is considered to be a landmark Supreme Court case for educational equality, there is another court case that set precedence from this all-important case. The experiences of a young Hispanic girl helped bring to light racial segregation in education and set the stage for the landmark Supreme Court case of

Brown v Board of Education (US Courts, n.d.). In 1947 the case of *Mendez v. Westminster*, courts ruled that segregation of students from Mexican decent was unconstitutional, based on Sylvia Mendez being denied access to a California public school, which was designated for only white students (US Courts, n.d.).

Many may believe that these two court cases would have made education more equitable for Hispanic students. Unfortunately, this is not the case. Sanchez (2016), an education reporter for almost 30 years, provided an overview of the struggles Hispanics have faced in the educational system of the United States. Even though Hispanic segregation in education legally ended over 70 years ago, they have faced obstacles during more recent history. In 1988, Lauro Cavazos, the first Latino Secretary of Education, blamed Hispanic parents for their children's poor academic performance, and suggested education was not a priority for low income Hispanic families. During the Clinton administration, little was done to help states who received a substantial inflow of Hispanic immigrants. Some progress was made for Hispanic academic achievement, under George W. Bush's administration, along with the passage of No Child Left Behind. However, there is still a problem with the resources available for schools in higher income areas compared to those in lower income areas, which are made up of predominantly African American and Hispanic students. With the election and inauguration of President Obama, many Hispanics developed a new sense of hope that their way of life and opportunities would improve. This hope may have been diminished since President Obama's administration deported more Hispanics than previous administrations (Sanchez, 2016).

Social Context

Today, society and the educational system are faced with the challenge of addressing the educational concerns of the large growth of the Hispanic population. With the influx of Hispanic

immigrants, the educational system in the country is now made up of a majority of minority students (Krogstad, 2016). Since the mid-1990s, Hispanic students enrolled in school as doubled, to about 18 million students, which makes up approximately one-fourth of the student population (Bauman, 2017). It is estimated that Hispanics will make up almost 30% of the student population by the year 2025 (US Department of Education, 2016). This increase in enrollment among Hispanic students is not only affecting traditional public schools, but public charter schools as well. Hispanics make up 30% of the public charter school population, which is only 5% behind the largest population group, white students (US Department of Education, 2015).

In general, many of the educational trends among Hispanics has been positive. For example, the dropout rates of Hispanics high school students have decreased, while college enrollment among Hispanics has increased (Krogstad, 2016). Even though more Hispanics are enrolled in post-secondary education, they still graduate college with a bachelor's degree at a lower rate than whites, blacks, and Asians (Kolodner, 2017; Krogstad, 2016).

Graduation rates and college enrollement rates are not the only differences in education that Hispanics have with other ethnic groups. In 2017, the U.S. Department of Educational released a report titled, *Status and Trends in Education of Racial and Ethnic Groups 2017*, which researches both the challenges and progress students from various ethnicities face in their education in this country. When compared to white and black children, Hispanics were more likely to be born outside of the United States and participate in English language learner programs (Mussa-Gillette et al., 2017). In addition, Hispanic students were more likely than white students to live in poverty, have a gap in achievement in both reading and math, and be retained (Mussa-Gillette et al., 2017).

There are differences between Hispanics and other ethnic groups outside of the educational world. When compared to any other ethnic group, Hispanics were at least twice as likely to not have completed high school, among adults older than 24 years old (Mussa-Gillette et al., 2017). Even Hispanics who have earned a bachelor's degree, or higher, made less money than Asians or whites (Mussa-Gillette et al., 2017). These gaps, at both the educational and post-educational level, need to be addressed.

Theoretical Context

Engagement theory, developed by Kearsley and Shneiderman, is rooted in technology being a major component of student engagement. Kearsley and Shneiderman (1998) stated (1998):

By engaged learning, we mean that all student activities involve active cognitive processes such as creating, problem-solving, reasoning, decision-making, and evaluation. In addition, students are intrinsically motivated to learn due to the meaningful nature of the learning environment and activities. (p. 20)

The engagement theory lends itself to effective instruction using technology (Smallwood & Brunner, 2017).

Situated cognition theory, developed by Brown, Collins, and Duguid, is centered on the concept that acquiring knowledge cannot be separated from doing (Brown et al., 1989). In other words, the knowledge learned by people is related to the situation, such as the activity and environment, in which they learned it (Learning Theories, 2018). The situated cognition theory lends itself to technology integration in the classroom. Since the theory is related to learning within context, activities in a classroom with technology integration, can be designed to allow

students to make a connection between the knowledge being learned and application in real life (Pappas, 2015).

Situation to Self

The environment in which I grew up and started teaching is vastly different than where I am currently in life. I grew up in an area outside of Atlanta, GA, which would be classified as middle-class suburbia, made up of mostly white families. For my family, as well as the school district, academics was a top priority. For me, the expectation was never about if I would go to college, but more along the lines of what I would do after I graduated college. After graduating from college, I was able to begin my teaching career in the same school district from which I graduated. Most of my students were from similar backgrounds, with the same types of expectations. For the first six years of teaching, I experienced successful test scores among my students, as well as a lot of parent engagement.

That changed drastically, when I started teaching in a different school district. I experienced a culture shock going from a school made up of a majority of white students, to one that was not only a majority Hispanic, but also had a majority of students qualified for free/reduced meals. I was faced with the challenge of teaching students who had backgrounds and experiences very different from my own. Some of these differences included students or their parents who spoke little to no English, cultural differences I was unaware of, students whose only meals for the day were the ones they ate at school, or students who could not afford basic supplies.

One aspect that helped improve my teaching in order to reach these students was having access to technology in the classroom. With being in a Title I school, I have had access to extra funding and technology. This has impacted my teaching style. I have incorporated technology in

a significant way in my classroom. From incorporating the flipped classroom approach to implementing project-based learning, my students have thrived in an environment where technology was effectively used. One added benefit to having technology integrated into my classroom, is the ability to communicate to both parents and students, who struggle with English. Additionally, students have the ability to access content and resources outside the classroom, as well as at their own level. Over the years, I have discovered my classroom environment is unique for my students. Although other teachers have access to the same resources and tools, students have different experiences. I believe that technology can be a wonderful and effective tool, if utilized properly, to reach all students, regardless of their ethnicity.

Creswell and Poth (2018) stated “Whether we are aware of it or not, we always bring certain beliefs and philosophical assumptions to our research” (p. 15). According to Creswell (2013), there are certain philosophical assumptions present in qualitative research, which include ontological, epistemological, axiological, and methodological. My own teaching experiences have influenced how I feel about technology integration in the classroom. My philosophical assumption is that a person’s experiences and circumstances shape his or her reality. Since people have different experiences, multiple realities can and do exist. This aligns with how Creswell and Poth (2018) described ontological assumption. I believe when students engage with technology, they are able to experience a meaningful and effective learning environment, regardless of the student’s ethnicity.

Because I did not want this to influence the results of the research, I conducted a transcendental, phenomenological study. One way I accomplished this is by bracketing out my own biases. Moustakas (1994) described transcendental phenomenology as a study of how participants experienced a phenoma and it is the job of the researcher to set aside any biases or

prejudgments so that the participants' experiences can be described and explored. By handling my biases and prejudgments in this manner, this addressed the axiological assumption addressed by Creswell (2013).

Because of the nature of a transcendental, phenomenological study, this research study was conducted through the social constructivism paradigm. Creswell and Poth (2018) described social constructivism in terms of people developing "subjective meanings of their experiences – meanings directed toward certain objects or things" (p. 24). Because of this, I, as the researcher, looked for views and experiences among the participants that are complex in nature (Creswell & Poth, 2018), which addresses the epistemological assumption present in qualitative research.

Problem Statement

Obtaining a high school diploma can impact the quality of life for the person who earns it. According to the U.S. Census Bureau (2017b), three-fourths of jobs in this country require a minimum of a high school diploma or equivalent, with high school graduates earning \$15,000 more annually, on average. Although the Hispanic dropout rate has fallen from 34% to 10% over the last two decades, it is still higher than other ethnicities (Gramlich, 2017). This equates to almost 650,000 Hispanics between the ages of 18 to 24 not completing high school. Lynch (2014) explained how technology can level the playing field in education by providing opportunities for students who have fallen behind or may be in circumstances that the traditional approach to education do not benefit. According to the National Dropout Prevention Center (2018) educational technology "provides an alternative method of learning for those who struggle to learn using traditional methods. Technology can be used to address multiple and also to provide authentic learning experiences for students" (para. 4). Although technology access among Latino families is increasing, using technology for educational purposes is less likely

among Spanish speaking families (Fuller et al., 2015). The problem is Hispanic high school graduates need to be given a voice about how technology influenced their decision to persist and complete their high school education.

Purpose Statement

The purpose of this transcendental, phenomenological study was to describe Hispanic high school graduates' experiences with technology in a southeastern suburban area near Atlanta, Georgia. Since this study sought to describe the participants' experiences, transcendental phenomenology, as described by Moustakas (1994), was selected. For this research, technology access is generally defined as having "equitable access to the same digital and online learning opportunities regardless of their family's income level or ability to pay for these technologies" (Great Schools Partnership, 2014). There are two theories guiding this research. First, Kearsley and Shneiderman's (1998) engagement theory as it seeks to describe participants' experiences and engagement with technology-based learning. The second theory is situated cognition theory, by Brown et al. (1989). which describes learning as being social in nature and people's knowledge is embedded in the activity, context, and culture in which it was learned.

Significance of Study

Describing Hispanic high school learners' experiences with access to technology is significant in several areas. Hispanic high school drop rates are higher than other ethnicities (Gramlich, 2017). There are multiple reasons why Hispanic students did not complete high school, which include teachers not showing support, poor academic performance, and a difficult transition into high school (Clayton-Molina, 2015). This study has significance for Hispanic students and parents, educators and administrators, as well as educational policy makers and future researchers.

Empirically

With Hispanics being the fastest growing ethnic group in the country (Stepler & Lopez, 2016), coupled with the fact that they also make up the ethnic group with the highest high school dropout rate (Gramlich, 2017), this study could help bring awareness to the steps needed to take in the education of Hispanic high school students. There is no specific research looking at the experiences of Hispanic high school graduates with technology. This study could open up new avenues in which future research should be conducted. By examining the lived experiences of Hispanic high school graduates with technology, insight could be gained into how technology can be effectively used to reach Hispanic students. This study could open up new avenues in which future educational researchers could explore other contributing factors to Hispanic graduation rates.

Theoretically

The theoretical significance of this study could contribute to the engagement theory and situated cognition theory through the experiences of Hispanic graduates in regard to technology while in high school. First, the engagement theory (Kearsley & Shneiderman, 1998) is centered on technology integration in the educational setting. No research has ever specifically looked at this theory through the lens of Hispanic participants. By exploring the shared experiences among Hispanic high school graduates with technology, this study could add to the engagement theory by bringing in the component of ethnicity.

Although there have been limited studies looking at the situated cognition theory (Brown et al., 1989) among Hispanic students, the technology component of this research makes this a unique study. This study could add to the existing work completed through the lens of the situated cognition theory, by describing how a certain demographic group experiences

technology in their environment. This study could add to the theoretical literature for both theories guiding this research.

Practically

The practical significance of this study is that it could shed light into how technology plays a role into if Hispanic students complete high school. This study could serve multiple purposes in this area. First, this study could provide insight into the ways in which technology played a role in the obtaining a high school education among Hispanic graduates. In addition, this study could shed insight into technology strategies that benefit Hispanic students. These insights of this study could be significant to many different groups. Educators and administrators could gain a new understanding of both effective and ineffective uses of technology. Hispanic parents could see if providing their students with technology outside of school is beneficial. Decisions makers could better understand how policies and funding towards technology influence Hispanic students.

Research Questions

Examining the described experiences of Hispanic high school graduates with technology is the foundation of this research study. These experiences happen both in and out of the classroom. A central component to conducting a phenomenological study is the development of a central research question, along with several guiding questions. The central research question is meant to guide the entire research process, and in phenomenology, it is designed to “explore a central phenomenon” (Creswell & Poth, 2018).

The engagement theory, as described by Kearsley and Shneiderman (1998), is based not only on the types of activities in which students participate, but the motivation and learning environment in which the activities occur. The central question is focused on gaining insight into

the perceptions and experiences, about technology, among Hispanic high school graduates. The guiding questions were designed to look at specific aspects of technology usage among Hispanic high school graduates. The first two guiding questions explored the experience, both in and out of the classroom. The final two guiding questions looked at the participants perceptions with technology, while in high school. By exploring the various aspects of technology usage among Hispanic high school graduates, this research was conducted through the lens of the engagement theory (Kearsley & Shneiderman, 1998). “We believe that engagement theory represents a new paradigm for learning and teaching in the information age, emphasizing the positive role that technology can play in human interaction and evolution (Kearsley & Shneiderman, 1998).

In addition, the central question and guiding questions need to be very personal to the researcher, and based on the interests, passions, and history of the researcher (Moustakas, 1994). As an educator, who teaches a majority of Hispanic students, as well as incorporates a lot of technology, this study is very personal to me. I have seen the benefits of students utilizing technology in the classroom and at home. Also, I have seen missed opportunities by teachers who have the tools but fail to utilize them effectively. Given the purpose of this study, the following research questions framed this study:

Central Question: How do Hispanic high school graduates, near Atlanta, GA, perceive and describe their experiences with technology?

Not graduating from high school reduces the quality of life for a person (Alliance for Excellent Education, 2011). On the other hand, those who earn a high school diploma will potentially have a better life (Freudenberg & Ruglis, 2007). With Hispanics being the fastest growing segment of the population in the U.S. (Stepler & Lopez, 2016), but also the group with the lowest high school graduation rate (Gramlich, 2017; Stepler & Lopez, 2016) there is a

significant percentage of the population in this country being set up to struggle in life. Although research has identified some of the contributing factors to the successful completion of high school (Harper & Williams, 2014; Lynch, 2014; National Dropout Prevention Center, 2018; Ramirez et al., 2014; Zaff et al., 2017), the perspective of Hispanic high school graduates with technology is missing.

Guiding Question 1: How do Hispanic learners perceive and describe their experiences with technology in their high school classrooms?

Technology usage is a part of the educational world. The question is how effectively it is being implemented. The majority of Hispanic students have a powerful machine with them each day in the classroom (Bun Lee, 2014). Using technology effectively can change the face of education and better prepare students for college (Bernard, 2017; Lynch, 2015; Purdue Online, 2018; US Department of Education, n.d.). Unfortunately, minority students typically use educational technology for basic skills, instead of higher-level activities (Zielezinski & Darling-Hammond, 2016).

Guiding Question 2: How do Hispanic learners perceive and describe their experiences with technology outside of the educational setting?

Although technology access among Hispanics is increasing (National Science Foundation, 2018), Hispanics still lag behind in that access (National Center for Education Statistics, 2018). Although the digital divide is shrinking between Hispanics and whites (Fuller et al., 2015), the biggest change has occurred in how Hispanics use technology for personal reasons, not educational ones (Perrin, 2015). Low income, Hispanic students are more likely to use the TV for educational purposes and other technology for personal usage (Fuller et al., 2015; Lee, J. & Barron, 2015).

Guiding Question 3: What are the perceived benefits of technology usage among Hispanic high school graduates, as related to education, while in high school?

Technology can level the playing field when it comes to students from different demographic backgrounds (Lynch, 2014; National Dropout Prevention Center, 2018). Technology in education can influence how educators teach and students learn the content, along with influencing student engagement and assisting students who are at-risk (Darling-Hammond et al., 2014; Purdue Online, 2018; Zielezinski & Darling-Hammond, 2016). Hispanics, both in an online learning environment, as well as an environment that effectively integrated educational tools in the classroom, benefitted (Beck et al., 2017; Johnson & Galy, 2013).

Guiding Question 4: What are the perceived obstacles to technology usage among Hispanic high school graduates, as related to education, while in high school?

There are reasons Hispanics are not graduating at the same rate as other ethnic groups. One major reason from dropping out of high school is students not being engaged in the educational experience (Archambault et al., 2008). As previously mentioned, technology usage and access can influence graduation rates. Although most Hispanics benefitted from using an online curriculum, they struggled using technological tools for educational purposes (Howard et al., 2015). This study looks to explore those obstacles preventing Hispanics from graduating.

Definitions

The following definitions were used in this study:

1. *Engagement Theory* – A theoretical framework in which technology is integrated in the learning environment, and the components of relate, create, and donate are present (Kearsley & Shneiderman, 1998).

2. *Situated Cognition Theory* – A theoretical framework in which knowledge learned in conjunction with applying the knowledge (Brown et al., 1989).
3. *Technology Access* – All students, regardless of race, ethnicity, or socioeconomic status has equal access to digital tools and online learning opportunities (Great Schools Partnership, 2014).

Summary

This chapter provided information about the transcendental, phenomenological study of the shared experiences with technology among Hispanic high school graduates. Although the Hispanic population is growing, the graduation rates and technology access for Hispanics still lag behind other ethnic groups. The experiences with technology among successful Hispanic high school students have not previously been described and need to be shared. I have identified my philosophical assumptions, as well as why I have interest in studying this topic. Not only will this study serve to make me a more effective teacher, it can have empirical, theoretical, and practical significance.

CHAPATER TWO: LITERATURE REVIEW

Overview

With Hispanics being one of the fastest growing population segments, they make up the largest minority group in the United States, representing 17.8% of the population (US Census Bureau, 2016). This has contributed to the United States' educational system being made up of a majority of minority students (Krogstad, 2016). Hispanics represent 22.7% of all students enrolled in school, which equates to about 18 million students attending some type of educational institution in the US (Bauman, 2017). Of the Hispanic student population, about one-fourth, or 4.5 million, of these students attend high school (US Census Bureau, 2017a).

With Hispanic students making up a significant portion of the entire student population in the United States, they face many of the same issues as other population subgroups, along with additional challenges that come from having origins from another culture. Just like with other subgroups, Hispanics have seen an increase in technology access (National Science Foundation, 2018) and use technology for the same reasons (Perrin, 2015). In fact, Hispanics have reported using the Internet more frequently than their white peers (Anderson & Jiang, 2018). However, using technology for educational purposes is lower among Hispanic students (Lee & Barron, 2015). In addition, Hispanics are more likely to live in poverty and in harsher living conditions (Gordon, 2017). Finally, many Hispanics face a language barrier due to many of them being classified as English language learners (Townsend et al., 2012).

With the high school dropout rate among Hispanics being higher than other groups, Hispanics are missing out on opportunities afforded to them by obtaining a high school diploma. One strategy that could encourage Hispanic students to complete their high school education is the use of educational technology. Educational technology offers a learning environment that

benefits students who are not successful in the traditional classroom setting (National Dropout Prevention Center, 2018). By exploring the experiences with technology among Hispanic high school graduates, new information could be discovered that could help decrease the Hispanic dropout rate.

This review begins by discussing the theoretical framework that guided this research study, engagement theory and situated cognition theory. Then a review of existing literature will explore the various dynamics of this issue. Research focusing on the experiences with technology among Hispanic high school graduates is scarce. Due to this fact, many different aspects relating to this are discussed during this literature review. These include technology's impact on education, Hispanics in education, Hispanics and technology, various influences on graduation rates, and reasons for dropping out of high school.

Theoretical Framework

This literature review is guided by the engagement theory, developed by Kearsley and Schneiderman (1998). Research data was used to analyze the level of engagement, as well as experiences, with technology, for Hispanic high school graduates. A second theory, which guided this research, was the situated cognition theory (Brown et al., 1989). This theory was used to explore the environment in which technology was used for Hispanic students.

Engagement Theory

Kearsley and Schneiderman's (1998) experiences with distance and electronic education led them to develop the engagement theory. They explain how even though this theory did not evolve from any existing theory, it shares commonalities with other theories, such as constructivism, situated learning, experiential, self-directed learning, and adult learning. "The fundamental idea underlying the engagement theory is that students must be meaningfully

engaged in learning activities through interaction with others and worthwhile tasks” (Kearsley & Shneiderman, 1998). One component to this theory that separates it from other theories is it is based on the benefits that technology can have on engagement, therefore it is focused on technology-based education (Kearsley & Shneiderman, 1998).

The engagement theory is based on three principles; relate, create, and donate (Kearsley & Shneiderman, 1998). For the relate component, interaction between classmates, along with the teacher occur. Students work collaboratively to problem solve. By interacting with one another, multiple perspectives, among students from with differing backgrounds and experiences contribute to the learning environment (Kearsley & Shneiderman, 1998). Assignments can range from simple in-class assignments to long term research projects.

In addition to the relate principle for engagement theory, there needs to be a create component present as well. For the create aspect, students should be engaged in activities that are purposeful. Teachers must offer students meaningful activities which promotes student engagement. One way to accomplish this is by allowing students to have a voice in the type of project they create (Kearsley & Shneiderman, 1998). By having this type of ownership with the learning process, students will be more interested and “have a sense of control over their learning which is absent in traditional classroom instruction” (Kearsley & Shneiderman, 1998).

With the donate component, projects have a realistic and authentic focus (Kearsley & Shneiderman, 1998). The donate principle occurs when students can connect the activity they are working on with their surrounding environment, which can include their school, work, family, or community (Kearsley & Shneiderman, 1998). The goal of this principle is students’ work contributes to something outside of the classroom. By having this type of realistic focus,

students can acquire knowledge and skills that will benefit them in the work setting (Kearsley & Shneiderman, 1998).

This theory played an important role for this study. Based on how Kearsley and Shneiderman (1998) describe their theory, three components are necessary, relate, create, and donate. These components complement one another. This was important when exploring the experiences of the participants for this study. Educational technology provides the opportunity for students to relate to others through what they are doing. In addition, these tools provide the opportunity and control of what students create. Finally, through the engagement theory, students have the opportunity to donate some type of contribution, not only to the task at hand but to those they work alongside. The experiences of Hispanic high school graduates with technology can offer insight into the engagement theory.

Situated Cognition Theory

During part of 20th century, researchers who studied learning, considered learning to be something developed internally, within the learner's mind, not relating to the experiences or outside world of the learner (Jenlink & Austin, 2013). Since that time, there has been a shift in thinking. Researchers, such as Brown, Collins, and Duguid (1989) have explained how learning does not only happen inside the mind of a learner, but it is connected to the activities and environments, in which the knowledge is being learned. Learning is not done in isolation and cannot be separated from the situation in which the learning occurs. "Situations might be said to co-produce knowledge through activity. Learning and cognition, it is now possible to argue, are fundamentally situated" (Brown et al., 1989). Based on this, the situated cognition theory was developed.

