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Access, Technology, and Parental Involvement: A Case Study on a West Los Angeles Charter School

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Access, Technology, and Parental Involvement:

A Case Study on a West Los Angeles Charter School

by

Tanisha M. Barnett

A dissertation presented to the Faculty of the School of Education,

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In partial satisfaction of the requirement for the degree

Doctor of Education

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Access, Technology, and Parental Involvement:
A Case Study on a West Los Angeles Charter School
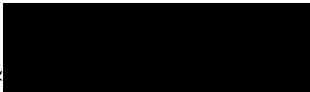
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This dissertation written by Tanisha M. Barnett, under the direction of the Dissertation Committee, is approved and accepted by all committee members, in partial fulfillment of requirements for the degree of Doctor of Education.

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Date

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ACKNOWLEDGMENTS

I wanted to take a moment to acknowledgement a few people who help make this possible and whom I would like to dedicate this dissertation too.

To whom honor is due, my Lord and personal Savior Jesus Christ who deserves all the glory and honor for all that he has done for me. Thank you, Lord for giving me the strength to endure the three years it took to pursue my doctoral degree.

Thank you to my husband, Ed, for your support in whether it was an encouraging word, arranging your schedule every Monday, so I could attend class. Thank you, Mom, for taking the time to read my dissertation and provide me with glowing reviews and helpful comments. Thank you, Dad for watching Trey whenever I needed to stay at the library for countless hours.

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Thank you to my two younger brothers, who are always amazed for the things that I accomplish. To my two sons, one who I've carried around for the past 10 months, who endured the long nights in front of the computer kicking from within and who will be joining us in three short weeks, and the other who actually studied with me, because he was curious as to what studying looked like. Mommy loves you!

Thank you, to my two study buddies who made it worth wild to come to school every week to share laughs and stories about everything other than dissertation talk. We are now bonded at the hip, see you guys soon, but in a different capacity.

Thank you, Dr. Huchting for your commitment to help me finish on time. With our regularly scheduled meetings that last for about two years, I want you to know that I appreciated our conversation, your input and your genuine heart and compassion for your students to succeed.

Last, but certainly not least, thank you Dr. Weir, family and friends for periodically asking how things were going and when I would be done with the program. I appreciate your words of encouragement, and because of you all, this dissertation will affect more people than we know. We did it!

DEDICATION

I dedicated my dissertation to my Great-Grandmother (Punkin) who recently passed on Wednesday, April 13th, 2016. At 102 years young, she taught me that education is the pathway to opportunities.

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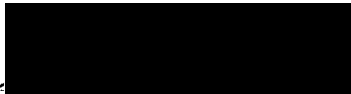Research clearly indicates that parental involvement plays an essential role in the educational process of any student regardless of grade level. However, technology is changing the way schools communicate, which affects the way parents are involved in their children's education. Research on the digital divide indicates that there are differences in access based on race and family income. In other words, lower income and minority families tend to have less access to technology, and therefore may be less able to fully participate in schools.

This issue of social justice was investigated at a small charter school located in West Los Angeles, California, where the researcher was an administrator. Over the past several years, there had been a demographic shift in enrollment. Teachers and administrators noticed a problem related to parental involvement at the school and all school communication relied on technology. The purpose of this study was to investigate the intersection of technology and parental involvement at West Los Angeles Charter (WLAC). Applying the theoretical lens of Epstein's (1988) work on parental involvement and Davis's (1989) work on technology acceptance, the administrator-researcher interviewed 16 parents, stratified by income level to guarantee that

various experiences were represented, and concluded that while all parents expressed interest in being involved in their child's education, barriers limited that involvement, particularly for the lower-income families. These barriers included issues related to language rather than issues related to access, which WLAC will be able to address to support parental involvement among all families.

CHAPTER 1

BACKGROUND OF STUDY

Parental involvement in schools has a positive impact on a child's educational achievement. When parents are involved, good things happen; attendance increases and students have higher achievement (Sheldon & Epstein, 2004). Research indicates that the more intensively parents are involved in their child's education, the stronger the child's achievement scores (Cotton & Wikelund, 1989). This holds true for all types of parental involvement and for all types and ages of students (Cotton & Wikelund, 1989). Research has clearly shown that parental involvement plays an essential role in the educational process of any student, regardless of grade level (Epstein, 1995, 2008; Epstein et al., 2002; Hill, Bromell, Tyson, & Flint, 2007).

Traditionally, parental involvement in education has been defined as parents volunteering in the classroom, participating in school events, or assisting with their child's homework at home (Epstein, 2001). In the past, schools communicated with parents using a regular schedule of notices, memos, newsletters, and other communication sent to the home