Since the situated cognition theory combines both the act of learning and the situation in which it is learned, the use of technology can assist in developing an environment within this learning theory. Technology provides the tools in which cognition can occur (Myers & Wilson, 2000). By incorporating technology in the classroom, an environment is created where students develop important skills, such as critical thinking, analyzation skills, problem solving, decision making, and communication skills (Honey et al., 2003).

In the educational setting, the situation in which the learning occurs is important. Technology tools can help relate the content being taught into a situation where the information is given context to how this new knowledge applies to real life situations (Pappas, 2015). These activities help students make connections and understand how they will use this information in the future (Pappas, 2015). In terms of the perspective and experiences of Hispanic high school graduates with technology, the situation in which the learning took place can be described.

Cognitive Apprenticeship Model

One important component of the situated cognition theory is the cognitive apprenticeship model. In this approach to education, students work alongside the teacher, or some other expert to learn the skills necessary to master the content (Collins et al., 1987). Six characteristics exist in the cognitive apprenticeship model, as explained by Collins, Brown, and Newman (1987). Modeling is where the expert, or teacher, models or explains the task and students observe. Next is coaching, where students are observed by the teacher, while the practice. The teacher provides feedback, as needed. The teacher provides the needed support to the students with scaffolding. During articulation, students explain, not only what they learned, but the process in which they learned the new knowledge. Next, students practice reflection by comparing and contrasting their experiences with others. Finally, students are involved with the exploration component of the

cognitive apprentice model where they take the knowledge they acquired and applying it to some other problem to solve (Collins et al., 1987).

Educators can utilize the power of technology to help implement to cognitive apprenticeship model to the classroom environment. Pappas (2015) explained each of these components can be enhanced with the use of technology. By offering students online tutorials, such as videos, to offer demonstrations or expert guidance, is a form of modeling. Online discussion boards can help with the coaching component by allowing students to get feedback for multiple perspectives. For articulation and reflection, students can use technological tools, such as word documents or video recordings, to not only explain their experiences, but learn about the experiences of others. Finally, students can connect with the outside world to solve problems that have real world implications (Pappas, 2015).

Related Literature

The difference between earning a high school diploma and not completing a high school education can have a lasting impact on a person's life. With Hispanics lagging behind other ethnic groups, in terms of graduating high school (Gramlich, 2017), this country is facing a situation where a large number of its residents will have a lower quality of life. There could be certain characteristics as to why some Hispanics graduate high school and others do not. For example, when it comes to a student's motivation and attitude towards academic success, ethnic identity and culture can be influential (Aguilar, 2013). In addition, some Hispanics view success in terms of their family (Stephens, 2017). While research has focused on many different aspects of Hispanics in education, as well as influences of graduation rates, describing the experiences with technology among Hispanic high school graduates has not occurred. The information

gained by researching these experiences could provide additional insight to help more Hispanics graduate high school.

History of Hispanics in American Education

Hispanics, in particular Mexicans, have faced struggles and barriers in the United States. One such challenge is being of a lower socioeconomic status, according to the early census data (Gratton & Merchant, 2015). Other challenges include job and wage discrimination and racism (Gratton & Merchant, 2015). There was even segregation in their education (Powers, 2014).

Although this segregation in education experience was not at the same level as experienced by African Americans, it was still present (Gratton & Merchant, 2015; Powers, 2014). Although Mexicans were classified as white in regards to racial categories, they did not receive the same educational opportunities as other white students (Gutiérrez, José Ángel, 2010; Powers, 2014). One obstacle facing these students was the belief they had a lack of English proficiency which would prevent them from being able to be taught with white students (Gutiérrez, 2010; Powers, 2014). With events like *Mendez v. Westminster School District of Orange County* and the Chicano movement, the segregation of Mexican American students officially ended (Gutiérrez, 2010; Powers, 2014; US Courts, n.d.).

Even with legal safeguards in place, Hispanics have faced difficulties in educations, which have led to issues present today. Hispanic parents have been blamed for not making education a top priority for their students (Sanchez, 2016). The same educational resources are not available for Hispanics, who live in lower socioeconomic areas, as compared to students who live in higher income areas (Sanchez, 2016). The Hispanic community has faced a greater number of deportations (Sanchez, 2016).

Challenges in the Hispanic Community

Hispanic youth face many challenges, which may not be experienced by other populations of students. Economic struggles are one of the biggest issues facing Hispanic youth (Altschul, 2012). Living under economic hardships cause many Hispanics to live in low-income areas, where schools do not have the resources to offer an effective education (Toldson & Lemmons, 2013). “Such grave disadvantage poses considerable barriers to academic achievement” (Gordon, 2017). In addition, Hispanics have a higher unemployment rate than the national rate (Bureau of Labor Statistics, 2016). This causes Hispanic youth to have a harsher reality that comes from living in disadvantaged conditions (Gordon, 2017).

Another challenge faced by Hispanic adolescents is they are less likely to participate in youth organizations in the community, like YMCA or the Boys and Girl Scouts (Fredricks & Simpkins, 2012). These types of organizations benefit the youth who participate in them (Vandell et al., 2015). Not only are Hispanics not participating in positive community organizations, they are faced with the presence of gangs in many communities. According to the National Gang Center (n.d.), of the approximately 850,000 gang members in this country, about 46% are either Hispanic or Latino, which is more than any other racial or ethnic group. About one-third of these gang members are younger than 18 years old (National Gang Center, n.d.).

The challenge of being a non-native English speaker is something many Hispanics face. As of 2016, there were about 5 million students identified as English language learners in the United States, which is about 10% of the total student population (National Center for Education Statistics, 2019). Even though the federal government provides a broadly, defined definition of what classifies a student as an English language learner (ELL) or limited English proficient student (LEP), each individual state has the ability to define those terms (Education

Commission of the States, 2014). This fact alone causes its own set of challenges. By not having a consistent definition or even using the same classification terms, ELLs or LEPs are not receiving the same services or support from state to state (Lu, 2013). According to a Title III funding report by the U.S. Department of Education (2013) “Each State has its own standards, assessments, and criteria for “proficiency,” for both English proficiency and academic content proficiency, as well as its own identification and exit criteria for English proficiency” (p. 11). This means a student could be considered not proficient in certain subjects in one state and move to another state and be considered proficient, which means they would not receive services needed. Although there is an effort to change this, states cannot be forced by the federal government to agree on a common definition, but offers financial incentives to the states that do agree on one (Lu, 2013).

Not only do ELLs face challenges based on various definitions, they also face challenges in the classroom. According to Cheatham, Jimenez-Silva, Wodrich, and Kasai (2014), the abilities of these students are underestimated and teachers lower the expectations for ELLs. In addition, teachers have concerns and do not feel adequately prepared to be able to effectively teach ELLs (Cheatham et al., 2014). Both of these create challenges for ELLs in the classroom, therefore impacting achievement.

Technology and Education

Technology and education go hand in hand. There is no doubt that technology has impacted education. Technology has expanded access to information, changed how students communicate and collaborate, and has even changed how teachers teach and students learn (Purdue Online, 2018). The future of education will continue to evolve as technology changes. One such change is education will become more personalized and tailored towards individual

students because of adaptive software (Bernard, 2017). The U.S. Department of Education (n.d.) stated how education will be transformed through the use of technology by creating a connected model of education. “This model links teachers to their students and to professional content, resources, and systems to help them improve their own instruction and personalize learning” (para. 1). Students who have more exposure to technology while in high school will be better equipped for college (Lynch, 2014). Technology has and will continue to impact education.

Technology provides many benefits to education. One such benefit is an increase in student engagement (Zielezinski & Darling-Hammond, 2016). Although implementation of educational technology has not met the anticipated expectations, there are been some effective approaches for finding success with at-risk students, which include using technology interactively, using technology for exploration and creation, and having a balance between technology and teachers (Darling-Hammond et al., 2014).

Technology is now a standard part of the educational experience for students. Research has shown that when technology is used to differentiate the learning environment, students have an statistical increase in mathematics achievement (Cabus et al., 2015). In addition, when students are highly engaged in a mathematics classroom with technology based activities, they are more likely to select a STEM major, when compared to students who were in other types of mathematic environments (Lee, A., 2015).

Digital natives. A digital native is someone who grew up in the digital age, surrounded by technological tools, such as computers, cell phones, and video games (Prensky, 2001). These are the students who are sitting in classrooms across the country, including Hispanic students. These students face challenges being in an educational environment that is being led by a digital

immigrant, or someone who did not grow up with modern digital tools but had to learn them like an immigrant learns a second language (Prensky, 2001).

Digital natives have certain expectations and preferences when it comes to technology and the educational experience. Digital natives are comfortable with using technology to learn new things and to communicate with others for educational purposes (Harrison et al., 2020). These students not only expect technology to be integrated in the classroom, they want learning which is both experiential and collaborative with interaction among peers (Sarkar et al., 2017). Because of the expectations and preferences of digital natives, educators need to be intentional when incorporating technology in the classroom (Harrison et al., 2020).

Although students have a lot of exposure to technology, both in and out of the classroom, they need to acquire certain skills and understandings in order to effectively use these technology tools. Prince (2017) offers insight to some of the concepts of information literacy which students need to be taught. Students need to understand how to determine if the information they are learning is reliable and can be corroborated. Students need to know about copyright and fair use since they are content creators. With the vast amount of information and sources students have access to, they need to know how to give credit to the sources they use. Students need to develop higher-level thinking in order to enhance their own thinking and not just replace it with what they learn from other material.

STEM. There is one aspect of technology in education that is not focused on the technological tools used in or out of the classroom. Technology should be viewed more than just tools, but in conjunction with other disciplines, such as science, engineering, and math. This has become known as STEM. According to the U.S. Department of Education (2019), exposure to STEM can help students develop skills to better prepare them for the demands of “in an ever-

changing, increasingly complex world” (para. 1). The country is facing a shortage of STEM professionals, producing and needs to increase the number of STEM graduates by over 30% (President’s Council of Advisors on Science and Technology, 2012).

When looking at STEM in regards to Hispanics and other minorities, the discrepancies are even greater. Although black and Hispanic students are interested in STEM degrees when starting college, they are less likely to earn a bachelor’s degree in a STEM field, than are white students (Museus & Liverman, 2010). According to Foltz, Gannon, and Kirschmann (2014), 13% of the minority population major in STEM. Of that 13%, only about one-fourth will persist and graduate with a STEM degree (Foltz et al., 2014).

In a study of minority student who persisted in a STEM program, Williams-Watson (2017) discovered some themes based on positive experiences the participants had when they were younger. One theme to emerge was participants having positive STEM experiences while in high school, which included technology courses in high school. Some of the participants acknowledge that their high school experience did not prepare them for a STEM degree in college (Williams-Watson, 2017).

Teachers and Technology

The extent and effectiveness of technology integration in the classroom is dependent on the teacher and his or her ability and comfort level. When it comes to integrating technology in the classroom teachers need a combination of skills, including content, pedagogical, and technological knowledge (Ertmer & Ottenbreit-Leftwich, 2010).

Not only does the teacher need to have a certain comfort level with technology tools for the classroom, they need to be intentional when planning how to effectively implement these tools. “All available new technology should be used to engage the students through hands-on

activities, collaboration, and cooperation” (Andrei, 2017). Roessingh (2014) explains it is not the equipment or software that makes a difference, but how the technology tools are being used that is important. Additionally, teachers need to teach students informational literacy, such as how to use the devices or tools in their classrooms (Prince, 2017).

Although teachers have positive attitudes toward technology, they may be hesitant to integrate technology in the classroom for various reasons (An & Reigeluth, 2011). These reasons include not having the time or technology support to integrate digital tools in the classroom, as well as students lacking in technology skills and a lack of training to implement technology effectively (Hsu, 2016). Another cause for concern is technology issues can lead to a loss in productivity and an interruption of the classroom environment (Andrei, 2017).

Based on a study conducted by Andrei (2017), teachers could benefit from added components relating to technology integration in the classroom. These recommendations include additional professional learning and collaborative planning time, along with accessible technical support (Andrei, 2017).

Hispanics and Education

In terms of academic achievement in this country, Hispanics perform at a lower rate than any other ethnic group (Parker et al., 2016). There are different factors that contribute to lower academic achievement among Hispanics, when compared to other groups of students. One reason is due to many Hispanics being identified as ELLs (Townsend et al., 2012). Lower academic achievement among Hispanic students can also be attributed to having a lower socioeconomic status (Cetin et al., 2015; Jung, 2014). A third factor impacting the lower academic performance among Hispanic students is families focusing on familial obligations over academics (Capraro et al., 2010).

When it comes to earning an education, Hispanics are influenced by different factors. Hispanic students are academically more successful when they have parental and peer support and this support may be more important for Hispanic students than white students (Ramirez et al., 2014). Due to this impact, Hispanic parents need to be supported, both academically and emotional by educators and the schools (Ramirez et al., 2014). When it comes to Hispanic high school students, there is an improvement in academic achievement when their parents are more involved in the educational process (Clark et al., 2013).

The impact of parental influence on their child's educational experiences and achievement cannot be underestimated. There is concern, among Hispanic parents, about parental involvement in their child's education. Hispanic parents face barriers to becoming more involved, which include speaking a different language, their education level, and economic issues that prevent them from being more involved (Cruz, 2016). Wessels and Trainin (2014) explained how there is a motivation and desire among Hispanic parents to help their children learn, but may lack confidence needed to help. Another issue is Hispanic parents may have differing views on how to help their children develop important literacy skills due to being educated in another country, where different educational practices take place (Wessels & Trainin, 2014).

There are additional barriers in the educational experience of Hispanic students when it comes to parental involvement. Some Hispanic parents fear that if schools and teacher believe the parents have some level of proficiency with English, they parents will not need the services of a translator (Plata-Potter & de Guzman, M. R. T., 2012). This can lead to parents of Hispanic students believing student concerns are not being effectively communicated (Plata-Potter & de

Guzman, M. R. T., 2012). Ultimately, this may lead to parents feeling a disconnect with their child's education.

This feeling, while not necessarily breeding mistrust, can make families feel like they are unable to communicate effectively with teachers and school personnel and that they are not able to help their children with their educational struggles, even though they wish to provide them the necessary support to overcome the obstacles they face. (McQueen, 2017)

There are other factors, involving family, that impact the educational experience of Hispanic students. There is also the issue of how parents view what being involved in their child's education means. Some parents may believe being involved at the school is what parent involvement means, while others believe it is supporting the educational process at home, and some believe it may be both (Herrell, 2011).

Not only does parental support impact Hispanic students' academic achievement, but familial expectations can be influential. Hispanic students will either pursue or abandon educational efforts based on the perspective of their family and social support system (Martinez, 2013). One reason for this is Hispanics may feel pressure to remain loyal to their family and help support them financially (Martinez, 2013). This dynamic in the Hispanic culture is known as *familismo*, which means setting aside personal needs, in order to take care of the family's needs (Leidy et al., 2012).

Success of Hispanic students in the classroom goes beyond parental, familial, and cultural influences. The teacher impacts the academic achievement of Hispanic students. When it comes to English language learners, the teachers' expectations influenced the students' motivation in the classroom (Fall, 2017). Teachers communicate expectations in a variety ways and the

messages can be either positive or negative, in regards to the students' ability and intelligence, along with other areas and can greatly impact student (Nieto, 2004; Tsiplakides & Keramida, 2010). Teachers, who are most likely native-English speakers, with minimal training on teaching ELLs, struggle to effectively teach these students (Beal & Rudolph, 2015).

Hispanics and Post-secondary Education

Graduating from high school goes beyond just acquiring a diploma. In order to enroll in a college or university, a high school education is a necessity. A larger percentage of Hispanics are attending college, with an increase of 15% in 15 years (McFarland et al., 2017). Additionally, more Hispanics, 54%, are completing a bachelor's degree within six years of starting their program (McFarland et al., 2017). Although the trends have been positive, there is some negative news. When compared with white students, 10% fewer Hispanic students graduate with a bachelor's degree within six years. The percentage is larger, 14%, when comparing Hispanic students who graduate with a bachelor's degree within four years (McFarland et al., 2017).

The educational issues facing the Hispanic community go beyond high school. As of 2014, 2.3 million Hispanics, or 35%, under the age of 25, were enrolled into a 2 or 4 year post-secondary program, which ranks behind most other ethnic groups (Krogstad, 2016). In addition, Hispanics rank behind other ethnic groups in graduating from college with a 4 year degree, because half of Hispanics who attend college, go to a 2 year or community college (Krogstad, 2016). There are several factors that contribute to a lower percentage of Hispanics attending post-secondary schools. They include getting a job instead of going to college, not understanding the benefits of a post-secondary education, and poor planning and guidance (Rodriguez et al., 2015). Rodriguez et al. (2015) stated the following:

The result of this disparity in college completion is that the increase in the Latino population has not resulted in a proportional increase in the well-being of the Latino population as a whole. Instead, the income disparity and low college completion rates have trailed alongside the growth of the Latino population. (p. 208)

By getting more Hispanics to not only graduate high school, but to enroll and graduate from college, society will benefit. Becerra (2010) stated by increasing college graduation rates among Hispanic students, federal tax revenues will increase by \$7 billion and Social Security tax revenues will increase by \$480 million for each decade. For this reason, the legislators need to focus their efforts and create policies that would benefit Hispanic students (Becerra, 2010). If tax revenues increase that much by more Hispanics graduating college, the U. S. economy would see an influx from the additional income being earned by college educated Hispanics (Becerra, 2010). It is predicted that America's workforce will have an estimated 30.5 million Hispanics by the year 2020 (Toossi, 2012). With this many Hispanics contributing to the country's workforce, it is critical for Hispanics to obtain college degrees so America can be competitive in the global economy (Capers, 2019).

Hispanics and Technology

Technology access has increased among students, both at home and in the classroom. The vast majority of schools have technological devices for students, as well as high speed Internet access (National Science Foundation, 2018). According to the National Science Foundation (2018), the overwhelming majority of kids have a computer at home, with over 60% having access to the Internet. Only 52% of Hispanic students have a computer with Internet access at home (National Science Foundation, 2018). Maybe this increase to technology access, when

implemented in the classroom to promote student engagement, has influenced the increasing high school graduation rates among Hispanics.

The life of Hispanic teenagers, like other ethnic groups, involve using technology for personal reasons. The vast majority of Hispanic teenagers own a cell phone and/ or a computer or laptop, with 85% of these teenagers having Internet access at home (Bun Lee, 2014). The digital divide is narrowing, due to Hispanics owning more electronic devices and having greater access to the Internet (Fuller et al., 2015). The same percentage of Hispanics are using social media as whites (Perrin, 2015). There is one component to the comparisons that could potentially impact how these devices and technology are being used for educational purposes. Hispanic households in the United States have a lower rate of access to high-speed Internet, when compared to white, non-hispanic households (File, 2013). Hispanics are more likely to live in homes with only mobile devices to connect with the Internet, which leads to being more likely to use mobile devices as the primary tool to connect to the Internet (Lopez, M. et al., 2013). By not having the same high-speed Internet access or only being able to access the Internet using mobile devices, Hispanics may struggle to keep pace with their white counterparts when it comes to using technology outside of the classroom for educational purposes.

When it comes to technology for personal use, Hispanic teenagers are more likely to report constantly using the Internet when compared to white teenagers, with the most popular form of Internet entertainment being YouTube, followed by Instagram and Snapchat (Anderson & Jiang, 2018). In addition, more Hispanic teenagers have access to some type of gaming console (Anderson & Jiang, 2018). The number of Hispanic teens frequently using the Internet has increased over the past couple of years. In 2015, 32% of Hispanic teens reported going online frequently (Lenhart, 2015). In three years, the numbers of Hispanic teenagers reporting

the same type of Internet usage has increased to 54%, which is 13% higher than white teenagers (Anderson & Jiang, 2018).

However, having access to technology does have some negative aspects. A study by Bun Lee (2014) discovered Hispanic teenagers spend more time on Facebook than studying for school. In addition, there is a significant relationship between Facebook usage and the student's level of anxiety.

Hispanics and technology issues go beyond access at home and how Hispanics utilize technology. Hispanics workers are underrepresented in the technology sector. Hispanics make up 8% of the technology industry (US Equal Employment Opportunity Commission, 2016). Hispanics and other underrepresented groups are leaving the technology sector because of harmful work environments. According to a study conducted by the Kapor Center for Social Impact (Scott et al., 2017), Hispanics are leaving the tech industry because of the type of work environment that is present. Some of the reasons they are leaving include being stereotyped, harassed, and bullied (Scott et al., 2017). Because of this issue, it is costing tech companies \$16 billion a year (Scott et al., 2017).

Hispanics and Technology in Education

Zielezinski and Darling-Hammond (2016) conducted an extensive literature review of how technology was being used by students living in poverty and minority students. They discovered that the digital divide is still present among these students. In addition, these students are more likely to use technology for the purposes of practicing basic skills, instead of completing activities that focus on higher order thinking skills, which they could benefit from (Zielezinski & Darling-Hammond, 2016). Unfortunately, Hispanic students who live in low-income homes were less likely to use these devices for educational purposes (Fuller et al.,

2015). Hispanic families are more likely to access educational content from television rather than computers (Lee, 2015).

Technology usage in the home does have one negative impact among Hispanic adolescents. As Hispanic students, in grades 6 – 12, experience online racial discrimination, their motivation for academics decreased (Tynes et al., 2015).

The racist imagery and racial discrimination targeted at Latinos in online spaces tell a narrative that Latinos are illegal immigrants and cannot speak English. Although each discriminatory narrative encompasses different stereotypes, each narrative contains an attack on the intelligence and aptitude for each group. (Tynes et al., 2015)

Not all technology is effective when it comes to education. According to one study, where over 90% of the participants were Hispanic, students were not comfortable using email or social media for educational purposes, as they were using computers to complete schoolwork (Howard et al., 2015). However, 97% of the participants stated using an online curriculum as a positive experience.

One positive experience, with education and technology, for Hispanic students is attending cyber schools. Latino students were more satisfied with a cyber-school than with a traditional school (Beck et al., 2017). Additionally, Latino parents graded the cyber school experience higher than white or African American parents (Beck et al., 2017). One benefit for parents whose students were in the cyber school setting was they were able to monitor what their children were learning and have a better understanding of what was going on in their child's education, which helped those students (Beck et al., 2017). Hispanic high school graduation rates among students who were enrolled in an online K-12 setting were similar to Hispanics enrolled in a traditional high school setting (Corry et al., 2017).

Not only are cyber schools a positive use of technology in education for Hispanic students, but the effective integration of e-learning tools is also beneficial. A study conducted by Johnson and Galy (2013), in which 100% of the participants were Hispanics, discovered a student's computer self-efficacy related to earning a high grade in a class that utilized e-learning tools. Educational environments, with effective implementation of technology, will benefit Hispanic students by improving their self-efficacy (Johnson & Galy, 2013).

ELLs and Technology.

Technology can be used to impact the academic performance of ELLs. In a study focused on closing the academic achievement gap between ELLs and non-ELLs, interactive boards were found to be an effective tool in helping close the gap between these two groups of learners (Lopez, O. S., 2010). Additionally, digital tools can provide scaffolding to ELLs. "Technology provides multiple roads to learning through its capacity to assure multi-modal instruction for language use in inputs and outputs of all four domains of language" (Daniel et al., 2014). Technological tools will not only help teachers present content in a variety of ways to their students, but allow ELLs to use multiple methods to demonstrate their understanding (Stahl, 2015).

One way digital tools can help ELLs is by providing language scaffolding support, which is beneficial for these students, who often prefer participating in nonverbal activities (Daniel et al., 2014). Digital tools allow the teacher to use audio and visual support to not only teach new vocabulary terms, but assist ELLs in improving their English language skills (Hur & Suh, 2012). By seeing an image, ELLs are able to connect English, with their native tongue, which is beneficial because they are able to connect their prior knowledge with the development of the new knowledge, which is being learned (Hur & Suh, 2012; Stahl, 2015).

Technological tools allow ELLs connect to their cultural knowledge and use it to increase their levels of academic engagement. When implemented effectively, ELLs can use technology “to express themselves in different ways not limited to language, and this supported students who were not confident in their spoken language abilities” (Stahl, 2015).

One particular technology tool that is beneficial to ELLs in the classroom is the iPad. A study conducted by Prince (2017) revealed many benefits, in three areas for ELLs. The three areas where benefits were observed were functionalities, engagement, and student growth. In regards to the functionalities component, students were able to switch the iPad keyboard to their native language in order to communicate. In addition, students had access to a visual dictionary, which benefitted language acquisition, and they were able to demonstrate their understanding in a variety of ways, other than spoken or written communication. In the area of engagement, Prince (2017) discovered students were engaged in a variety of ways when learning with iPads. In regards to the student growth benefit when using iPads, observations by Prince (2017) and teachers who participated in the study, as well as reflections by the participants revealed growth in student cognition and content knowledge.

In addition, digital tools can lead to higher levels of motivation in ELLs, which can lead to an increase in academic achievement (Stahl, 2015). The effective use of digital tools with ELLs provide a safe environment, in which they can participate and contribute to the learning (Stahl, 2015). Technology tools are something that can benefit ELLs but have not reached their full potential in the classroom (Andrei, 2017).

Although technology tools provide many benefits for ELLs, there are some concerns. Some of the concerns discovered by Stahl (2015), the cost and availability of technology, students becoming to accustomed and reliant on technology, accessibility to non-reliable

information, and technology being able to automatically correct grammatical and spelling mistakes. In addition, ELLs may view technology as a toy, instead of seeing the educational benefits (Roessingh, 2014). Finally, technology is not a requirement for effective instruction to occur (Stahl, 2015). For example, a book is an excellent tool to help ELLs develop literacy and language skills (Roessingh, 2014). For most of the concerns with using technology with ELLs in the classroom, most can be addressed with guidance and supervision by the teacher (Stahl, 2015).

Hispanics in Special Education and Technology

Technology has not only benefitted ELLs in the academic setting, it has also helped students served with special education services, including Hispanics, who may also qualify as an ELL. Hockly (2016) explains how special education students have a wide range of needs, including autism, intellectual disabilities, physical disabilities, and ADHD. The use of technology has helped address learning challenges, including comprehension, for students, including ELLs, who are on the autism spectrum (Root et al., 2016). Making the text more accessible for these students in another way technology benefits students with special needs (Alison et al., 2017). Additionally, digital tools may increase engagement among students with special needs (Alison et al., 2017).

One area where technology has benefitted both students with special needs, as well as ELLs, is with assistive technology (Hockly, 2016). This includes digital tools, such as tablets, that offer students with tactile issues a different method for engaging in the content. Additionally, students with autism have had an improvement in literacy development, as well as, improvement in their social, academic, and communication skills (Hockly, 2016).

Technology is not a fix all for Hispanic students with special needs. The teacher still plays an important role. Even with an increase in accessibility to effective technology tools, students need intentional instruction (Alison et al., 2017). Using technology with special education students “has the power to provide the optimum support that students with special needs require to participate and learn along with their mainstream peers” (Roland, 2015). Special education students are dropping out at a lower rate and one reason for this is technology provides an opportunity for these students to have a more positive educational experience (Lynch, 2015).

Hispanics and STEM

STEM is a growing trend, not only in education, but in careers in this country. STEM stands for science, technology, engineering, and math. Carmichael (2017) conducted a comprehensive analysis on how all 50 states define STEM education for public schools. Based on one of 4 models, 82% of states utilized some type of specific STEM definition, or model, in their policy documents. However, 18% of states had no specific definition for STEM education. Hispanic students can benefit from participating in a STEM type program while in high school. When Hispanics participated in a STEM PBL educational environment, there was an increase in math achievement (Han et al., 2016). In addition, when Hispanics participated in the STEM PBL approach over a three-year period, they demonstrated high rates of growth than Hispanics who did not participate in the program, as well as non-Hispanic students who did (Han et al., 2016).

Although Hispanics can benefit from technology in education, this is not being reflected in STEM programs. Only two-thirds of Hispanic high school students are offered a complete array of STEM courses, including Calculus, Biology, and Physics (White House Initiative on

Educational Excellence for Hispanics, n.d.a). The effects of this issue are being seen in the STEM workforce. Although Hispanics make up 20% of the youth population in this country, STEM jobs are comprised of less than 2% Hispanic (White House Initiative on Educational Excellence for Hispanics, n.d.b). The Pew Research Center (2018) reported the numbers as a little higher, with the STEM workforce being made up of 7% Hispanic.

The lack of Hispanics in the STEM workforce is important to address. Not only have STEM jobs grown at a faster pace than non-STEM jobs over the last decade, they are projected to continue to outgrow non-STEM jobs in the future (Noonan, 2017). By working in a STEM career field, Hispanics will earn more money in their lifetimes. STEM workers earn a higher salary than non-STEM worker (Noonan, 2017). The desire for Hispanic students interested in STEM jobs is there. The percentage of Hispanic students interested in STEM jobs is similar to black and white students, but a lower percentage of Hispanic students complete programs related to STEM careers (National Science Board, 2016).

Technology and Graduation

Not only does technology impact what happens in the classroom, it can help improve graduation rates. Technology can bring about more equality in education by providing the same access to all students and offers the opportunity for students to have a learning experience that is customized to what they need (Lynch, 2014).

Educational technology provides alternate methods to education for students who struggle in the traditional classroom setting (National Dropout Prevention Center, 2018). This means those who fall behind on the traditional pathway of education can utilize technological tools to be successful. This can be accomplished by students taking online classes, attending online schools, or working on remedial skills (Lynch, 2014).

Incorporating technology in the classroom is not the only way technology helps improve graduation rates. Technology has been used as an incentive to keep kids in school. A school district in Arizona increased their graduation rates by providing a free notebook computer to any students who showed good attendance, earned good grades, stayed out of trouble, and participated in some type of extracurricular activity (Wong, 2011). In addition, educators and administrators have been harnessing the power of technology to reach students who may be in danger of failing or dropping out of high school. Technology can be used to compile data such as grades, attendance, and assessment results and that data can be used to identify at-risk students in order to help them (Wong, 2011). Technology has also been used to inform parents about their child's performance in school, which has led to higher parent engagement and improved academic performance among students (Kalil et al., 2015; Kraft & Dougherty, 2013; Kraft & Rogers, 2015).

Influences on Graduation Rates

Earning a high school diploma is not only a significant milestone for a student, it can be a life changing event. In the United States, 75% of job require a high school diploma, which earns a person on average, \$15,000 more per year (US Bureau of Labor Statistics, 2017). A high school diploma becomes even more important when considering projections by the U.S. US Bureau of Labor Statistics (2013), which stated that jobs requiring some type of post high school education are growing faster than those that do not.

The impact of earning a high school diploma can change the trajectory of someone's life, as well as benefit society. There are great benefits, not only to the graduate's life, but to the community in which they live, and the nation, as a whole. According to the Building a Grad Nation Report (Balfanz et al., 2013), will not only be more likely to have a job and earn a higher

income than those who do not graduate, they tend to be healthier and live longer. When it comes to the positive impact on the community, people who earn a high school diploma are more likely to vote and volunteer. Additionally, the country can benefit since a qualification to serve in the military is to have a high school diploma (Balfanz et al., 2013).

With this kind of impact, it is important to understand what influences whether or not a student graduates high school. One positive influence on graduating high school is growing up in a family that values education (Harper & Williams, 2014). Self-image, such as being thought of as capable and smart, is another factor that positively influences whether or not a student graduates high school (Harper & Williams, 2014). Additionally, motivation and engagement impact are predictors of high school graduation (Zaff et al., 2017).

There is a positive trend when it comes to high school graduation rates. There is an improvement in high school graduation rates in two-thirds of the states in the U.S. (*Building a Grad Nation: Progress and Challenge in Raising High School Graduation Rates, Annual Update 2020;2020 SRI R3847-4.2020*). This does include an increase in graduation rates among blacks, Hispanics, and students with a lower socioeconomic status (*Building a Grad Nation: Progress and Challenge in Raising High School Graduation Rates, Annual Update 2020;2020 SRI R3847-4.2020*). Hispanics have become the third racial subgroup to obtain an 80% graduation rate, which has been accomplished by whites and Asians (*Building a Grad Nation: Progress and Challenge in Raising High School Graduation Rates, Annual Update 2020;2020 SRI R3847-4.2020*).

Although much of the high school graduation rate is positive, there are some areas where Hispanics, including ELLs, lag behind other groups of students. Black students have seen a higher gain in graduation rates over the past decade, when compared to Hispanic students

(Building a Grad Nation: Progress and Challenge in Raising High School Graduation Rates, Annual Update 2020;2020 SRI R3847-4.2020). Hispanic students are more likely to not graduate high school on time (*Building a Grad Nation: Progress and Challenge in Raising High School Graduation Rates, Annual Update 2020;2020 SRI R3847-4.2020*). In addition, when looking at on-time graduation rates, which means completing high school in four years, Hispanic rates are significantly lower than the country's average (DePaoli et al., 2015).

When looking at the graduation data among ELLs, the picture is even bleaker. Although the ELL population is growing in the U.S., equaling about 10% of the student population, their graduation rate as actually decreased in recent years (*Building a Grad Nation: Progress and Challenge in Raising High School Graduation Rates, Annual Update 2020;2020 SRI R3847-4.2020*). Many states experience a graduation rate of less than 60% of the ELL population, which is almost 20% lower than the average of non-ELLs (*Building a Grad Nation: Progress and Challenge in Raising High School Graduation Rates, Annual Update 2020;2020 SRI R3847-4.2020*).

Moreover, another subgroup of students is lagging when it comes to high school graduation rates. Low income students do not graduate at the same rate as peers who belong to a higher socioeconomic group (*Building a Grad Nation: Progress and Challenge in Raising High School Graduation Rates, Annual Update 2020;2020 SRI R3847-4.2020*). Hispanics has a higher representation in the poverty population when compared to their population make-up of the general population. Hispanics represent approximately 18% of the country's population, but account for around 27% of the poverty population (Edwards, 2019). Although the country has a graduation rate of 84.6%, the graduation rate for low-income students is 78.3%. This is an important statistic when considering the low-income student population makes up 47.2% of the

student population (*Building a Grad Nation: Progress and Challenge in Raising High School Graduation Rates, Annual Update 2020;2020 SRI R3847-4.2020*). On a positive note, the increase of graduation rates for low-income students was slightly higher than the national average increase in student graduation rates (*Building a Grad Nation: Progress and Challenge in Raising High School Graduation Rates, Annual Update 2020;2020 SRI R3847-4.2020*).

Reasons for Dropping Out

There are numerous reasons why a student drops out of high school. Some of these include failing a previous grade level, discipline issues, and qualifying for free lunch (Archambault et al., 2008; Robison et al., 2017). In addition, student disengagement impacts dropping out of high school (Archambault et al., 2008). Another factor that contributes to academic struggles, with the potential of dropping out of high school is attendance. Being absent from school results in students receiving less instruction, feeling alienated from peers and teachers and performing lower in academics (Gottfried, 2011). When it comes to attendance issues, students from lower socioeconomic backgrounds are 60% more likely to be absent and 22% of Hispanic students have missed more than three days in eighth grade (Ahmad & Miller, 2015). As recently as 2017, 26% of Hispanic students missed three or more days in only one month of school (US Department of Education, 2017).

As study conducted by Clayton-Molina (2015) discovered, in addition to academic difficulties, becoming pregnant and lower support from parents led to Hispanics dropping out of high school. Many Hispanic high school dropouts viewed themselves as failures due to their academic struggles while in high school (Tavitian, 2013).

High school dropout rates are higher among Hispanics than other ethnic groups (Gramlich, 2017). When looking at Hispanic high school dropout rates, male students are more

likely to not finish high school (Irizarry & Donaldson, 2012). In addition, Hispanics are one of the fastest growing populations in this country (Stepler & Lopez, 2016). If these trends continue, then many Hispanics in this country will not have the level of education needed to be a positive contributor for society (Ramirez et al., 2014). By reducing the dropout rates of Hispanic high school students, the country and society will benefit economically and socially (Clayton-Molina, 2015). Over a decade, not only would dropouts lose out on \$3 trillion of income, which is lost tax revenue for the country, but society would face an increase in the cost of public safety, healthcare, and government assistance (Alliance for Excellent Education, 2010).

Summary

Hispanic students have faced many challenges, both in society, as well as in education. From a history of segregation in education to economic struggles and language barriers, many Hispanic students have not been able to completely overcome these hurdles and achieve the same academic successes and high school graduation rates, as many of their peers. However, there are many who do accomplish this feat, which sets them on a path to a higher standard of living.

The issue of Hispanics dropping out of high school needs to be addressed. Earning a high school degree can improve the quality of life. This includes having a better job and earning a higher salary. There are many components to the issue of Hispanic graduation rates. Family expectations, academic achievement, and technology all play a part in the Hispanic educational experience and whether or not these students decided to complete high school or drop out. While research has focused on many different components, such as why Hispanics drop out or graduate, how technology can influence graduation rates, and Hispanics use of technology, both personally and educationally, there is no research exploring the experiences of Hispanic high school

graduates with technology. This research could offer a perspective that has never been shared before or it could help shift the perspective on what is currently being done in classrooms that serve Hispanic students.

Although there are many factors that could help Hispanics complete high school, technology, due to the wide array of uses, may be influential in helping Hispanics accomplish this important event. With the influx of educational technology, especially as a result of the Covid pandemic, insight is needed into how technology influences the Hispanic high school graduate's experience. Hispanic students who persevere and graduate from high school deserve to have their voices heard and their experiences shared. These experiences could be a glimpse into what needs to be done in order to reach the Hispanic students who do not graduate from high school. By researching the shared experiences of Hispanic high school graduates with technology, new insight could be gained that could help educators, administrators, parents, and policy makers make effective decisions on addressing Hispanic dropout rates.

CHAPTER THREE: METHODS

Overview

The purpose of this transcendental phenomenological study was to describe Hispanic high school graduates' experiences with technology in a southeastern suburban area near Atlanta, Georgia. For this research, technology access is defined as having "equitable access to the same digital and online learning opportunities regardless of their family's income level or ability to pay for these technologies" (Great Schools Partnership, 2014, Reform section, para. 11).

Although Hispanic dropout rates have decreased over the last two decades, these rates are still higher than other ethnicities (Gramlich, 2017). This study seeks to describe the experiences with technology among Hispanic graduates. This chapter includes details about the research design utilized, the research questions, as well as a description of the setting, participants, and my role as the researcher. Furthermore, details are provided about the data collection and analysis processes, steps taken to ensure trustworthiness, and ethical considerations are addressed.

Design

One purpose for qualitative research is to make meaning from the experiences of people (Patton, 2015). In addition, it is important to understand context in which these experiences are occurring (Patton, 2015). The qualitative research approach was selected for this study because of its focus on making meaning of the experiences of Hispanic high school learners' with technology. With participants, I utilized open-ended questions to seek understanding of the experiences of the participants. Fieldwork and in-depth interviews are both needed to conduct qualitative research (Patton, 2015). Patton (2015) stated that one of the 12 core strategies of qualitative inquiry is purposeful sampling. The participants in this study were selected based on their experiences and insights into technology access while in high school.

Creswell and Poth (2018) defined a phenomenological study as a way to describe “the common meaning for several individuals of their lived experiences with a concept or phenomenon” (p. 75). Even though phenomenological research can follow different approaches, Moustakas (1994) described the transcendental approach as when the researcher sets aside prejudgments to what is being studied, or a process known as epoche. This is accomplished by the researcher being open and naïve to what the participants are saying (Moustakas, 1994). Another difference is transcendental research does not only describe the experiences, but explores the underlying meanings, including the emotions and perceptions, with those experiences (Moustakas, 1994). Finally, transcendental phenomenology differs from other methods with analysis methods (Moustakas, 1994).

The transcendental approach is rooted in the work of Edmond Husserl, who believed in subjective openness and “was concerned with the discovery of meanings and essences in knowledge” (Moustakas, 1994). Husserl developed the idea of epoche and understood how the conscious influences a person’s perspective and reality (Moustakas, 1994). This relates to the concepts of intentionality, noema, and noesis, which all contributes to discovering the essences of the phenomena which is being studied. This is the purpose of transcendental phenomenology (Moustakas, 1994).

Since this research was exploring how Hispanics experienced technology in high school, the phenomenology approach was used. Some features of phenomenology research include focusing on a single concept or phenomenon, having participants who have all experienced the phenomenon, and collecting data through the use of interview with the participants (Creswell & Poth, 2018). For this study, the phenomenon being research was technology experiences among Hispanic high school graduates. I am a teacher who incorporates technology consistently in the

classroom and works in a school that has many Hispanic students. For this transcendental phenomenological study, I bracketed out my personal experiences to have “a fresh perspective toward the phenomenon” (Creswell & Poth, 2018).

Research Questions

Central Question: How do Hispanic high school graduates, near Atlanta, GA, perceive and describe their experiences with technology?

Guiding Question 1: How do Hispanic learners perceive and describe their experiences with technology in their high school classrooms?

Guiding Question 2: How do Hispanic learners perceive and describe their experiences with technology outside of the educational setting?

Guiding Question 3: What are the perceived benefits of technology usage among Hispanic high school graduates, as related to education, while in high school?

Guiding Question 4: What are the perceived obstacles of technology usage among Hispanic high school graduates, as related to education, while in high school?

Setting

This study focused on the shared experiences of Hispanic high school graduates with technology in high school, who are members of a Hispanic educational advocacy organization, located northeast of Atlanta, GA. In 2015, the Hispanic population, of the 20 county Atlanta region, equaled 12.4% of the total population (The Atlanta Regional Commission, 2017). This is expected to increase to 21.6% of the population by 2040 (The Atlanta Regional Commission, 2017). Georgia experienced a 118% increase in the growth of the Hispanic population, between 2000 – 2015, which makes it the state with the fastest growing Hispanic population in the country (Pew Research Center, 2017).

Participants were selected from one site. The research site is a Hispanic educational advocacy group. The mission of this organization is to improve the high school graduation rates among Hispanic students. This group serves the majority of the 20 county Atlanta region area. This organization has local chapters in over 70 high schools in the north Georgia area, with over 3,700 members. This organization is led by three executives, working along various departments, which include the alumni department, chapters department, and education department, to name a few. There is a board of directors, made up of people from various backgrounds.

In addition, the Hispanic educational advocacy group provides the development of leadership skills, educational advocacy, and community service projects for its members. The leadership program provides a program that offers leadership skills to Hispanic high school students, which they use to lead their local chapters. Each chapter meets on a regular basis, where the focus is on leadership development, educational information, and community issues. In addition, there is an alumni association that offers support and network for members after the graduate. This organization helps over 900 Hispanic students graduate high school each year, with 100% of the advocacy group's members graduating high school. This organization is appropriate for the researcher to use because of the large number of Hispanic high school graduates that have benefited from it.

Participants

For the purpose of this study, the participants were selected using criterion-based, purposeful sampling. Purposeful sampling allows the researcher to select “individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon in the study” (Creswell & Poth, 2018). In regard to a phenomenological study, criterion sampling is effective because it allows the researcher to select participants who

have all experienced the same phenomenon (Creswell & Poth, 2018). Participants were chosen based on their similar experiences with technology, as well as being Hispanic and high school graduates.

The participants for the phenomenological study were both males and females who identify as Hispanic. Participants were within 6 years of graduating from high school, at the time of this study. The reason for selecting only high school graduates, with a limited graduation window, was due to their recent attendance in high school. Since this study sought to describe the experiences with technology among Hispanic graduates, the researcher wanted to utilize participants who have most recently experienced this phenomenon. The Hispanic advocacy group assisted the researcher in identifying potential participants. Interested participants were given an electronic survey that provided basic demographic information, as well as information about their year of graduation and what ethnic group to which they identify. The researcher determined, during the coding process, that there were enough participants to ensure saturation, the point at which nothing new is being learned from the participants (Patton, 2015) According to Guest, Bunce, and Johnson (2006), saturation can be reached in 12 interviews.

Procedures

The first step for this research study was to obtain approval from the Institutional Review Board at Liberty University. This step was necessary to ensure the research was conducted in an ethical manner. IRB approval is included in the Appendix A of this study. After IRB approval, I secured permission to use the Hispanic advocacy organization as the research site. The permission letter is included in Appendix B. After approval was granted, I contacted the research site to obtain official permission to use participants from their organization. After approval was obtained, I contacted the site for assistance in identifying potential participants. The research site

emailed out information about this study in their monthly newsletter. Interested participants completed the participants' survey, which determined their eligibility to participate in this research study. This survey is included in the Appendix C of this study. Participants were selected based on ethnic identification, year of high school graduation, and their willingness to participate. Selected participants were contacted, via email, about the details of this research study. The participants were provided an informed consent letter, which will be included in the Appendix D of this study. They were also be informed that participation is voluntary.

Once informed consent was obtained from the participants, the researcher began the data collection process. First, participants completed an electronic questionnaire. Following this, participants participated in a 2 hour-long focus group that was facilitated by the researcher. Focus group questions were developed based on the findings from the questionnaire responses. After the interviews, participants completed an electronic journal prompt. All of the data was transcribed and analyzed for codes and themes.

The Researcher's Role

As a teacher in a school district where much of the student population is Hispanic, I have educated numerous Hispanic students in the areas of reading, math, social studies, audio-visual and film, engineering, and career development. Throughout my 14 years in this school district, I strived to implement as much technology into my curriculum, no matter the content area. I have seen my Hispanic students thrive in the type of educational environment I provided them in my classroom. I believe effective implementing technology in the classroom can help not only Hispanic students, but all students succeed. However, I have never followed up with my students to see what their experiences were with technology in high school.

My experiences as a teacher has led me to believe that students construct their knowledge through the experiences they have, which aligns with the constructivist philosophy. I have observed students, including Hispanics, be successful in the type of educational environment I provided in my classroom. This success has transcended a particular academic area. I have observed this in the areas of math, social studies, audio visual, engineering, and career development. Many of the students that have had success in my classroom, struggled in the classrooms that incorporated the more traditional approach to education. Seeing how my environment has helped Hispanic students be successful, I wonder how the experiences of Hispanics with technology influenced their decisions to persevere and graduate high school.

With this being a qualitative, phenomenological research study, I understand I was the research instrument. When it comes to analyzing the data, I bracketed out my own personal biases due to my experience with Hispanics and technology in the classroom. Due to this, I ensured steps were taken to address all aspect of trustworthiness, as well as address all ethical considerations. Although I have taught in this area for over 14 years, I did not have any prior relationship with any of the selected participants. None of my former students were selected to participate. As an educator, I do not have any type of relationship with the research site.

Data Collection

In order to strengthen the integrity and validity of a phenomenological study, multiple sources of data should be used (Patton, 2002; Schwandt, 2007). This process, known as triangulation, is a foundational component to this type of study (Creswell, 2013; Lincoln & Guba, 1985; Patton, 2015). To meet the demands of triangulation, three forms of data were collected for this study. This study utilized data collected from questionnaires, a focus group, and journal prompts. First, participants answered questions from an electronic questionnaire. Then

participants participated in a focus group about their use of technology while in high school. Following the focus groups, participants completed electronic journal prompts. By following this sequence of data collection, I was able to use the questionnaire to have a better understanding of each participant prior to conducting focus group interviews. In addition, the information from the questionnaire influenced what I asked during the focus group. Journal prompts were the final data collection used because it allowed participants to have more time to reflect on the prompts and provide insightful information.

Questionnaires

Data was collected using a questionnaire (see Appendix E). A questionnaire was an appropriate method for this study. A questionnaire's purpose is to provide insight and understanding to the lived experiences of the participants, as seen through their eyes (Patton, 2002). The questionnaire consisted of demographic questions, as well as open-ended questions in order to allow the participants the opportunity to freely express their lived experiences. Open-ended questions offer an opportunity to acquire rich meaningful data (Elliot-Ghaleb, 2016). The open-ended questions were designed to answer the central research question and the guiding questions of this study.

The majority of the questions included in the questionnaire were designed to answer the research questions, along with the guiding questions. Questions one and two were introductory questions to allow the participants a level of comfort with the questionnaire. Question three was designed to answer guiding question one. With Hispanics having classroom access to technology (Bun Lee, 2014), the participants' responses to question three provided insight into their experiences with educational technology. In addition, the responses of participants could

demonstrate whether or not technology was used to work on basic skills, instead of higher-level activities, as mentioned by Zielezinski and Darling-Hammond (2016).

Questions four, six, and 11 were designed to answer guiding question two. Although Hispanics are gaining more access to technology, they still lag behind other groups (National Center for Education Statistics, 2018; National Science Foundation, 2018). Hispanics are more likely to use technology personal reasons instead of educational purposes (Fuller et al., 2015; Lee & Barron, 2015; Perrin, 2015). Participants' responses to questions four, six, and 11 described their experiences with technology outside of the educational setting.

Questions five, seven, nine, and 12 were designed to answer guiding question three. Technology can positively impact the educational experiences for Hispanic students (Lynch, 2014; National Dropout Prevention Center, 2018). Technology changes how educators reach Hispanic students (Darling-Hammond et al., 2014; Purdue Online, 2018). In addition, Hispanics benefit when educational technology is effectively implemented in their classrooms (Beck et al., 2017; Johnson & Galy, 2013). Questions five, seven, nine, and 12 provided insight into the beneficial experiences Hispanic high school graduates had with technology, while in high school.

Questions eight and 10 were designed to answer guiding question four. Even with the benefits of technology integration and more access to technology, graduation rates among Hispanics are behind other ethnic groups. Lack of engagement in the educational experience is one reason why Hispanics are not graduating at the same rate as others (Archambault et al., 2008). Hispanics struggle with using technology for educational purposes (Howard et al., 2015). By exploring the obstacles participants faced with technology in high school, questions eight and 10 could provided insight into what some of these struggles are.

The questionnaire was piloted before being administered to the participants. I reached out to a bilingual volunteer to ensure the questions were worded properly in order to address the purpose of answering the research questions. Piloting interview questions is an important part of the qualitative process (Patton, 2002).

The questionnaire was sent to participants via email, using a Google Form. By using an electronic format, participants were given the opportunity to answer at their convenience. Participants were given a two-week time frame to return completed questionnaires.

Focus Groups

Using a focus group was the second data collection strategy for this study. The focus group approach allowed members to interact with one another when discussing shared experiences (Creswell, 2013; Patton, 2015). By participating in a focus group, participants can listen to the responses of other participants offer additional insight to those responses, which may agree or explain a differing viewpoint (Patton, 2002). With this interactive dynamic, focus groups can provide additional insight that may not occur through the interview process (Creswell, 2013).

The focus group was selected as a data collection because of the benefit it offers. I wanted “to get high-quality data in a social context where people can consider their own views in the context of the views of others” (Patton, 2015, p. 475). Some of the benefits offered by focus groups include differing perspectives, an enhanced data quality, and the moments of silence and avoided topics provide additional insight (Patton, 2015). By conducting a focus group, I was able to gain better insight into this phenomenon, in order to develop more thoughtful and effective questions, since the research and literature on this specific topic is limited.

Participants participated in a focus group. One reason for the use of focus groups was to have an open dialogue among the participants. Focus groups are typically made up of participants with similar experiences and backgrounds (Patton, 2015). One advantage to using focus groups is the potential for the interaction between the participants to provide excellent information and insight (Creswell & Poth, 2018). Another benefit to focus groups is the participants make provide additional insight, apart from their original thoughts, based on what the other participants say (Patton, 2015). In other words, participants may hear a response from someone else, and it sparks a new idea or reminds them of additional experiences they want to share.

The prompts, or questions, for the focus group are included in Appendix F. The focus group questions were piloted in a similar manner as with the questionnaire. Question one was designed to start off the focus group with an ice breaker question in order to help the participants become more comfortable. Question two was designed to give participants an opportunity to had additional information to their responses to the questionnaire, in case they thought of something else they wanted to add. Question three was designed to gain another perspective about the participants' experiences while in high school. Question four provided insight for guiding questions one and three.

Questions five, six, and seven provided insight into all four of the guiding questions. It is important to learn about the experiences of Hispanic high school graduates with technology while in school. Whether a person graduates high school or not can impact the quality of life they have as an adult (Alliance for Excellent Education, 2011; Freudenberg & Ruglis, 2007). Research exists that offers insight into how to help Hispanics graduate high school (Harper & Williams, 2014; Lynch, 2014; National Dropout Prevention Center, 2018). These questions

allowed participants to not only share their views on technology, but the perceived views of their parents and teachers. Question eight provided an opportunity for participants to reflect on how being away from the high school experience has changed their thoughts on technology. Question nine provided the opportunity to offer any additional insight that may not have been obtained through the questionnaire or the previous focus group questions.

As recommended by Creswell and Poth (2018), steps were “taken to create an environment as comfortable as possible and, in group settings, to encourage participants to talk and to monitor individuals who may dominate the conversation” (p. 164). I served as a facilitator for the focus group. My role as the facilitator was to be flexible during the process and allow the dialogue to evolve naturally based on the conversations among the participants (Creswell, 2013). I worked with participants to determine a time that worked with their schedules. The Zoom focus group meeting was recorded for both audio and video. In addition, an audio recorder was used as a backup recording device. I transcribed the focus groups recording in order to code the data and develop the interview questions. The focus group helped answer the following research and guiding questions: What are the described experiences with access to technology among Hispanic high school graduates? What experiences with technology did Hispanic learners describe in their high school classrooms? What experiences with technology did Hispanic learners describe outside of the educational setting?

Journal Prompts

Participants answered journal prompts electronically. The participants responded to the following prompts: “What advice would you give to high school teachers when it comes to using technology in their classes? How could educators use technology to help make students more

successful in school? Based on your experience, describe the struggles and obstacles you faced with technology, while in high school.”

These prompts provided insight into both benefits and obstacles with technology while the participants were in high school. Journals allow for participants to tell their experiences and adds a creative side to data collection (Moustakas, 1994). By offering participants an opportunity to share their lived experiences through written responses, they had time to be reflective with the prompts and thoughtful in their responses (Creswell, 2013). With the three parts of this writing prompt, the final two research questions were answered. The first and second part helped answer Guiding Question 3 and the perceived benefits of technology while in high school. The first and third parts helped answer Guiding Question 4 and the perceived obstacles of technology while in high school.

Participants were provided the journal prompts within 24 hours of the focus groups and were able to respond in whatever setting they felt most comfortable. A Google Document, with the journal prompts and directions, was sent to participants. Responses were typed onto the document and returned to the researcher. Participants had 2 weeks to return the prompt responses.

Data Analysis

Questionnaires, focus group transcripts, and journal prompts were the three forms of data collected for this study. Creswell (2014) provides a multi-step approach to analyzing data for a qualitative study. The steps for analyzing the data include organizing and preparing the data, reading and reviewing the data, start to code the data, continuation of coding in order to create a description and develop themes, create a representation of the data, and interpret the findings in order to show the essence of the research.

The focus group recording was transcribed. In addition, the questionnaire responses and journal prompts were submitted electronically. A qualitative data analysis software (QDAS) was used to keep the data organized. QDAS is not designed to analyze the data, but assist in labeling, searching, locating, and grouping the data, which means, I was responsible for conducting the analysis and deciding on the wording that will be used during the process (Patton, 2015). Transcribed files were printed. Electronic data were protected using a secure computer and printed data was kept in a locking file box.

I read the transcriptions multiple times in order to “obtain an overall feeling for them.” (Creswell, 2014, p. 115). While reading the transcripts, I made notes and observations on the emerging themes. This process is known as memoing.

While reading the transcripts multiple times, I began to list and group phrases that related to the phenomenon. Moustakas (1994) refers to this as horizontalization. Next, the remaining statements were clustered by broader themes relating to the phenomenon. These themes were analyzed to a greater extent in order to arrive at a final list of themes that were supported by the transcripts. Finally, the themes were developed into a textural description that highlights the essences of the phenomenon.

Finally, I created a description that explains the meanings and essences. For this, I analyzed the structural and textural descriptions to arrive at the essences of the phenomena (Moustakas, 1994).

Trustworthiness

Qualitative researchers need to ensure the trustworthiness of the study (Schwandt, 2007). This can be accomplished by addressing the following four areas: credibility, dependability, confirmability, and transferability (Lincoln & Guba, 1985).

Credibility

For this study, credibility is addressed through two different methods. Triangulation of data ensures the credibility of the study (Patton, 2002). When a researcher uses multiple sources of data, triangulation is achieved (Creswell & Poth, 2018). This study met the triangulation criteria by using data from questionnaires, a focus group, and writing prompts. In addition, participants participated in member checking to ensure the accuracy of the transcripts and the development of the patterns and themes.

Dependability and Confirmability

Dependability and confirmability must be present in order for the trustworthiness of the study to be addressed. Dependability in qualitative research means the research is conducted in a consistent manner, and it can likely be repeated. Confirmability is addressed when the research is not skewed based on the biases or viewpoints of the researcher (Creswell, 2013). For this study, member checks were conducted so that participants can confirm what the researcher analyzed with the data. In addition, the researcher kept a detailed audit trail to also address the issues of dependability and confirmability. Finally, the researcher used rich, thick descriptions when reporting the findings.

Transferability

Transferability means that the findings can be transferred from one study to another (Creswell, 2013). Transferability can be achieved by providing a rich, thick description of the details of the participants' descriptions (Creswell & Poth, 2018). I provided rich, thick descriptions of the data and committed to recording everything while collecting data to address transferability.

Ethical Considerations

Due to the nature of qualitative research, ethical considerations must be addressed. First, no data collection or analysis occurred until the Institutional Review Board (IRB) at Liberty University approved this study. Once IRB approval was obtained, I acquired written permission from the Hispanic advocacy organization to conduct the study. Next, the researcher received informed consent from each participant prior to collecting data. Participants were informed that their participation was completely voluntary and they could decide to withdraw from the study at any time. The researcher offered an incentive, in the form of a \$25 gift card, to participants.

In regard to data collection and analysis, the participants' identities remained anonymous. The participants were given the opportunity to select their own pseudonyms. If they chose not to provide their own pseudonym, the researcher created culturally relevant names for participants. In addition, all electronic data was stored on a secured computer that was password protected. Any physical papers containing data were stored in a locked file box. These steps addressed any concerns with ethical considerations for this study.

Summary

This transcendental, phenomenological study sought to describe the shared experiences with technology in high school among Hispanic graduates. Hispanic high school graduates, who are members of a Hispanic advocacy group, near Atlanta, Georgia were the participants. Data was collected in a variety of methods, including questionnaires, a focus group, and journal prompts. Data was collected and transcribed. Analyzing the data followed a systematic process to discover common themes among the participants' experiences. The ultimate goal of the data analysis for this study was to ensure the essence of the phenomenon was captured. This study met the requirements of trustworthiness by addressing credibility, dependability, confirmability,

and transferability. Finally, the researcher took the necessary steps to address any ethical considerations.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this transcendental, phenomenological study was to understand the lived experience, in regards to technology, among Hispanic high school graduates. This study explores the experiences of seven Hispanic high school graduates with technology, while in high school. Within this chapter, I provide a description of each of the seven participants. Following the participants' descriptions, the results of the data analysis are discussed and linked to the research questions. Finally, the chapter concludes with a summary of the findings.

Participants

Participants were selected based on purposeful sampling. Purposeful sampling is an appropriate way to select participants because they can provide an understanding in the phenomenon (Creswell & Poth, 2018). All participants graduated from high school and identified as Hispanic. Saturation occurred with these seven participants. During the coding process, repetitive codes began to emerge from the data, especially in regard to the questionnaire and journal prompt responses. The researcher noticed common ideas and sentiments among most of the participants' responses. Throughout the coding process, the participants' responses seem to support what was being expressed by the other participants. The researcher determined there were enough participants to ensure saturation, to the point at which nothing new was being learned from the participants (Patton, 2015). The research participants included five females and two males. Each of the seven participants completed the questionnaire questions, first. Afterwards, six of the participants participated in a focus group using Zoom. The seventh participant participated in an individual Zoom with the researcher, since he was unable to attend to focus group Zoom that included the other participants. After the focus group portion, each

participant completed the electronic journal prompts. Table 1 displays the demographic information of the participants, including age, gender, ethnicity, and year of high school graduation. The following is a description for each participant who participated in this research study. Pseudonyms were used to allow for participants to remain anonymous. Any quotes used from participants are included verbatim in order to accurately represent the participants' voice.

Table 1

Participant Demographics

Pseudonym	High School Graduation Year	Post-Secondary Educational Level	Bilingual	Generational Identity
Alejandra	2018	Current College Student	Yes	Heritage: 2 nd Gen College: 1 st Gen
Claudia	2018	Current College Student	Yes	Heritage: 2 nd Gen College: 1 st Gen
Elena	2018	Graduate Student	Yes	Heritage: 2 nd Gen College: 1 st Gen
Juan	2020	Current College Student	Yes	Heritage: 2 nd Gen College: 1 st Gen
Juliana	2017	Bachelor's Degree	Yes	Heritage: 2 nd Gen College: 1 st Gen
Luis	2019	Current College Student	Yes	Heritage: 2 nd Gen College: 1 st Gen
Marisol	2018	Associate's Degree	Yes	Heritage: 2 nd Gen College: 1 st Gen

Alejandra

Alejandra is a bi-lingual, second generation Latina American, whose parents are both from Mexico. She is a first-generation college student who graduated high school in 2018. She has earned Emergency Medical Technician (EMT) certification. She is currently pursuing certification as an Advanced Emergency Medical Technician (AEMT), while working in a veterinarian clinic. As a high school student, she attended a school where students had access to educational technology. In regards to technology access in her personal life, during high school, her parents did not use a lot of technology in the household, which she states is due to her family's socioeconomic status. As a student, she experienced both benefits and struggles with technology.

Claudia

Claudia is a bilingual, second generation Latina American, whose parents are both from Mexico. She is a first-generation college student who graduated high school in 2018. She is currently enrolled in college, pursuing at degree in nursing. Although her high school provided access to devices, she describes the devices as often not operational and the Wi-Fi being problematic. In regards to technology access in her personal life, during high school, her parents did not use a lot of technology in the household, and she would have to share a device with her brother. As a student, she experienced both benefits and struggles with technology.

Elena

Elena is a bilingual, second generation Latina American, whose parents are both from Mexico. She is a first-generation college student who graduated high school in 2018. She earned her Bachelor's degree in 2021 and is currently pursuing a Juris Doctor. In her personal time, she

volunteers at a local middle school. Although her high school provided access to devices, she describes struggles with not being taught how to properly use the technology. Although she had a personal computer, during high school, her parents restricted technology usage to be primarily for educational purpose. As a student, she experienced both benefits and struggles with technology.

Juan

Juan is a bilingual, second generation Latino American, whose parents are both from Mexico. He is a first-generation college student who graduated high school in 2020. He is currently attending college and pursuing a degree in business administration. While in high school, Juan had a school issued device, and used it in most of his classes. In regards to his personal technology experience, outside of high school, he had access to devices but it was routinely monitored by his parents and restricted mainly to educational purposes. As a student, he views his technology usage as mainly a positive experience.

Juliana

Juliana is a bilingual, second generation Latina American, whose parents are from Mexico and Guatemala, respectively. She is a first-generation college student who graduated high school in 2017. She is a college graduate who currently works in the educational information systems field. While in high school, she had access to technology devices, both in school and at home. Although there were some technological implementation struggles in school, technology usage was welcomed, even highly encouraged at home. As a student, her experiences were primarily positive and even helped develop a passion for technology in education.

Luis

Luis is a bilingual, second generation Latino American, whose parents are both from Mexico. He is a first-generation college student who graduated high school in 2019. He is currently attending college and pursuing a degree in education. While in high school, Luis had access to educational technology in school. Due to his socioeconomic status, he had limited access to technology. He had access to his first personal laptop his Senior year, and that required sharing among four siblings. As a student, he experienced both benefits and struggles with regards to technology.

Marisol

Marisol is a bilingual, second generation Latina American, whose parents are from Mexico. She is a first-generation college student who graduated high school in 2018. She has earned an Associate's degree in science. She currently works in a dental office, with plans to enter into a dental hygiene educational program. While in high school, she had access to technology devices. At home, she had a personal device in which she could use for socialization purposes. As a student, her experiences were primarily positive and beneficial.

Results

This study utilized three different sources, including questionnaires, focus group participation, and journal prompts. For recording purposes, I utilized the Zoom recording software, along with the voice memos app on my phone. After transcription of the recordings, I verified each transcript for accuracy.

All seven participants completed the questionnaires and submitted responses to the journal prompts. Six of the participants participated in a focus group on Zoom. The seventh participant was unable to attend the focus group, but participated in a Zoom, where I asked him

the same questions as asked of the other participants during their focus group. The questionnaire consisted of 11 open-ended questions. The focus group included 10 open ended questions. The journal prompts included three open-ended questions. All of the questions were used in order to gain a deeper understanding into the educational technology experiences among Hispanic high school graduates. Furthermore, the open-ended questions used during the three data collection phases focus on answering the central research questions and the four guiding questions.

In this section, the results of the study are presented. This includes a description of the emerging themes which developed during thematic analysis. Themes are presented in narrative form, including a table for visual representation. Afterwards, narrative answers to the central research question and the four guiding questions will be included.

Theme Development

The purpose of this transcendental, phenomenological study was to explore the shared experiences with technology among Hispanic high school graduates. In order to identify patterns, data analysis was performed on the questionnaire responses, focus group transcripts, and journal prompt responses. First, I read through the transcripts multiple times in order to gain a general idea of the information provided by the participants (Creswell, 2014). During this process, I made notes and observations about the themes that started to emerge. This process is known as memoing. In addition, I performed horizontalization of the data, which means I listed and grouped phrases that related to the phenomenon (Moustakas, 1994). These phrases were analyzed to a greater extent in order to identify the major themes among the participants' experiences.

Based on the data analysis process previously described, five major themes were developed. The five major themes for this study include: (a) educational experiences with

technology while in high school, (b) personal experiences with technology while in high school, (c) benefits of educational technology, (d) obstacles faced with educational technology, and (e) current or recent experiences with technology. Subthemes were developed for each major theme and are included, in order to provide a more comprehensive understanding to what the participants experienced in regards to the phenomenon. Themes and related codes, including frequencies, are presented in Table 2. Participants quotations are included throughout the discussion of the major themes. When quotations are used, they are verbatim, including any spelling or grammar mistakes, to ensure the participants' voices are accurately represented.

Table 2

Themes & Related Codes

Themes	Related Codes	Frequency
1. <i>Educational Experiences with Technology</i>	Teacher implementation of educational technology	23
	Educational changes experienced	22
	Participants' learning styles and preferences	7
2. <i>Personal Experiences with Technology</i>	Parental and family influences on technology usage	31
	Using technology for educational purposes	20
	External influences on technology exposure	9
3. <i>Benefits of Educational Technology</i>	Positive classroom experiences	39
	Preparation for the future	27
	Self-efficacy improvement	22
4. <i>Obstacles Faced in regards to Educational Technology</i>	Lack of institutional support with educational technology	46
	Mental barriers to using educational technology	26
	External obstacles	15
5. <i>Current and recent experiences with technology</i>	Current technology usage and its impact on life	23
	Reflections on how educational technology should be utilized	17

Interactions with others needing technology help	15
Pandemic experience	8

Theme I: Educational Experiences with Technology

Participants' experiences with technology while in high school is the first major theme. Although the participants all attended different high schools, there were a lot of shared experiences when it came to technology in the classroom. When it came to their experiences with education technology, the participants shared insight into how teachers implemented educational technology. In addition, participants shared their learning preferences with regards to educational technology. There was a general consensus among participants that they were like pioneers when it came to educational technology, with much of their experience coming at a time when schools were incorporating more technology into the classroom.

Subtheme I: Teacher implementation of educational technology. One major component to experiences with educational technology is how teachers decided to implement it. During the participants' experiences, a wide variety of classes would use educational technology. These classes include electives, such as health care and marketing. For his questionnaire response, Luis stated "My electives were more impacted by technology, as they revolved more through internet-based information." In terms of academic classes, science and math classes were mentioned most by the participants. During the focus group, Elena said "I think that the science and math teachers were more willing to use technology than the reading and language arts ones." Alejandra echoed this statement.

Another factor that impacted the implementation of educational technology was the type of teacher who implemented technology. Juliana stated the following:

Some of it was noticeable in how willing they were to learn and accept and go with the flow based on their subject matter that they were teaching, regardless of the subject. It was just their nature because of generational differences. Right. Some younger teachers, millennials, that were just kind of technology is not that bad and scary. I'll just figure it out right. Versus older generations of educators that were just like this is not the way to teach. This is just ruining kids' brains.

Elena shared a similar sentiment. "Also, a lot of the professors were older, like closer to retirement. It's like why would you teach them something new that they're about to not use anymore?"

Educational technology was used for a variety of reasons among the participants' high school teachers. In classes like language arts, educational technology was used to display poetry and stories, as well as, for students to type essays. Participants shared how teachers would use YouTube videos, PowerPoints, SMART boards, and visuals to help students learn the content. Additionally, participants used educational technology for activities, such as taking assessments, conducting science labs, Internet research, and coding.

Subtheme II: Educational changes experience. When it comes to their educational experiences in technology, all of the participants noted how they realized they were going through a major shift in the implementation of educational. Luis stated "I guess we got to see that transition of not going from using technology to like going to technology." Claudia expressed the same idea. "Going through the whole technology thing, that was so hard for me. I was in high school and it was going from paper to computers."

Some of the changes the participants experienced included getting assigned their own device or at least having access to one in the classroom. Participants started using tools like

Google classroom and Schoology. Another common experience among the participants was schools issuing emails to their students. Juan was the only participant to not be assigned a school-issued email address. Although participants were introduced to various educational technology tools, the usage of such tools increased as the participants got closer to graduation. Luis, Claudia, Marisol, Juliana, Elena, and Juan all specifically mentioned their Junior or Senior years and the impact educational technology had on them. Juan made the following observation.

Technology was used in most of my classes in high school, it was not until my junior or senior year where it became used constantly in most of my classes. It seems like all of my teachers wanted to incorporate as much technology as possible in class. We did almost everything on the computer.

Subtheme III: Learning preferences and learning styles. Despite educational technology being used by different teachers and in various types of classes, there were mixed feelings regarding if students enjoyed using educational technology in the classroom. Claudia stated “I like the chalkboard. I like to make a PowerPoint. It’s different styles.” Marisol did not feel the same as Claudia. “I really didn't like to use technology use Google Docs or Word to do my assignments. I'd rather use paper and pencil to do all my notes.” Juan felt like using technology in the classroom helped his learning because it helped him stay organized. He said his grades were better in classes that included more technology. Being aware of a preferred learning style can make the educational experience more meaningful. Juliana summed this idea up by stating “It's like you got to learn what type of learner you are to make the most of your education whether that's K through twelve or your college of choosing.”

Theme II: Personal Experiences with Technology

The participants' personal experiences with technology comprise the second major theme developed from the data. All of the participants discussed how they used technology outside of school, as well as what influenced their technology usage. When it came to personal usage of technology, outside on the school, parental influence and family dynamics played an important role. In addition, the participants' responses indicated they used technology primarily for educational purposes, while at home. Furthermore, some of the participants developed a positive, mental mindset change because of their experiences with technology. Finally, the participants acknowledged certain external influences on their personal technology usage.

Subtheme I: Parental and family influences on technology usage. The first subtheme, relating to the participants' personal use of technology was their family dynamics, including their parents' influence. The types of personal technology participants had access to varied. Luis mentioned getting a cell phone in middle school and having access to a laptop while in high school. Juliana had access to a computer, as well as having a personal laptop she could take to school, if needed. Also, Juliana received a cell phone in high school. Elena had access to a home computer, starting her junior year and got a cell phone during her senior year. Alejandra has limited access to personal technology "mainly because we couldn't really afford anything to have technology at our house." Claudia referenced having access to a smart phone and an iPad, in addition to the laptop provided by her school. Marisol mentioned having a cell phone to use outside of school. Juan had access to a Chromebook and smart phone to use for personal reasons.

Regarding their personal technology usages, participants were influenced by their parents and other family dynamics. Luis stated this about his parents. "Growing up they didn't really want to see me get a phone. They didn't like the idea of us having a phone so they waited to

probably 8th grade.” Elena stated “My parents have always been very, very wary of it. So, with that my parents didn't let me have social media. My parents didn't let me have a cell phone.”

Juan mentioned how his parents would constantly monitor his technology usage and put limits on how much time he spent on social media.

When it came to parental influence, there was one participant who had a different experience with personal technology. Juliana's parents seem to embrace her using technology outside of school. She claims her dad was the biggest influence on her technology usage and was always available to help with any technology concerns she had. “We were also encouraged to not be afraid of it and kind of learn with it as technology exponentially grew from things like floppy disks which my house was full of back in the day.” She credits this as part of the reason she was more comfortable with technology in school.

Subtheme II: Technology for educational use instead of personal use. When reflecting on their experiences with technology, some of the participants claim the technology usage outside of the classroom was primarily for educational purposes. Instead of spending personal time looking at social media or watching random YouTube videos, they would use their technology to benefit their educational journey. Marisol said “It was important to have access to technology outside of school so that I was able to complete my required assignments such as completing PowerPoints, essays, watching lectures, and reviewing information.” For the times she was not using technology for educational purposes, she would use her cell phone to communicate with others and stay informed with what was happening in the world. Elena stated “I did have a computer at home so doing online work was not often a problem, but most work done on computers was given time to be completed during class time. I did not use technology for things outside of school, except my phone but even then, I was not a big texter.” Luis states

“I feel like technology became more important to me as I got to Junior and Senior year of high school. Especially with the course that I had to take. I would have to use technology more outside as homework was becoming more of an online thing.” Juliana also referenced how she used technology during her personal time, for primarily educational purposes.

But definitely having access to technology in my house like my own PC was really great because even if it was like 10:00 p.m. And I finally finished my homework. But now I was curious about what is the next year going to look like or what is College even about? What do people say when they say act or Sat? What are those terms? I was able to just do research on my own time even though sometimes it would stress me out.

Subtheme III: External influences on technology usage. Although parents were the primary influence on participants’ personal use of technology, there were some external influences in regards to personal technology usage. Some of the participants shared how the Hispanic advocacy organization they were involved in definitely influenced their technology usage. Juliana stated

For me because of my time in [the Hispanic advocacy organization] in high school as a member and a leader in the club, I had to know how to use it for club activities. And then that bled over as like literacy in that thing into my assignments so that I could complete them.

Juan shared some of the same views in regards to this external influence. He stated “It definitely help me while I was in high school. I believe I was more comfortable facing any obstacle because I was involved in [the Hispanic advocacy organization].” Luis and Claudia both recognized how important it was to be involved with this organization.

Not only was the Hispanic advocacy organization influential on the participants' personal use of technology, their friends and other family members played a role, as well. Alejandra expressed of her classmates helped her get more comfortable with technology.

But at my school they would put us in groups and since we all kind of struggled with technology everybody just kind of showed up at one person's house and they're like okay well we're all doing it under your account since we're still trying to figure out oh hey look I can edit it from my end or I can edit it from my end.

Elena shared her experiences with friends and technology.

All my friends had these cell phones had these like social media and I was getting introduced and kind of in that sense. And so that socially it became a positive thing. A lot of my classmates come from wealthy backgrounds where they had access to a lot more technology than I did. And so, they were able to learn a lot more. And so, a lot of times I'll go up to them if I can't understand anything.

When it comes to friends influencing personal use of technology, Juan states how his friends were often trying to play mobile games with him or connect with him on social media. He admitted how this would often serve as a distraction, but he is thankful his parents kept him focus and limited his personal usage of technology.

Theme III: Benefits of Educational Technology

Educational technology has been implemented across all levels of education. Sometimes it seems technology is implemented more out of obligation, due to it being an expectation, rather than out of it being rooted in effective instructional practices. When looking at how effective educational technology is, it is beneficial to look at the benefits students' experience. The third major theme for this study is the benefits the participants experienced with technology while in

high school. Participants experiences benefits, such as positive and effective educational technology implementation that improved the classroom setting. Additionally, participants believe that their high school experiences with educational technology helped prepare them for their post-secondary life. Finally, the use of educational technology, helped participants develop a greater student self-efficacy.

Subtheme I: Positive Classroom Experiences. Many participants believe that using educational technology helped improve the classroom experience. Their experiences were impacted by how the teacher implemented educational technology. One such benefit is how technology enhanced the educational experience for participants. Alejandra, Claudia, Elena, Juliana, Luis, and Marisol explained how technology allowed them to accomplish tasks faster, made it easier to access information, and helped them become better planners. Alejandra enjoyed how efficient technology made some things.

The types of activities that incorporated educational technology made a difference among participants. Elena believes the usage of animations helped her learn the content. “It wasn't until animations came that helped math also because specifically for me. I'm a visual learner so I understand a lot better.” Luis enjoyed the visuals, as well as virtual reality experiences. Claudia thinks educational technology tools, such as Quizlet and Kahoot, helped her review for tests. Juliana enjoyed Kahoots, as well. Additionally, she thought learning to code was a beneficial experience. Elena referenced how review activities, such as Kahoot, helped her.

There were different benefits mentioned by participants. Claudia stated “I have seen teachers incorporate technology in their teaching plans, which keeps students engaged.” Marisol stated “Being able to access school information electronically whenever I needed allowed for a better education.” Luis stated

The usage of technology in the school can help many students be successful in the classroom. You open up opportunities for students as they have access to resources.

Using technology also helped me stay aware of current issues and how I can impact my community.

Juan explained how educational technology helped him enjoy school more. He believes it helped improve student engagement. Juliana's perspective provides a nice overview of some of the additional benefits with educational technology.

In an educational setting in the classroom, it was important for teachers to have technology to conduct class the way they wanted. From having their own laptop to manage emails to having a projector in their classroom to present content to students, the quality of my education can definitely be attributed to the accessibility of technology throughout my high school career

Subtheme II: Preparation for the future. An additional benefit to using technology was how participants believed it helped prepare them for their futures. Luis mentioned "So it definitely feels like technology has had a huge impact in me graduating especially like I said before the last two years of my high school experience." Claudia believes that not only did her experience help her graduate and prepare for college, it stills benefits her in her college coursework. Marisol wrote "Without technology, I wouldn't have been able to succeed as much as I did in college. Without it, I wouldn't have been able to complete the assignment and learn material adequately." Juliana shared a benefit to her. "It was very beneficial because I was able to be resourceful when it comes to looking up information online and I practiced my typing and computational skills to become very proficient with a computer."

Subtheme III: Self-efficacy improvement. While in high school, many students go through physical and mental changes. One change that occurred among some of the participants is how accessing and using technology improved their self-efficacy. Luis believes technology helped.

I have like older siblings but they didn't go through the process of going to College and going to University so I had to do that on my own. And I still kind of do that on my own. Just because I am a person that likes to do my research likes to gather all the information that I can for myself.

Juliana said “It was really helpful because I felt like empowered because of the information I had access to. I learned a lot and there's always room for improvement.” Elena spoke about having to learn technology on her own. Although it was a struggle for her at times, she still appreciates how technology made her experience beneficial. Juan states “Technology caused me to see where I needed to improve for classes. I loved being able to see my updated grades. I think it helped me.” Claudia states “Going through the whole technology thing that was so hard for me. I was in high school and it was going from paper to computers. And I was like wait what's going on? So, I feel like that transition did kind of help.”

Theme IV: Obstacles Faced with Educational Technology

As mentioned previously, participants realized they were in school during a time of major educational technology integration. As with many new endeavors, obstacles are present. The obstacles with educational technology is the fourth major theme of this study. Participants felt that they and their teachers were not adequately supported by the school, in terms to educational technology integration. When technology was not effectively implemented, it created a negative

classroom experience. Participants claimed there were mental barriers when it came to using technology. Finally, participants experienced external obstacles.

Subtheme I: Lack of institutional support with educational technology. The participants faced many obstacles in regards to educational technology. There were two primary ways in which the participants felt like the educational system struggled in regards to educational technology. The first area was teacher implementation, including school-based support. Many participants referenced the frustration their teachers had with educational technology. Luis stated “The teachers struggled. I feel so bad for them now that I'm going into the field because you still see that now.” Claudia added this statement “I have seen teachers completely against technology.” This frustration even led to teachers not want to implement technology. Alejandra said “Most of my professors they kind of just stopped trying.” Elena, Juliana, and Juan all echoed similar observations.

Another common experience in regards to lack of institutional support, was the lack of technology instruction offered to the participants. Luis stated “The next struggle is the lack of knowledge on using technology appropriately.” Marisol said “So with technology. I know that we pretty much had struggles.” Claudia added this. “My high school experience was difficult being honest. I was in high school when the transition from paper assignments and exams went to everything on computer. Everyone had to figure it out for themselves.”

One specific example, relating to lack of technology instruction was student email usage. Six out of the seven participants made specific references to email. Luis said “We have emails at my high school, and I didn't know how to use that. I would use it for everything instead of just school-related material.” When Claudia spoke about email, she said “I have that. And it's like wow would have been so helpful back in high school because you have a place where you have

all your emails for school in particular. Like you won't have any other random.” Elena’s reference to email was “And I definitely didn't see a push for the student email until we were applying for schools. At which I didn't even know what my password was half the time.”

In addition to emails, participants felt a lack of technology instruction was offered for applications and software, like Google Drive, learning management systems, and Microsoft office. Juliana stated

We would do school assignments in class and we had to fall back onto the G suite tools like Google Drive. It was frustrating that people may not always be on the same page.

Like the expectation was do this and submit it. But there was not an understanding that some people had different exposure to Google Drive and they could use it a certain way versus others.

Marisol said “The main struggle in high school was learning to use new softwares without any assistance.” Claudia remembered times when she “would spend hours trying to insert images into my PowerPoint.” Luis mentioned “I didn't really know what I was doing with the technology that I was given.” When it came to Elena’s experience with this struggle, she wrote

The school did not push us to use the resources offered at the school until our senior year when we were applying for colleges. We would have been more technologically savvy and comfortable had we started sooner, given that the school had the technology.

The participants also faced obstacles relating to hardware and device issues. Claudia shared her struggles with the number of devices students had access to while in school. In addition, she mentioned how the Wi-fi capabilities at her school were sporadic and unreliable. Elena said technology at her school was glitchy and would often lead to students being unproductive due to being unable to complete assignments. Juliana said “The main negative

experiences have stemmed from poor equipment such as bad keyboards or human error when working and using technology for presentations, lectures, etc.” Luis attend a high school where devices had to be shared with classmates.

A negative experience would be the lack of opportunity we had to use these technological devices. I was in high school when chrome books/iPads were shared amongst classes.

Technology in high school was still at a minimum use. Those chrome books were only any special project.

Alejandra stated “Our school actually didn't give us our own computers. They had a computer cart that could go like every classroom. And then so teachers would like rent it out for the class.” When it came to those devices, she shared how many of the devices were not operational, which only further limited access. In addition to hardware issues, she spoke on how unreliable the Wi-fi at her school was. Juan said his biggest challenge in regards to this type of issue was the unreliable Wi-fi.

Subtheme II: Mental barriers with educational technology. The participants not only faced obstacles from the lack of institutional support, they experienced mental barriers and external obstacles. Claudia mentioned how technology allowed her to become unmotivated with her school work.

And with technology once technology started to hit it was more like oh it's there. I don't have to look at it. I can look at it at home. And it was like oh the next day oh I forgot to look at that. Yeah. I mean I can look at it next week. It's still there.

While working with technology in music class, Juliana said “I felt very out of my comfort zone and behind compared to my peers.” When speaking on her high school experience, Alejandra referenced both the struggle and the impact on her academic motivations. “In high school, I

really didn't like it. We struggle so much with it. So, I don't really have to do anything in class. And it was just like a nice break and stuff.” Juliana shared one of her mental obstacles. Because of her school’s student population, she wrote “That was also super intimidating since they knew they were gonna go to med school or become IT people and developers.” Elena said she was scared of trying technology for fear she “would fail & mess up my college set up.”

Subtheme III: External obstacles. The participants not only faced obstacles at school, they experienced other types of obstacles relating to technology usage while in school. One such obstacle was the homelife and family dynamics of the participants. Many of the participants lacked access to technology at home. Elena wrote “Costs were one of the biggest factors. Once we were able to have a computer at home, I had to share it with my siblings so deadlines were stressful.” Alejandra shared she “didn't really use a lot of technology mainly because we couldn't really afford anything to have technology at our house.” While discussing her experience, Claudia said “We had one laptop and I have four siblings and I had a sister in high school and a younger brother in middle school and my oldest sister is in College.” Luis experienced a similar situation. “Growing up in a poor household, I had many obstacles and struggles in high school. The first struggle I had was a lack of technology at home.” Once his family got a laptop, he adds “The computer was not even mine; It was more for whoever needed it to have it.”

Theme V: Current and Recent Experiences with Educational Technology

The experiences people have in high school can influence a person as they get older. There is no doubt the influence technology has had on society, especially with the Covid pandemic. Seemingly overnight, technology has become more ingrained in our daily lives. The final major theme of this study focuses on the participants’ recent or current experiences, as it relates to technology.

Subtheme I: Current technology usage. Participants shared about their current experiences with technology and its impact on their lives. In regards to everyday life, Marisol explains how technology has changed some aspects, such as how prevalent using mobile pay has become. One benefit to this is making lines in stores run more efficiently. Juliana acknowledges how common technology has become. “Technology is everywhere and ultimately unavoidable at this point. Technology is about creation and making things easier, efficient, and accessible.” Luis said that technology is rapidly advancing. Juan wrote “Technology has almost taken over every aspect from life. I can even now order a car and have it delivered without ever leaving my bedroom.”

In addition to everyday life changing, education and technology looks different than it did while the participants were in high school. With Luis’ experiences during student teaching, he has noticed how much more technology is involved in education. Claudia views this change in education as a positive experience.

And now in college it's like I'm a big fan of technology because my professor gets on Collaborate Ultra and she's sitting there recording and post the presentation after. So, if I miss a slide, I go back and rewatch and I'm like oh I got my notes.

Marisol reflected on how students can now have class, even when they cannot attend in person.

Before, when there was a snowstorm or a situation where students weren’t able to attend school we would have to stay home and have the day off and do nothing. But now that we have become technologically advanced, we can now continue to attend school through the use of Zoom and google classrooms.

Elena explained “College was a completely different experience. Now I cannot function as a student without engaging multiple technologies.” Alejandra expressed how it can be challenging

when colleges or universities use different types of technology and learning management systems. When a student enrolls in different institutions, they can struggle to adapt to changes. Juan said, based on his high school experience, he wanted to pursue an online degree. He is thankful to have that opportunity now.

Subtheme II: Reflections on how educational technology should be utilized. Based on their experiences they shared, many of the participants had advice on what needs to change regarding educational technology or how it can be more effectively implemented. Juliana shared her thoughts on education, as a whole.

Nowadays students know more and have had more of their life dominated by technology than teachers have had theirs. Students may have innovative ideas on how to apply technology to the lesson or curriculum and it would be more beneficial for a student's education in the long run to have some form of input and power over how they learn the material.

Alejandra added her own advice on why technology should not be forced on teachers. "I would say it's okay if you don't know how to use the technology. Technology is nice but it does not prioritize the lecture." She also added that teachers should understand the technology before using it in the classroom. Elena expressed something similar. "Being aware that technology compliments some of the courses but not all of them." Marisol also agreed with teachers needing to understand the technology they use. "In addition, teachers being knowledgeable of the softwares that students are required to learn would allow for students to confidently ask inquiries to their teacher without being worried." Juan stated "Sometimes teachers try to use technology just to not have to do any teaching. This doesn't work for me. I think teachers should use technology to help students, not to be lazy." Claudia also believes it is important to understand

they most effective ways to utilize technology so that students benefit. Luis adds “If I had the chance to tell high school teachers some advice on technology, it would be to have patience. Technology is changing rapidly, and patience would make the process smoother for them.”

Subtheme III: Interactions with others needing technology help. Another way in which technology impacts participants’ lives is their interactions with assisting others with technology. One common experience with participants is assisting their parents with technology. Alejandra shares how her mom will call her wanting help with the computer or smartphone. Even though Juliana’s dad works in the technology field, he still needs assistance with his things like connecting a Bluetooth speaker. She writes “It’s so ironic...my dad is a pro at computers and PCs but when it comes to phones and newer touch screen type computers, he is sooo bad at it.” Claudia shares how her parents have needed her help working their TV, as well as remembering passwords. Juan said he feels like one of his parents reaches out every week needing some type of technology help.

Parents are not the only ones who want technology help from the participants. Luis’ student-teaching mentor teacher asked him for assistance with her smart watch. Here is how Luis described the interaction after being told the issue. “I’m just like we’re in the middle of class. You want me to help you pair Apple Watch to your phone? But it took me like ten minutes and she was praising me. She’s like you’re like my tech person? I’m like I don’t know much.” Elena and Juliana explained how they have been contacted by extended family needing help with technology. Elena shared an experience where one time she helped her uncle and he told a friend of his to reach out to her for help with his phone. Based on these types of experiences, Juliana offers this perspective. “Now they keep coming back to us for additional tech help - we don’t mind but yes, user access & issues is a big need in the Hispanic community.”

Subtheme IV: Pandemic experience. There is no doubt that the Covid pandemic impacted society. This includes how technology was affected. Although nothing was specifically asked about the impact of Covid, participants provided insight into what this experience meant for them. Luis explains how he believes education has been influenced because of the pandemic. "Technology has taken over education because of the pandemic. So, it's like they had to learn how to use this technology now because of what we're going through. And now they're like striving hopefully." Claudia shared how her mom views the impact of Covid on educational technology.

My mom's like Why don't you just go to class and get your notes? I'm like this is my class. What do you mean? And she's kind of like I'm paying for you to go to college but you're on your computer watching your professor. I'm like that's what the Pandemic does.

That kind of whole. But she was kind of like that's not right. You should be in person.

Marisol said how she feels like classes are mostly moving to a Zoom environment. Juan believes because he enjoyed taking classes online, he did not feel as stressed out about the impact of Covid. Elena expressed how her high school experience with technology helped prepare her for the Covid pandemic, but understands this was not the case for others, especially those without much previous educational technology experience.

I definitely think that the transition was easier. Though when Covid hit and everything became online, I didn't struggle as much as my older classmates because undergrad you have people of all different ages. And so, the older classmates definitely did not transition as smoothly as maybe the professor of the school would have liked. But definitely it made an easier transition for me.

Juliana shared her thoughts on this experience. “The only tricky part was when the pandemic hit in my last year at college how everything was always online and virtual, like Zoom University or whatever.” She continues by adding “That part was really exhausting because it was connected to the screen 24/7. It felt like. So that was a shift that it was not by choice anymore.”

Research Question Responses

The purpose of this transcendental, phenomenological study was to describe Hispanic high school graduates’ experiences with technology. By using the qualitative approach, I was able to organize the participants’ data into common themes and analyzed how they related to the central and guiding research questions. The central question and four guiding questions were explored by utilizing three forms of participant data, which included electronic questionnaires, focus group transcripts, and journal prompts. The following sections will answer the central research question and the four guiding questions. The research question and guiding questions that directed this study were as follows:

CQ: How do Hispanic high school graduates, near Atlanta, GA, perceive and describe their experiences with technology?

GQ1: How do Hispanic learners perceive and describe their experiences with technology in their high school classrooms?

GQ2: How do Hispanic learners perceive and describe their experiences with technology outside of the educational setting?

GQ3: What are the perceived benefits of technology usage among Hispanic high school graduates, as related to education, while in high school?

GQ4: What are the perceived obstacles of technology usage among Hispanic high school graduates, as related to education, while in high school?

Central Research Question

How do Hispanic high school graduates, near Atlanta, GA, perceive and describe their experiences with technology?

Throughout this study, the participants' responses demonstrated some similar perceptions and experiences, as it relates to high school and technology. These similarities were present throughout all forms of data, which led to major themes being discovered that answers the central research question. Four of the major themes, previously described, answer the central research question. Participants shared similar experiences when it comes to technology in their lives.

First, the participants shared the experiences with technology in an educational setting. Their shared experiences included the impact a teacher had on implementing technology in the classroom. Additionally, there were common experiences with how education was changing for them due to the impact of the implementation of educational technology. Throughout the experience, participants had to manage adapting their learning styles and preferences with the integration of technology.

The similarities among participants were not limited to their high school education. Their personal lives reflected commonalities. In general, participants' parents influenced their technology usage, which often was an idea of where technology usage was to be limited. These led to participants developing a habit of using technology, during personal time, primarily for educational purposes. Furthermore, participants faced various external influences that served as both positive and negative experiences with technology.

Participants shared some common benefits with their technology experiences. There were positive classroom experiences that made their education more enjoyable and meaningful. The

participants perceived their experience helped prepare them for their future. There was also an improvement of student self-efficacy among some of the participants.

On the other hand, there were obstacles faced by the participants. All of the participants expressed how there was a lack of institutional support relating for teacher implementation of educational technology, as well as a lack basic effective technology instruction and application for participants. Moreover, there were mental barriers present among the participants. External influences, such as family dynamics and limited access to personal technology, impacted their experiences.

Guiding Question 1

How do Hispanic learners perceive and describe their experiences with technology in their high school classrooms?

Several of the major themes answer this guiding question. The first major theme, educational experiences with technology, provide insight into the various components relating to how participants experience technology in high school. This ranged anywhere from the classes that were best suited for technology to both positive and negative technological activities. Additionally, education was changing, with technology taking front and center, during their high school experience. Which also coincided with participants adapting their learning styles with the influx of educational technology. Some of their personal experiences impacted the educational environment. This was primarily influenced by a more restrictive type of parental view in regards to the expected usage of technology.

With educational technology usage, the third and fourth themes offers additional insight. With experiences that include engaging activities and relevant uses of technology, benefits were experienced. On the other hand, lack of access and basic technology instruction, partnered with

mental barriers, like being unmotivating or uncomfortable around technology, led to obstacles with educational technology. Finally, participants' advice to teachers shows how the fifth major theme answers this guiding question.

Guiding Question 2

How do Hispanic learners perceive and describe their experiences with technology outside of the educational setting?

There are multiple themes that answers this guiding question. The second major theme of personal experiences with technology focused on this aspect. Being heavily influenced by a parental perspective, impacted the personal experience with technology. This influence led to participants primarily using technology during personal time for educational purposes. Participation in the Hispanic advocacy group, along with positive external influences were also evident. Additionally, current and recent experiences with technology were influenced by personal experiences. There has been a realization of how technology currently impacts various aspects of everyday life. In a similar way, there seems to be a general impression among others, that these personal experiences develop a sense of technologically savviness or expertise that cause others to seek out tech support from those who experienced it.

Guiding Question 3

What are the perceived benefits of technology usage among Hispanic high school graduates, as related to education, while in high school?

The third major theme is devoted to the perceived benefits with educational technology. The benefits were experienced in a variety of ways. Some of these experiences included using tools like virtual reality and using various types of programs and websites that enhances the learning experience. How technology prepared for future experiences is another benefit shared

among the participants, which included helping participants graduate and continue on to post-secondary education, which all of the participants have experienced. The development of higher student self-efficacy was also present in this theme. These benefits are still present today, especially with the impact the Covid pandemic had on education and technology.

Guiding Question 4

What are the perceived obstacles of technology usage among Hispanic high school graduates, as related to education, while in high school?

The fourth theme, perceived obstacles with technology, is the major theme that answered this guiding question. One major aspect to this theme was the lack of institutional support which impacted teacher performance with educational technology. Furthermore, a lack of basic technology training, which taught students how to effectively use tools and software was another obstacle present among the participants' experiences. Limited access to technology, both at school and at home, added additional obstacles.

Both the personal and educational experiences, found within the first two themes, played a role in creating obstacles faced by participants. Components from the recent and current experiences theme have been influenced by these obstacles. These experiences allowed for the development of advice on how to effectively utilize educational technology. As well as, these obstacles helped prepare participants to effectively interact with others needing technology assistance. Table 3 provides an overview of how the themes address the central research question and the guiding questions.

Table 3*Themes and Research Questions Overview*

Theme	Research Question(s)	Summary
Educational Experiences with Technology	<ul style="list-style-type: none"> • Central Question • Guiding Question 1 • Guiding Question 3 • Guiding Question 4 	The educational experiences with technology provided insight into the participants' past and current experiences, along with the benefits and obstacles associated with technology usage.
Personal Experiences with Technology	<ul style="list-style-type: none"> • Central Question • Guiding Question 1 • Guiding Question 2 • Guiding Question 3 • Guiding Question 4 	The personal experiences with technology provided insight into the participants' past and current experiences, along with the benefits and obstacles associated with technology usage.
Benefits of Educational Technology	<ul style="list-style-type: none"> • Central Question • Guiding Question 1 • Guiding Question 3 	The benefits of educational technology provided insight into the participants' experiences, along with the benefits associated with technology usage.
Obstacles with Educational Technology	<ul style="list-style-type: none"> • Central Question • Guiding Question 1 • Guiding Question 4 	The obstacles with educational technology provided insight into the participants' experiences, along with the obstacles associated with technology usage.
Current and Recent	<ul style="list-style-type: none"> • Guiding Question 1 • Guiding Question 2 • Guiding Question 3 	The current and recent experiences with technology provided insight into the participants' personal and educational

Experiences with
Technology

experiences, along with the benefits and
associated with technology usage.

Summary

This chapter started with an overview, along with a detailed description the participants involved in this study. Afterwards, the chapter included a results section that detailed how the 5 major themes were developed. Three forms of data were collected from seven participants. The data was coded, developed into themes, and analyzed on how these themes answered the central research question, along with the four guiding questions of this study. The voices of the participants were used to create thick, rich, and detailed descriptions. The five themes identified during the data analysis process were as follows: a) educational experiences with technology, b) personal experiences with technology, c) benefits from using educational technology, d) obstacles with using educational technology, and e) current and recent experiences with technology. During the theme descriptions, quotes from the participants were incorporated throughout, in order to spotlight their voices. By using their voices, it further describe the essences of the phenomena. After providing a description of the five major themes and how they were developed, this chapter presented clear and concise answers to the central research question, along with the four guiding questions. The five major themes guide the next chapter, which include a summary of the findings, implications, and recommendations for future research.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this transcendental, phenomenological study was to describe Hispanic high school graduates' experiences with technology in a southeastern suburban area near Atlanta, Georgia. This chapter is organized into 5 different sections. First, the interpretation of the findings of this study is present. This is followed by a discussion of the implications for policy and practice, as well as the theoretical and methodological implications. Afterwards, this chapter will describe the delimitations and limitations of the study. Finally, there is a section that offers future research recommendations, followed by a chapter summary.

Discussion

Interpretation of Findings

This study explored the experiences with technology among Hispanic high school graduates. Seven participants contributed to the data of this study. The participants shared their personal and education experiences with technology, not only as it related to high school, but their current and recent experiences, as well. Themes were developed and analyzed using the data collected from participants. Based on the data analysis, five themes were identified, which were (1) educational experiences with technology (2) personal experiences with technology (3) benefits of educational technology (4) obstacles with educational technology, and (5) current or recent experiences with technology. Additionally, the participants' shared experiences offered subthemes to each of the five themes.

Summary of Thematic Findings

There were five themes identified from data analysis. These themes offer insight into the various ways in which technology influences Hispanic high school graduates. Both the personal

and educational experiences, coupled with the benefits and obstacles with technology, provide a comprehensive view into participants' lives.

Educational Experience. When it comes to the Hispanic experience in American education, there has been a history of barriers and struggles, including socioeconomic, ethnic, and social issues (Gratton & Merchant, 2015; Gutiérrez, J. A., 2010; Powers, 2014). One of the biggest struggles facing the Hispanic community is economic hardships, which places a burden on the educational system, as well as the unemployment rate (Altschul, 2012; Gordon, 2017; Toldson & Lemmons, 2013). The participants in this study referenced economic struggles in their personal lives, as well as some occasions in their educational experience.

When exploring how Hispanics and technology in education relate, educational technology is not always used with Hispanics in the same manner it is with other demographics (Darling-Hammond et al., 2014; Zielezinski & Darling-Hammond, 2016).

The majority of the participants' technology experience happened in school. With educational technology being the primary form of exposure to technology, consideration needs to be given to the positive and negative experiences offered from the participants. Throughout this theme, participants share their experiences with the classes they felt were best suited for technology. Based on the data, the situation in which technology was used did impact the learning of the participant. The more effective environments included engaging and meaningful activities that utilized technology. When technology was implemented effectively, it helped participants become more successful. Meaningful technology experiences helped prepare them for graduation and college.

Personal Experience. Technology plays a role in the lives of Hispanics. As similar percentage of Hispanics use technology for personal reasons, as with other demographics, with

similar age ranges (Bun Lee, 2014; Perrin, 2015). Discrepancies exist between the number of Hispanics using technology for educational purposes, compared to peers in other demographic groups (Bun Lee, 2014). Factors that prevent Hispanics from using technology for educational purposes include limited access to reliable Internet connection or limited access to technological devices (File, 2013; Lopez et al., 2013). The findings in this study contradict previous research, whereas these participants routinely used personal technology for educational purposes. They were more likely to use technology at home for educational purposes, as opposed to personal or social reasons.

The personal technology experiences among the participants were influenced by two primary factors. At home, their parents had a more restrictive approach to technology. Additionally, there were issues with access to technology, including not having personal devices and limited internet access. Participants shared their views on how their parents influenced their technology usage, which caused the participants to use personal technology primarily for educational purposes.

Participants had additional external influences that impacted their personal use of technology. Some other struggles Hispanics face in their education are negative community influences and a language barrier. Existing literature shows that Hispanics do not participate in youth organizations and are often influenced by gang presence in their communities. (Fredricks & Simpkins, 2012; National Gang Center, n.d.; Vandell et al., 2015). Combine this with the educational challenges associated with a language barrier, the struggles faced by the Hispanic community can be overwhelming. With the participants being bi-lingual, involved with a Hispanic advocacy group, and high school graduates, their experience demonstrates how addressing the barriers can overcome burdensome obstacles.

Benefits of Technology. There is existing literature which shows the relationship between technology and education. With improving technology innovation and increasing access to information, educational achievement improves (Bernard, 2017; Darling-Hammond et al., 2014; Purdue Online, 2018; Zieleszinski & Darling-Hammond, 2016). The influx of technology has led to the development of a digital native generation, where students participate in programs like STEM (Harrison et al., 2020; Prensky, 2001). These experiences improve academic achievement and prepare people for the workforce (National Center for Education Statistics, 2019).

Through the effective use of educational technology, there is greater equality in education. Technology can be used to improve the academic achievement of struggling students. Benefits to effectively using educational technology include increased student engaging, higher parent engagement, and improved academic achievement, which leads to higher graduation rates.

Technology was beneficial to the participants, both educationally and personally. Some benefits include engaging classrooms and meaningful educational experiences, and preparation for high school graduation and college. The participants acknowledge how technology improved their educational experience by making it more relevant and engaging. The participants mentioned how technology helped them graduate from high school. Participants mentioned how they realized they were in a transitional time with education and technology and they had to figure out how to balance this with their personal learning preferences. Additionally, these experiences improve the self-efficacy of the participants.

Obstacles with Technology. With the barriers previously discussed in the previous themes, obstacles are going to exist. One of the dominant obstacles present was technology integration. Participants had issues with school provided technology, including limited device

access, ineffective implementation, and lack of instruction relating to technology usage. Participants shared how it was a struggle when they were using technology, without any training, context, or relevancy. If the technology was neither meaningful nor relevant, participants were unmotivated to complete the work.

Hispanic students are uncomfortable with using social media or email for educational purposes, but were comfortable with using technology to complete schoolwork (Howard et al., 2015). Although the participants discussed not being comfortable with using email, it was mainly due to a lack of educational training. There was no indication among the participants that this experience was related to their ethnicity.

Unfortunately, Hispanics are less likely to participate in STEM opportunities, as compared to other demographics (Foltz et al., 2014; Museus & Liverman, 2010). The participants in this study participated in STEM activities and embraced the comfort with technology that comes with being a digital native. The participants' experiences support what Williams-Watson's (2017) study discovered about the positive connection between Hispanics and success in a STEM program.

Current or Recent Experiences with Technology. Effective technology integration can impact graduation rates (Lynch, 2014; National Dropout Prevention Center, 2018; Wong, 2011). With the onset of the Covid pandemic, it seems technology has embedded itself deeper into the human experience. With technology impacting education, career, commerce, and interactions, the participants were able to reflect on how their prior experience with technology influences their current interaction with technology. Participants explained the importance of having a solid technology foundation. It is evident how technology has helped them achieve success in the classroom and their career fields.

As a group, Hispanics have lower academic achievement when compared to any other ethnicity (Parker et al., 2016). Barriers exist which can lead to lower academic performance including cultural and familial (Capraro et al., 2010; Cruz, 2016; Wessels & Trainin, 2014). However, both parents and schools can address these barriers and create a pathway to help more Hispanics graduate high school. These participants shared how both the school and parents played a major role in their academic success and graduation, which has directed their paths to where they are today.

Their experiences have allowed them to develop an awareness of effective uses for technology. Furthermore, their experiences have positioned them to be the technology experts in the spheres of influence in their personal lives, as well as among their colleagues. Although these experiences are primarily seen to be positive in nature, there is a level of fatigue that comes with being constantly connected to technology, in conjunction with serving as tech support in multiple areas of their lives.

Implications for Policy or Practice

Hispanics are one of the fastest growing demographics the United States (US Census Bureau, 2016). Although this population segment is growing, the graduation rates among Hispanics are lower than other groups (Gramlich, 2017; Stepler & Lopez, 2016). Given the uniqueness of this study, the findings have important implications. The participants experienced many positive and negative influences with technology while in high school.

There are many factors to influence whether or not Hispanic students will graduate high school (Archambault et al., 2008; Robison et al., 2017). With the concern of this studying being the low graduation rates among Hispanics, educational policymakers, administrations, and teachers can implement several things to improve the educational experience for Hispanics.

Understanding the experiences with technology among Hispanic high school graduates can assist in the development of more effective policies, as well as influence educational practices.

Implications for Policy

Schools and school systems can play an influential role in implementing policies or strategies that promote effective uses of technology for Hispanic high school students. By focusing on the Hispanic student population, educators may be able to improve the graduation rate of one of the fastest growing demographics in the United States. When more Hispanics graduate high school and enroll in a post-secondary institution, society will benefit (Becerra, 2010). By helping more Hispanic students graduate, educational stakeholders can have a profound impact on future generations of Hispanic students.

The entire community needs to be involved in order to establish an initiative to help more Hispanics graduate high school. State and local governments need to ensure there is proper and adequate funds, especially to areas with high Hispanic student populations. Community stakeholders, including religious and civic organizations, need to provide volunteers, community technology centers, and financial support.

In regards to local school districts, they bear the largest burden on effectively addressing the Hispanic high school graduation rate. The local school board and school administrators must equip students and teachers with tools and reliable Internet access. This includes providing students with devices that can be taken home. Additionally, both teachers and students need to be trained on how to properly use these tools. All students should routinely be enrolled in a computer or technology-based curriculum. The curriculum should show students how to use productivity software, email, and a learning management system. Additionally, students need to be instructed on how to properly conduct research, as well as a digital citizenship component.

Furthermore, teachers need relevant technology training supported by an effective technical support team.

Implications for Practice

Teachers play an integral part in the effectiveness of technology integration (Ertmer & Ottenbreit-Leftwich, 2010). In order for effective technology integration to occur, research suggests teachers need to be equipped with the proper skills, intentional with their planning, and demonstrating a positive attitude (An & Reigeluth, 2011; Andrei, 2017; Ertmer & Ottenbreit-Leftwich, 2010; Prince, 2017). The findings of this study support this notion. Participants shared both positive and negative experiences relating the teachers and technology. The teachers who demonstrated the qualities referenced above created a more effective and engaging classroom that included technology usage. Teachers, desiring to effectively implement technology for Hispanic students, will need to do more than just rely on district or school-based professional learning. Teachers will need to research and implement various types of activities or tools. Some will be successful and others want. As long as teachers are adapting their practices with effective strategies, Hispanic students will benefit.

Finally, schools, teachers, and parents need to create a culture of communication and involvement in the Hispanic educational experience. The influence of parents and teachers have the greatest impact on these experiences (Clark et al., 2013; Fall, 2017; Herrell, 2011; Ramirez et al., 2014). This study's findings support what the literature shows. The parental approach to education among participants, coupled with effective teachers, benefited the participants' educational experiences. Each participant is a high school graduate and is currently enrolled or previously attended a post-secondary institution.

Theoretical and Empirical Implications

Hispanics make up one of the fastest growing demographics in this country, while also having the lowest graduation rates among various demographics (Gramlich, 2017; Stepler & Lopez, 2016). The negative impact of not earning a high school diploma impacts all areas of life (Alliance for Excellent Education, 2011; Freudenberg & Ruglis, 2007). Discovering how technology can improve the educational experiences of Hispanics and positively contribute to graduation rates would have far reaching implications.

Theoretical Implications

Findings from this study have significant implications on the two main theoretical frameworks which guided it. The Engagement Theory developed by Kearsley and Schneiderman (1998) is based on the concept that learning occurs when learning activities are engaging and meaningful. This theory is unique in that it views the benefits through perspective of technology's influence on the educational process. By incorporating the principles of relate, create, and donate, which work in conjunction with each other, meaningful education occurs.

This research study demonstrates the benefits of incorporating the three principles of the engagement theory. Participants reflected on the multiple interactions involved in the relate principle. These interactions seem to be more of a product of technology exposure, as opposed to being an intentional component implemented by the teacher. However, as a result of being in a transitional period with educational technology, the participants naturally developed the ability to work collaboratively and interact with the teacher. Additionally, the teacher's ability and comfort level with technology integration impacted the effectiveness of the learning environment. This supports prior research (Ertmer & Ottenbreit-Leftwich, 2010; Roessingh, 2014). Being engaged in meaningful activities allowed the participants to experience the create principle of the

engagement theory. This confirms previous research showing technology increases student engagement (Darling-Hammond et al., 2014; Zielezinski & Darling-Hammond, 2016). For the donate principle, the students' work should be authentic and directly contribute to something other than the classroom. Whereas the participants' experiences did not directly align with this principle, there was a broader connection to this component. There seems to be more of a comprehensive exposure to the donate principle. It was the collective, comprehensive experience with technology, among the participants, where the activities were inherently integrated within their environments. Although the goal of this principle was not met, as implied in Kearsley and Schneiderman's, the students' overall work, ultimately contributed outside of the classroom. All participants have some level of post-secondary education. Their career choices of the participants are service oriented in nature. By being productive members of their community, they are definitely contributing to the common good.

The second theoretical framework, which guided this study, was the situated cognition theory, developed by Brown, Collins, and Duguid (1989). This theory is based on the premise of connecting the mind of a student to the activities and environments of the educational experience. By connecting the environment where the learning occurs with the act of learning, a fundamental component of learning is achieved. Effectively integrating technology in the educational setting leads to an increase in cognition, development of important skills, and relevancy of new knowledge (Honey et al., 2003; Myers & Wilson, 2000; Pappas, 2015).

This study reveals an interesting perspective to the situated cognition theory. By this study being reflective in nature, since the participants were, in some cases, five years removed from their high school, the insight they shared present a broader view of this theory. This theory states students should be taught to make connections to real life situations and understand the

relevancy of the activity (Pappas, 2015). Although the participants' collective story did not specifically relate in that respect, there was a sense of a current understanding of how technology helped that connection.

As a side note, the cognitive apprenticeship model, a component to the situated cognition theory, was used as a supporting theoretical framework (Collins et al., 1987). This is an educational model where the classroom environment is intentionally designed around six specific characteristics. The findings of this study showed little to no relevance to this component of the situated cognition theory.

Empirical Implications

Research exists on many different areas connected to the focus of this study. There is minimal research on analyzing the Hispanic high school graduate's experience with technology. The findings of this study validated the existing research, while simultaneously adding new perspectives to the existing body of research. This study confirms the research that states technology enhances the educational experience (Darling-Hammond et al., 2014), including the importance of the teacher when integrating technology (Ertmer & Ottenbreit-Leftwich, 2010). Additionally, these findings confirm the positive influence parents have on the educational experience (Clark et al., 2013).

Prior research suggests Hispanic parents need to be involved and supported in their child's educational experience (Clark et al., 2013; Ramirez et al., 2014). These participants were raised in environments where parents took more of a passive approach to educational, often viewing it through a critical lens. There was little shared by participants with how their parents were involved in education. Often it was placed as a burden on the students' shoulders. This study's findings offer a new perspective to educational research. The manner in which parents

influenced technology seems to have contributed to participants using personal technology, primarily for educational purposes.

Existing research on the Hispanic educational experience frequently focus on negative aspects, including obstacles they face and barriers to high school graduation and post-secondary education. Although participants faced many obstacles, their shared experience demonstrates how barriers can be conquered and academic, professional, and personal success is achieved. Furthermore, most of the existing research focuses on the positive external factors which promote Hispanic high school graduation. The shared experience, told by the participants, offered possibly the most significant factor to Hispanics graduating high school. These participants offered a unique insight into the Hispanic high school technology experience. Both the successes and obstacles with educational and personal use of technology helped develop perseverance and willingness to not only graduate high school but use that experience as a catapult to accomplishing bigger things.

Delimitations and Limitations

As with all studies, delimitations and limitations are present in this one. The delimitations of this study include the ethnicity and high school graduation status of the participants. Another delimitation was the year in which they graduated from high school. Because this study looked at the experiences with technology among Hispanic high school graduates, the ethnicity and graduation status were necessary. Additionally, the graduation year was limited in order to provide a recent perspective to the experience. This being a transcendental, phenomenological study is a delimitation, in and of itself. This method of study was chosen to bring insight into the shared, lived experiences of the participants.

Several limitations exist within this study. One major limitation was the small number of participants. Originally, this study sought 10 – 12 participants. Ultimately, seven people participated. It is unknown how many people saw the initial invitation to participate in this study. With the information being sent in a newsletter to the Hispanic advocacy organization's alumni, I am not sure how many saw the information. After months of follow up communication, I could only secure seven participants. In regards to the participants, there were five females and two males. Because this does not represent accurate population percentages, another limitation exists.

Another limitation of this study is the focus group was conducted via Zoom. This limited the observation of the participants' body language and interactions that are present in a face-to-face focus group. However, there was an unexpected benefit of using video conferencing technology for the focus group. The participant chat feature offered a new and insightful way to interact in the ongoing conversation. The chat allowed participants the opportunity contribute to the conversation without having to wait and possibly forget what they wanted to say. The transcript of the chat was used during the analysis process and it contributed to many of the themes, discussions, and implications of this research study.

The reason for using Zoom to conduct the focus group is the third major limitation of this study. This data collection portion of this study occurred during the Covid pandemic. The pandemic impacted this study. In my opinion, the Covid pandemic discouraged participation in this research. At the time of initial participant contact, a vaccine had not been approved. This could have caused potential participants to be leery of sharing their experiences.

Recommendations for Future Research

The findings of this study offer insight into new areas of research. This section offers suggestions for future research. This study focused on Hispanic high school graduates, so future

research could focus on other demographic groups. By focusing research to other demographics, insight could be gained into what improves their graduation rates. Research should be conducted to include more Hispanic males. Since males and females experience high school differently, including more experiences from males may lead to helping that particular demographic group. Additionally, this study demonstrated the importance of parental influence on the high school experience. Qualitative research should be conducted using Hispanic parents as participants. This research could provide further insight into why these Hispanic parents treated technology in the manner they did.

The Covid pandemic will have far reaching implications on education. Because of Covid, educational has, is, and will continue to evolve. These participants were definitely impacted by Covid, with all of them experiencing educational challenges during this time. No doubt their reflection into their high school experience was tinted with Covid colored glasses. They seem to understand how those past experiences with technology helped them address the new set of educational challenges now present. Although there is no doubt Covid will be researched and study for the foreseeable future, it would be beneficial to conduct research on how the experiences of these participants can help others whose education has been impacted by the pandemic, or by future disruptions. The shared experiences of these participants have opened the door to many future areas of study.

Conclusion

The purpose of this transcendental phenomenological study was to explore the experiences with technology among Hispanic high school graduates. Their stories offered insight to how they experienced the phenomenon. They experienced many of the same obstacles and barriers that have prevented other Hispanics from graduating. They also provided explanations

into how they were able to overcome so many challenges. Their story, told through questionnaires, a focus group, and writing prompts provide the data needed to create a thick, rich description into their experience. These experiences, included both educational and personal ones and they were both beneficial and presented many obstacles. The participants' experience in high school still influences them today.

This research study has the potential to make positive, systemic changes for Hispanic students. By tapping into the experiences of these successful Hispanic students, we now have a better understanding of what we should and should not do. There are some major take-aways from this study that need to be considered. First, the critical role parents play in the educational experience of Hispanics should not be taken lightly. With this in mind educators and administrators need to continuously strive to build the parent-school relationship, among Hispanic families. Additionally, Hispanic students need to understand they are not defined by the obstacles and barriers that plague so many in their communities. When schools and parents strive to provide the best educational experience, there are profound implications that develop Hispanic students into productive and responsible members of society. It is not only essential to ensure Hispanic students are successful, it is a desire of the participants, themselves. Don't take my word for it. Elena made it clear at the end of the focus group. "So definitely thank you for taking the time to focus on Latinx students and education because it's hard and knowing that there's someone out there that is interested is very inspiring and I thank you."

REFERENCES

- Aguilar, J. M. P. (2013). *Latinas' access to advanced placement courses: A case study of a Catholic female single-sex high school*. [Doctoral dissertation, Loyola Marymount University]. ProQuest Dissertations & Theses Global. <https://search.proquest.com/docview/1465367868>
- Ahmad, F. Z., & Miller, T. D. (2015). *The high cost of truancy*. Center for American Progress. <https://cdn.americanprogress.org/wp-content/uploads/2015/07/29113012/Truancy-report4.pdf>
- Alison, C., Root, J. R., Browder, D. M., & Wood, L. (2017). Technology-based shared story reading for students with autism who are English-language learners. *Journal of Special Education Technology*, 32(2), 91-101. <https://doi.org/10.1177/0162643417690606>
- Alliance for Excellent Education. (2010). *Prioritizing the nation's lowest-performing high schools: The need for targeted federal policy*. <https://all4ed.org/wp-content/uploads/PrioritizingLowestPerformingSchools.pdf>
- Alliance for Excellent Education. (2011). *The high cost of high school dropouts: What the nation pays for inadequate high schools* <http://www.all4ed.org/files/TheHighCostofHighSchoolDropouts>
- Altschul, I. (2012). Linking socioeconomic status to the academic achievement of Mexican American youth through parent involvement in education. *Journal of the Society for Social Work and Research*, 3(1), 13-30. <https://doi.org/10.5243/jsswr.2012.2>
- An, Y., & Reigeluth, C. (2011). Creating technology-enhanced, learner-centered classrooms. *Journal of Digital Learning in Teacher Education*, 28(2), 54-62. <https://doi.org/10.1080/21532974.2011.10784681>

- Anderson, M., & Jiang, J. (2018). *Teens, social media & technology 2018*. Pew Research Center.
<https://search.proquest.com/docview/2063163964>
- Andrei, E. (2017). Technology in teaching English language learners: The case of three middle school teachers. *TESOL Journal*, 8(2), 409-431. <https://doi.org/10.1002/tesj.280>
- Archambault, I., Janosz, M., Fallu, J., & Pagani, L. S. (2008). Student engagement and its relationship with early high school dropout. *Journal of Adolescence*. 32(3), 651-670.
<https://doi.org/10.1016/j.adolescence.2008.06.007>
- Atwel, M. N., Balfanz, R., Bridgelan, J., & Ingram, E. (2020). *Building a grad nation: Progress and challenge in raising high school graduation rates, annual update 2020*. Civic Enterprises. <https://statistical.proquest.com/statisticalinsight/result/pqpresultpage.previewtitle?docType=PQSI&titleUri=/content/2020/R3847-4.xml>
- Balfanz, R., Bridgeland, J. M., Bruce, M., & Fox, J. H. (2013). *Building a grad nation: Progress and challenge in ending the high school dropout epidemic*. Civic Enterprises.
<https://files.eric.ed.gov/fulltext/ED542115.pdf>
- Bauman, K. (2017). *School enrollment of the Hispanic population: Two decades of growth*. United States Census Bureau. https://www.census.gov/newsroom/blogs/random-samplings/2017/08/school_enrollmentof.html
- Beal, H. K. O., & Rudolph, A. M. (2015). Preparing teachers to meet the needs of Latino and ell students: A case study of a federal grant. *Planning & Changing*, 46(1-2), 42.
<http://eric.ed.gov/ERICWebPortal/detail?accno=EJ1145446>
- Becerra, D. (2010). Differences in perceptions of barriers to college enrollment and the completion of a degree among Latinos in the United States. *Journal of Hispanic Higher Education*, 9(2), 187-201. <https://doi.org/10.1177/1538192709359051>

- Beck, D., Maranto, R., & Tuchman, S. (2017). A place for us? Latino parent and student satisfaction in a cyber school. *Educational Research Quarterly*, 41(1), 63.
<http://eric.ed.gov/ERICWebPortal/detail?accno=EJ1166644>
- Bernard, Z. (2017). *Here's how technology is shaping the future of education*. Business Insider
<https://www.businessinsider.com/how-technology-is-shaping-the-future-of-education-2017-12>
- Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32-42. <https://doi.org/10.3102/0013189X018001032>
- Bureau of Labor Statistics. (2016). *The economics daily, unemployment rates for Hispanics or Latinos by state in 2015*. US Department of Labor. <https://www-bls-gov.ezproxy.liberty.edu/opub/ted/2016/unemployment-rates-for-hispanics-or-latinos-by-state-in-2015.htm>.
- Cabus, S., Haelermans, C., & Franken, S. (2017). SMART in mathematics? Exploring the effects of in-class-level differentiation using SMARTboard on math proficiency. *British Journal of Educational Technology*, 48(1), 145-161. <https://doi.org/10.1111/bjet.12350>
- Capers, K. J. (2019). Representation's effect on Latinx college graduation rates. *Social Science Quarterly*, 100(4), 1112-1128. <https://doi.org/10.1111/ssqu.12639>
- Capraro, M. M., Capraro, R. M., Yetkiner, Z. E., Rangel-Chavez, A. F., & Lewis, C. W. (2009). Examining Hispanic student mathematics performance on high-stakes tests: An examination of one urban school district in Colorado. *The Urban Review*, 42(3), 193-209.
<https://doi.org/10.1007/s11256-009-0127-0>

- Carmichael, C. C. (2017). *A state-by-state policy analysis of STEM education for k-12 public schools*. [Doctoral Dissertation, Seton Hall University] ProQuest Dissertation & Theses. <http://www.pqdtcn.com/thesisDetails/B9C07E13AB990BA87B927F2BFE0A269E>
- Cetin, S. C., Corlu, M. S., Capraro, M. M., & Capraro, R. M. (2015). *A longitudinal study of the relationship between mathematics and science: the case of Texas*. *International Journal of Contemporary Educational Research*, 2(1), 13-21 <http://yoksis.bilkent.edu.tr/pdf/files/11532.pdf>
- Cheatham, G. A., Jimenez-Silva, M., Wodrich, D. L., & Kasai, M. (2014). Disclosure of information about English proficiency. *Journal of Teacher Education*, 65(1), 53-62. <https://doi.org/10.1177/0022487113503687>
- Clark, M. A., Ponjuan, L., Orrock, J., Wilson, T., & Flores, G. (2013). Support and barriers for Latino male students' educational pursuits: Perceptions of counselors and administrators. *Journal of Counseling and Development*, 91(4), 458-466. <https://doi.org/10.1002/j.1556-6676.2013.00118.x>
- Clayton-Molina, C. A. (2015). *Hispanic high school dropouts: Their unheard voices*. Walden Dissertations and Doctoral Studies. <https://scholarworks.waldenu.edu/dissertations/232>
- Collins, A., Brown, J. S., & Newman, S. E. (1986). *Cognitive apprenticeship: Teaching the craft of reading, writing and mathematics*. Center for the Study of Reading. <https://apps.dtic.mil/sti/citations/ADA178530>
- Corry, M., Dardick, W., & Stella, J. (2017). An examination of dropout rates for Hispanic or Latino students enrolled in online K-12 schools. *Education and Information Technologies*, 22(5), 2001-2012. https://www.researchgate.net/publication/306104485_An_examination_of_dropout_rates_for_Hispanic_or_Latino_students_enrolled_in_online_K-12_schools

- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. (4th ed.). SAGE Publications.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches*. (4th ed.). SAGE Publications.
- Creswell, J. W. (2013). *Qualitative inquiry & research design*. (3rd ed.). SAGE Publications.
- Cruz, I. M. (2016). *Parental involvement: Barriers Hispanic parents face*. [Doctoral Dissertation, Brigham Young University]. Theses and Dissertations. http://digitalcommons.brockport.edu/ehd_theses/677
- Daniel, M. C., Shin Shin, D., Harrison, C., & Aoki, E. (2014). Examining paths to digital literacies for English language learners. *Illinois Reading Council Journal*, 42(4), 35-42. <https://stars.library.ucf.edu/tapestry/vol6/iss1/2>
- Darling-Hammond, L., Zielesinski, M. B., & Goldman, S. (2014). *Using technology to support at-risk students' learning*. Stanford Center for Opportunity Policy in Education. <https://edpolicy.stanford.edu/sites/default/files/scope-pub-using-technology-report.pdf>
- DePaoli, J. L., Fox, J. H., Ingram, E. S., Maushard, M., Bridgelan, J. M., & Balfanz, R. (2015). *Building a grad nation: Progress and challenge in ending the high school dropout epidemic*. Civic Enterprises. <https://files.eric.ed.gov/fulltext/ED556759.pdf>
- Education Commission of the States. (2014). *How is an "English language learner" defined policy? 50-State Comparison*. <http://ecs.force.com/mbdata/mbquestNB2?rep=ELL1402>
- Edwards, A. (2019). *Hispanic poverty rate hit an all-time low in 2017*. United States Census Bureau. <https://www.census.gov/library/stories/2019/02/hispanic-poverty-rate-hit-an-all-time-low-in-2017.html>

- Elliott-Ghaleb, R. (2017). *Factors that influence the retention of urban, Hispanic high school male graduates: A phenomenological study*. [Doctoral Dissertation, Liberty University]. ProQuest Dissertations & Theses. <https://digitalcommons.liberty.edu/doctoral/1357>
- Erbas, A. K., Ince, M., & Kaya, S. (2015). Learning mathematics with interactive whiteboards and computer-based graphing utility. *Educational Technology & Society*, 18(2), 299-312. <https://www.jstor.org/stable/jeductechsoci.18.2.299>
- Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education*, 42(3), 255-284. <https://doi.org/10.1080/15391523.2010.10782551>
- Fall, M. M. (2017). *Eighth-grade English language learner (ELL) students' perceptions of teacher expectations in relation to classroom motivation*. [Doctoral Dissertation, Capella University]. ProQuest Dissertations & Theses. <http://www.pqdtcn.com/thesis/Details/52886DF2ED37CC5C28D285AD7ECB2A3E>
- File, T. (2013). *Computer and internet use in the United States*. United States Census Bureau. <https://www.census.gov/prod/2013pubs/p20-569.pdf>
- Flynn, D. T. (2016). STEM field persistence: The impact of engagement on post secondary STEM persistence for underrepresented minority students. *Journal of Educational Issues*, 2(1), 185. <https://doi.org/10.5296/jei.v2i1.9245>
- Foltz, L. G., Gannon, S., & Kirschmann, S. L. (2014). Factors that contribute to the persistence of minority students in STEM fields. *Planning for Higher Education*, 42(4), 46. <https://search.proquest.com/docview/1622638943>
- Fredricks, J. A., & Simpkins, S. D. (2012). Promoting positive youth development through organized after-school activities: Taking a closer look at participation of ethnic minority

- youth. *Child Development Perspectives*, 6(3), 280-287. <https://doi.org/10.1111/j.1750-8606.2011.00206.x>
- Freudenberg, N., & Ruglis, J. (2007). Reframing school dropout as a public health issue. *Preventing Chronic Disease*, 4(4), A107. <https://www.ncbi.nlm.nih.gov/pubmed/17875251>
- Fuller, B., Lizarraga, J. R., & Gray, J. H. (2015). *Digital media and Latino families: New channels for learning, parenting, and organizing*. Joan Ganz Cooney Center. <https://joanganzcooneycenter.org/publication/digital-media-and-latino-families-new-channels-for-learning-parenting-and-organizing/>
- Gordon, M. S. (2017). Community disadvantage and academic achievement among Hispanic adolescents: The role of familism. *Journal of Child and Family Studies*, 26(12), 3303-3311. <https://doi.org/10.1007/s10826-017-0845-y>
- Gottfried, M. A. (2011). The detrimental effects of missing school: Evidence from urban siblings. *American Journal of Education*, 117(2), 147-182. <https://doi.org/10.1086/657886>
- Gramlich, J. (2017). *Hispanic dropout rate hits new low, college enrollment at new high*. Pew Research Center. <http://www.pewresearch.org/fact-tank/2017/09/29/hispanic-dropout-rate-hits-new-low-college-enrollment-at-new-high/>
- Gratton, B., & Merchant, E. K. (2015). An immigrant's tale: The Mexican American southwest 1850 to 1950. *Social Science History*, 39(4), 521-550. <https://doi.org/10.1017/ssh.2015.70>
- Great Schools Partnership. (2014). *Access. Glossary of education reform*. <https://www.edglossary.org/access/>
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? *Field Methods*, 18(1), 59-82. <https://doi.org/10.1177/1525822X05279903>

- Gutiérrez, J. A. (2010). The Chicano movement: Paths to power. *Social Studies*, 102(1), 25-32.
<https://doi.org/10.1080/00377996.2011.533043>
- Han, S., Capraro, R. M., & Capraro, M. M. (2016). How science, technology, engineering, and mathematics project based learning affects high-need students in the U.S. *Learning and Individual Differences*, 51, 157-166. <https://doi.org/10.1016/j.lindif.2016.08.045>
- Harper, S. R., & Williams, C. D. (2014). *Succeeding in the city: A report from the New York City black and Latino male high school achievement study*. University of Pennsylvania, Center for the Study of Race and Equity in Education. <https://www.opensocietyfoundations.org/uploads/656e16cf-726a-4228-b05e-31bb296caa4b/succeeding-city-20130930.pdf>
- Harrison, J., Chapleau, A., Schell, M., Vaughan, V., & Colzin, C. (2020). Leveraging technology in field education for digital natives: Using goal attainment scaling. *Social Work Education*, 39(1), 60-70. <https://doi.org/10.1080/02615479.2019.1642318>
- Herrell, P. O. (2011). *Parental involvement: Parent perceptions and teacher perceptions*. [Doctoral Dissertation, East Tennessee State University]. ProQuest Dissertations & Theses. <https://search.proquest.com/docview/875798055>
- Hockly, N. (2016). Special educational needs and technology in language learning. *ELT Journal*, 70(3), 332-338. <https://doi.org/10.1093/elt/ccw033>
- Honey, M., Mandinach, E., & McMillan, K. C. (2003). *A retrospective on twenty years of education technology policy*. U.S. Department of Education, Office of Educational Technology. <https://www2.ed.gov/rschstat/eval/tech/20years.pdf>
- Howard, K. E., Curwen, M. S., Howard, N. R., & Colón-Muñiz, A. (2015). Attitudes toward using social networking sites in educational settings with underperforming Latino youth. *Urban Education*. 50(8), 989-1018. <https://doi.org/10.1177/0042085914537000>

- Hsu, P. (2016). Examining current beliefs, practices and barriers about technology integration: A case study. *TechTrends*, 60(1), 30-40. <https://doi.org/10.1007/s11528-015-0014-3>
- Hur, J. W., & Suh, S. (2012). Making learning active with interactive whiteboards, podcasts, and digital storytelling in ELL classrooms. *Computers in the Schools*, 29(4), 320-338. <https://doi.org/10.1080/07380569.2012.734275>
- Irizarry, J., & Donaldson, M. L. (2012). Teach for América: The Latinization of U.S. schools and the critical shortage of Latina/o teachers. *American Educational Research Journal*, 49(1), 155-194. <https://doi.org/10.3102/0002831211434764>
- Jenlink, P. M., & Austin, S. F. (2013). Situated cognition theory. In G. B. In B. J. Irby, R. Lara-Alecio, & S. Jackson (Eds.), *The Handbook of Educational Theories* (pp. 185-195). Information Age Publishing.
- Johnson, J., & Galy, E. (2013). The use of e-learning tools for improving Hispanic students' academic performance. *Journal of Online Learning and Teaching*, 9(3), 328. <https://search.proquest.com/docview/1499024513>
- Jung, E. (2014). Examining differences in kindergarteners' mathematics learning: A closer look at instruction, socioeconomic status, and race. *The Journal of Educational Research*. 107(6), 429-439. <https://doi.org/10.1080/00220671.2013.833074>
- Kalil, A., Oreopoulos, P., Gallegos, S., & Mayer, S. (2015). *Using behavioral insights to increase parental engagement: The parents and children together (PACT) intervention*. National Bureau of Economic Research. <http://www.nber.org/papers/w21602>
- Kearsley, G., & Shneiderman, B. (1998). Engagement theory: A framework for technology-based teaching and learning. *Educational Technology*, 38(5), 20-23. <https://www.jstor.org/stable/44428478>

- Kolodner, M. (2017). *Latino college students are falling behind whites and blacks, new research shows*. The Hechinger Report. <https://hechingerreport.org/latino-students-are-falling-behind-their-peers-in-college-new-research-shows/>
- Kraft, M. A., & Dougherty, S. M. (2013). The effect of teacher-family communication on student Engagement: evidence from a randomized field experiment. *Journal of Research on Educational Effectiveness*, 6(3), 199-222. <https://doi.org/10.1080/19345747.2012.743636>
- Kraft, M. A., & Rogers, T. (2015). The underutilized potential of teacher-to-parent communication: Evidence from a field experiment. *Economics of Education Review*, 47, 49-63. <https://doi.org/10.1016/j.econedurev.2015.04.001>
- Krogstad, J. M. (2016). *5 facts about Latinos and education*. Pew Research Center. <http://www.pewresearch.org/fact-tank/2016/07/28/5-facts-about-latinos-and-education/>
- Learning Theories. (2018). *Situated cognition*. <https://www.learning-theories.com/situated-cognition-brown-collins-duguid.html>
- Lee, A. (2015). An investigation of the linkage between technology-based activities and STEM major selection in 4-year postsecondary institutions in the United States: multilevel structural equation modelling. *Educational Research and Evaluation*, 21(5-6), 439-465. <https://doi.org/10.1080/13803611.2015.1093949>
- Lee, E. B. (2014). Facebook use and texting among African American and Hispanic teenagers: An implication for academic performance. *Journal of Black Studies*, 45(2), 83-101. <https://doi.org/10.1177/0021934713519819>
- Lee, J., & Barron, B. (2015). *Aprendiendo en casa: Media as a resource for learning among Hispanic-Latino families*. The Joan Ganz Cooney Center at Sesame Workshop. <https://ed.stanford.edu/sites/default/files/aprendiendoencasa.pdf>

- Leidy, M. S., Guerra, N. G., & Toro, R. I. (2012). Positive Parenting, Family Cohesion, and Child Social Competence Among Immigrant Latino Families. *Journal of Latina/O Psychology, 1*(S), 3-13. <https://doi.org/10.1037/2168-1678.1.S.3>
- Lenhart, A. (2015). *Teens, social media & technology overview 2015*. Pew Research Center. <https://www.pewresearch.org/internet/2015/04/09/teens-social-media-technology-2015/>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage Publications.
- Lopez, M., Gonzalez-Barrera, A., & Patten, E. (2013). *Closing the digital divide: Latinos and technology adoption*. Pew Research Center. <https://www.pewresearch.org/hispanic/2013/03/07/closing-the-digital-divide-latinos-and-technology-adoption/>
- Lopez, O. S. (2010). The digital learning classroom: Improving English language learners' academic success in mathematics and reading using interactive whiteboard technology. *Computers and Education, 54*(4), 901-915. <https://doi.org/10.1016/j.compedu.2009.09.019>
- Lu, A. (2013). *Who is an 'English-language learner*. The Pew Charitable Trusts. <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2013/10/22/who-is-an-englishlanguage-learner>
- Lynch, M. (2014). *Technology and graduation rate: A direct correlation*. Education Week. http://blogs.edweek.org/edweek/education_futures/2014/03/technology_and_graduation_rate_a_direct_correlation.html
- Lynch, M. (2015). *Mainstream technology gives lift to assistive learning*. The Edvocate. <https://www.theedadvocate.org/mainstream-technology-gives-lift-to-assistive-learning/>
- Martinez, M. A. (2013). (Re)considering the role "familismo" plays in Latina/o high school students' college choices. *The High School Journal, 97*(1), 21-40. <https://doi.org/10.1353/hsj.2013.0019>

- McFarland, J., Hussar, B., de Brey, C., Snyder, T., Wang, X., Wilkinson-Flicker, S., & Hinz, S. (2017). *The condition of education 2017*. National Center for Educational Statistics. <https://files.eric.ed.gov/fulltext/ED574257.pdf>
- McQueen, S. (2017). *A Case Study Investigating Teacher Perceptions of Obstacles Faced by Eighth-Grade Latino Males*. [Doctoral Dissertation, Liberty University]. ProQuest Dissertations and Theses. <https://digitalcommons.liberty.edu/doctoral/1602>
- Moustakas, C. E. (1994). *Phenomenological research methods*. SAGE Publications. <https://doi.org/10.4135/9781412995658>
- Museum, S. D., & Liverman, D. (2010). High-performing institutions and their implications for studying underrepresented minority students in STEM. *New Directions for Institutional Research*, (148), 17-27. <https://doi.org/10.1002/ir.358>
- Mussa-Gillette, L., de Brey, C., McFarland, J., Hussar, W., Sonnenberg, W., & Wilkinson-Flicker, S. (2017). *Status and trends in the education of racial and ethnic groups 2017*. U.S. Department of Education. <https://nces.ed.gov/pubs2017/2017051.pdf>
- Myers, K. M., & Wilson, B. G. (2000). *Theoretical foundations of learning environments*. Routledge.
- National Center for Education Statistics. (2018). *Student access to digital learning resources outside of the classroom;2018*. U.S. Department of Education. <https://statistical.proquest.com/statisticalinsight/result/pqpresultpage.previewtitle?docType=PQSI&titleUri=/content/2018/4828-131.xml>
- National Center for Education Statistics. (2019). *The condition of education 2019: English language learners in public schools*. U.S. Department of Education. <https://nces.ed.gov/programs/coe/indicator/cgf>

National Dropout Prevention Center. (2018). *Educational technology*.

<http://dropoutprevention.org/effective-strategies/educational-technology/>

National Gang Center. (n.d.). *National youth gang survey analysis–Demographics*.

<http://www.nationalgangcenter.gov/Survey-Analysis>

National Science Foundation. (2018). *Science and Engineering Indicators 2018*. (). Alexandria,

VA: <https://www.nsf.gov/statistics/2018/nsb20181/report>

Nieto, S. (2004). *Affirming diversity* (4th ed.). Allyn and Bacon.

Noonan, R. (2017). *STEM Jobs: 2017 Update : Economics and Statistics Administration Issue Briefs;2017 ASI 2006-8.8;ESA Issue Brief No. 02-17*. U.S. Department of Commerce.

<https://www.commerce.gov/sites/default/files/migrated/reports/stem-jobs-2017-update.pdf>

Pappas, C. (2015). *Instructional design models and theories: The situated cognition theory and the cognitive apprenticeship model*. eLearning Industry. <https://elearningindustry.com/>

[situated-cognition-theory-and-cognitive-apprenticeship-model](https://elearningindustry.com/situated-cognition-theory-and-cognitive-apprenticeship-model)

Parker, M. A., Segovia, E., & Tap, B. (2016). Examining literature on Hispanic student achievement in the southeastern United States and North Carolina. *Journal of Hispanic Higher Education*, 15(1), 55-68. <https://doi.org/10.1177/1538192715585996>

Patton, M. Q. (2002). *Qualitative research and evaluation methods*. (3rd ed.) SAGE Publishing.

Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). SAGE Publishing.

Perrin, A. (2015). *Social networking usage: 2005-2015*. Pew Research Center.

<https://www.pewresearch.org/internet/2015/10/08/social-networking-usage-2005-2015/>

Pew Research Center. (2017). *Among top Latino states in 2015, Georgia has fastest-growing population*. http://www.pewresearch.org/fact-tank/2017/09/18/how-the-u-s-hispanic-population-is-changing/ft_17-09-14_hispanicstates/

- Pew Research Center. (2018). *Blacks and Hispanics underrepresented across most STEM job clusters*. http://www.pewresearch.org/fact-tank/2018/01/09/7-facts-about-the-stem-workforce/ft_18-01-08_stemworkers_7/
- Plata-Potter, S. I., & de Guzman, M. R. T. (2012). Mexican immigrant families crossing the education border: A phenomenological study. *Journal of Latinos and Education, 11*(2), 94-106. <https://doi.org/10.1080/15348431.2012.659563>
- Powers, J. M. (2014). On separate paths: The Mexican American and African American legal campaigns against school segregation. *American Journal of Education, 121*(1), 29-55. <https://doi.org/10.1086/678124>
- Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon, 9*(5), 1-6. <https://doi.org/10.1108/10748120110424816>
- President's Council of Advisors on Science and Technology. (2012). *Report to the president, engage to excel*. Executive Office of the President. https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/pcast-engage-to-excel-final_2-25-12.pdf
- Prince, J. (2017). English language learners in a digital classroom. *The CATESOL Journal, 29*(1), 51. <https://search.proquest.com/docview/2113782733>
- Purdue Online. (2018). *How has technology changed education?* <https://online.purdue.edu/ldt/learning-design-technology/resources/how-has-technology-changed-education>
- Ramirez, L., Machida, S. K., Kline, L., & Huang, L. (2014). Low-income Hispanic and Latino high school students' perceptions of parent and peer academic support. *Contemporary School Psychology, 18*(4), 214-221. <https://doi.org/10.1007/s40688-014-0037-3>
- Robison, S., Jagers, J., Rhodes, J., Blackmon, B. J., & Church, W. (2017). Correlates of educational success: Predictors of school dropout and graduation for urban students in the

- Deep South. *Children and Youth Services Review*, 73, 37-46. <https://doi.org/10.1016/j.childyouth.2016.11.031>
- Rodriguez, E., Rhodes, K., & Aguirre, G. (2015). Intervention for high school Latino students in preparing for college. *Journal of Hispanic Higher Education*, 14(3), 207-222. <https://doi.org/10.1177/1538192714551369>
- Roessingh, H. (2014). Teachers' roles in designing meaningful tasks for mediating language learning through the use of ICT: A reflection on authentic learning for young ELLs. *Canadian Journal of Learning and Technology*, 40(1), 1. <https://doi.org/10.21432/T2PP4M>
- Roland, J. (2015). *How special education technology improves learning*. International Society for Technology in Education. <https://www.iste.org/explore/Innovator-solutions/How-special-education-technology-improves-learning>
- Root, J. R., Stevenson, B. S., Davis, L. L., Geddes-Hall, J., & Test, D. W. (2016). Establishing computer-assisted instruction to teach academics to students with autism as an evidence-based practice. *Journal of Autism and Developmental Disorders*, 47(2), 275-284. <https://doi.org/10.1007/s10803-016-2947-6>
- Sanchez, C. (2016). *Tougher times for Latino students? History says they've never had it easy*. NPR Ed. <https://www.npr.org/sections/ed/2016/11/15/502011688/tougher-times-for-latino-students-history-says-theyve-never-had-it-easy>
- Sarkar, N., Ford, W., & Manzo, C. (2017). Engaging digital natives through social learning. *Journal of Systemics, Cybernetics and Informatics*, 15(2), 1-4. <https://doaj.org/article/e1cc664d5ea6416d8bad688ed9729d5a>
- Schwandt, T. A. (2007). *SAGE Dictionary of Qualitative Inquiry* (3rd ed.). SAGE Publications. <https://doi.org/10.4135/9781412986281>

- Scott, A., Klein, F. K., & Onovakpuri, U. (2017). *Tech leavers study: A first-of-its-kind analysis of why people voluntarily left jobs in tech*. Kapur Center. <https://www.kaporcenter.org/wp-content/uploads/2017/08/TechLeavers2017.pdf>
- Smallwood, A. M. K., & Brunner, B. R. (2017). Engaged learning through online collaborative public relations projects across universities. *Journalism & Mass Communication Educator*, 72(4), 442-460. <https://doi.org/10.1177/1077695816686440>
- Stahl, J. (2015). Digital technology: Supporting the language and literacy development of ELLs. *Mount Royal Undergraduate Education Review*, 1(3) <https://doi.org/10.29173/mruer313>
- Stephens, R. (2017). *Hispanic Students' Perceptions of Success: A Phenomenological Study on the Impact on K-12 Academic Achievement*. [Doctoral Dissertation, Liberty University]. ProQuest Dissertations & Theses. <https://digitalcommons.liberty.edu/doctoral/1384>
- Stepler, R., & Lopez, M. H. (2016). *US Latino population growth and dispersion has slowed since the onset of the great recession*. Pew Research Center <http://www.pewhispanic.org/2016/09/08/latino-population-growth-and-dispersion-has-slowed-since-the-onset-of-the-great-recession/>
- Tavitian, M. C. M. (2013). *Latino dropouts' perceptions of their school experiences in southern California*. [Doctoral Dissertation, Azusa Pacific University]. ProQuest Dissertations & Theses. <http://www.pqdtcn.com/thesisDetails/66004C45182DCF7F2AB15937127B8999>
- The Atlanta Regional Commission. (2017). *Population & employment forecasts*. <https://atlantaregional.org/atlanta-region/population-employment-forecasts/>
- Toldson, I. A., & Lemmons, B. P. (2013). Social demographics, the school environment, and parenting practices associated with parents' participation in schools and academic success

- among black, Hispanic, and white Students. *Journal of Human Behavior in the Social Environment*, 23(2), 237-255. <https://doi.org/10.1080/10911359.2013.747407>
- Toossi, M. (2012). Labor force projections to 2020: a more slowly growing workforce. *Monthly Labor Review*, 135(1), 43-64. <https://www.jstor.org/stable/monthlylaborrev.2012.01.043>
- Townsend, D., Filippini, A., Collins, P., & Biancarosa, G. (2012). Evidence for the importance of academic word knowledge for the academic achievement of diverse middle school students. *The Elementary School Journal*, 112(3), 497-518. <https://doi.org/10.1086/663301>
- Tsiplakides, I., & Keramida, A. (2010). The relationship between teacher expectations and student achievement in the teaching of English as a foreign language. *English Language Teaching (Toronto)*, 3(2), 22. <https://doi.org/10.5539/elt.v3n2p22>
- Tynes, B. M., Del Toro, J., & Lozada, F. T. (2015). An unwelcomed digital visitor in the classroom: The longitudinal impact of online racial discrimination on academic motivation. *School Psychology Review*, 44(4), 407-424. <https://doi.org/10.17105/SPR-15-0095.1>
- US Bureau of Labor Statistics. (2013). *Labor force characteristics by race and ethnicity, 2013*. https://www.bls.gov/opub/reports/race-and-ethnicity/archive/race_ethnicity_2013.pdf
- US Bureau of Labor Statistics. (2017). *Occupational employment statistics*. https://www.bls.gov/oes/current/overview_2017.htm
- US Census Bureau. (2016). *2016 American community survey 1-year estimates*. <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>
- US Census Bureau. (2017a). *2017 American community survey 1-year estimates*. <https://www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes/2017/1-year.html>

- US Census Bureau. (2017b). *Quick facts*. <https://www.census.gov/quickfacts/fact/table/US/PST045221>
- US Courts. (n.d.). *Background - Mendez v. Westminster re-enactment*.
<https://www.uscourts.gov/educational-resources/educational-activities/background-mendez-v-westminster-re-enactment>
- US Department of Education. (2019). *Science, technology, engineering, and math*.
<https://www.ed.gov/stem>
- US Department of Education. (2013). *The biennial report to congress on the implementation of the title iii state formula grant program: School years 2008-10*. <https://ncela.ed.gov/files/uploads/3/BiennialReportToCongress.pdf>
- US Department of Education. (2015). *Public elementary/ secondary school universe survey*.
<https://nces.ed.gov/ccd/pubschuniv.asp>
- US Department of Education. (2016). *State nonfiscal survey of public elementary and secondary education*. <https://nces.ed.gov/ccd/stnfis.asp>
- US Department of Education. (2017). *2017 mathematics assessments*. <https://nces.ed.gov/nationsreportcard/mathematics/>
- US Department of Education. (n.d.). *Use of technology in teaching and learning*.
<https://www.ed.gov/oii-news/use-technology-teaching-and-learning>
- US Equal Employment Opportunity Commission. (2016). *Diversity in high tech*.
<https://www.eeoc.gov/special-report/diversity-high-tech>
- Vandell, D. L., Larson, R. W., Mahoney, J. L., & Watts, T. W. (2015). Children's organized activities. *Handbook of Child Psychology: Vol. 4. Ecological settings and processes* (7th ed., pp. 305-344). Wiley.

- Wessels, S., & Trainin, G. (2014). Bringing Literacy Home: Latino Families Supporting Children's Literacy Learning. *Young Children*, 69(3), 40. <https://search.proquest.com/docview/1621405389>
- White House Initiative on Educational Excellence for Hispanics. (n.d.a). *Hispanics and STEM education*. U.S. Department of Education. <https://www2.ed.gov/about/inits/list/hispanic-initiative/stem-factsheet.pdf>
- White House Initiative on Educational Excellence for Hispanics. (n.d.b). *STEM education*. U.S. Department of Education. <https://sites.ed.gov/hispanic-initiative/stem-education/>
- Williams-Watson, S. (2017). *Persistence among minority STEM majors: A phenomenological study*. [Doctoral Dissertation, University of Phoenix]. ProQuest Dissertations & Theses. <http://www.pqdtcn.com/thesisDetails/B9C07E13AB990BA82A32621100DABA72>
- Wong, W. (2011). *How SUSD uses technology to boost graduation rates: Project graduation gives students netbooks, increases completion by 50%*. EdTech. <https://edtechmagazine.com/k12/article/2011/01/how-susd-uses-technology-boost-graduation-rates>
- Zaff, J. F., Donlan, A., Gunning, A., Anderson, S. E., McDermott, E., & Sedaca, M. (2017). Factors that promote high school graduation: A review of the literature. *Educational Psychology Review*, 29(3), 447-476. <https://doi.org/10.1007/s10648-016-9363-5>
- Zielezinski, M. B., & Darling-Hammond, L. (2016). *Promising practices: A literature review of technology use by underserved students*. Stanford University. <https://edpolicy.stanford.edu/sites/default/files/publications/scope-report-promising-practices-v1.pdf>

APPENDIX A: IRB APPROVAL LETTER**LIBERTY UNIVERSITY**
INSTITUTIONAL REVIEW BOARD

October 2, 2020

Robert Donaldson
Russell Yocum

Re: IRB Approval - IRB-FY19-20-241 EXPERIENCES WITH TECHNOLOGY AMONG
HISPANIC HIGH SCHOOL GRADUATES: A PHENOMENOLOGICAL STUDY

Dear Robert Donaldson, Russell Yocum:

We are pleased to inform you that your study has been approved by the Liberty University Institutional Review Board (IRB). This approval is extended to you for one year from the date of the IRB meeting at which the protocol was approved: October 2, 2020. If data collection proceeds past one year, or if you make modifications in the methodology as it pertains to human subjects, you must submit an appropriate update submission to the IRB. These submissions can be completed through your Cayuse IRB account.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your stamped consent form can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. This form should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document should be made available without alteration.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office

APPENDIX B: RESEARCH SIT PERMISSION LETTER

September 9, 2020

Mr. Robert Donaldson
Doctoral Student
Liberty University
1971 University Blvd
Lynchburg, VA 24515

Dear Mr. Robert Donaldson:

After careful review of your research proposal entitled Experiences with Technology among Hispanic High School Graduates: A Phenomenological Study, we agree to send out the initial survey to our alumni members and invite them to participate in your study.

Check the following boxes, as applicable:

The requested data WILL BE STRIPPED of all identifying information before it is provided to the researcher.

The requested data WILL NOT BE STRIPPED of identifying information before it is provided to the researcher.

We are requesting a copy of the results upon study completion and/or publication.

Sincerely,
Omitted for anonymity purposes

APPENDIX C: PARTICIPANT SURVEY

Below are the questions use to identify participants for this study.

- 1) Name
- 2) Email Address
- 3) Phone Number
- 4) Gender
- 5) Ethnicity
- 6) Age
- 7) Language(s) you speak
- 8) Language(s) you can read
- 9) High school attended
- 10) Year you graduated high school
- 11) Do you attend college? If so, where?
- 12) How would you describe your high school experience?

APPENDIX D: INFORMED CONSENT LETTER

Title of the Project: Experiences with Technology among Hispanic High School Graduates: A Phenomenological Study

Principal Investigator: Robert Donaldson, Doctoral student, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. In order to participate, you must be a Hispanic high school graduate, who has graduated within the last two years. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

What is the study about and why is it being done?

The purpose of the study is to describe the lived experiences of Hispanic high school graduates with technology, while in high school. Your experiences with technology, both in the classroom and for personal reasons, will be explored.

What will happen if you take part in this study?

If you agree to be in this study, I would ask you to do the following things:

1. Respond to an electronic questionnaire. This will ask you 12 questions, mainly relating to your use of technology, while in high school. It should take around 30 minutes to complete.
2. Participate in a focus group with the other participants. Participants will be asked follow-up questions about their experiences with technology, while in high school. The focus group will be recorded and will take approximately an hour.
3. Respond to a written prompt about your successes and obstacles with technology while in high school. This will be completed after the focus group and should take approximately 30 minutes to complete.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study. Benefits to society include providing educators with a better understanding of how to effectively use technology in the class.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

Injury or Illness: Liberty University will not provide medical treatment or financial compensation if you are injured or become ill as a result of participating in this research project. This does not waive any of your legal rights nor release any claim you might have based on negligence.]

How will personal information be protected?

The records of this study will be kept private. Published reports will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

- All participants will be assigned a pseudonym (fake name).
- The focus group will take place in a location where the conversation cannot be easily overheard, or virtually in the privacy of each participant's location of their choice.
- Any data will be stored on a password protected computer.
- Any recording will be deleted once they have been transcribed and printed.
- Transcriptions, with no-identifying personal information, may be retained for future research or publication, relating to this study.
- The researched cannot guarantee that other members of the focus group will not share what was discussed to other people not involved with this study.

How will you be compensated for being part of the study?

Participants be compensated for participating in this study. All participants selected to participate in this study will be eligible to receive a \$25 gift card. Email addresses will be requested for compensation purposes; however, they will be pulled and separated from your responses to maintain your anonymity.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you, apart from focus group data, will be destroyed immediately and will not be included in this study. Focus group data will not be destroyed, but your contributions to the focus group will not be included in the study if you choose to withdraw.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Mr. Robert Donaldson. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at

[REDACTED]

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged**

[REDACTED]

Your Consent

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

The researcher has my permission to audio-record/video-record/photograph me as part of my participation in this study.

Use the link below to complete the Informed Consent Acknowledgement Form



Printed Subject Name

Signature & Date

APPENDIX E: QUESTIONNAIRE

Below are the questions for the questionnaire sent to participants:

- 1) Name
- 2) What would you like to tell me about yourself?
- 3) How would you describe your experiences with educational technology while in high school?
- 4) How would you describe your experiences with technology, outside of the educational environment, while in high school?
- 5) How beneficial was educational technology for you during high school? Explain
- 6) Explain how you used technology outside of the classroom to help you in high school.
- 7) Describe the most positive experiences you had with technology while in high school.
- 8) Describe the negative experiences you had with technology while in high school.
- 9) What classroom activities involving technology did you enjoy most while in high school?
- 10) What classroom activities involving technology did you enjoy least while in high school?
- 11) Explain the importance of technology, outside of the classroom, was for you during high school.
- 12) Explain the importance of technology, in an educational setting, was for you in high school.

APPENDIX F: FOCUS GROUP QUESTIONS

Below are the questions used for the focus group.

1. What would you like to tell me about yourself?
2. What information would you like to provide me, in regards to technology usage while in high school, that you thought of after completing the questionnaire?
3. If you could go back and go high school again, what would you do the same? What would you do differently?
4. Explain how technology helped you graduate high school.
5. Please describe your parents' views on technology.
6. Please describe your view on technology.
7. Please describe your high school teachers' views on technology.
8. What has changed about your views on technology in education, since graduating from high school?
9. What additional information you would like to provide about your experiences with technology in high school?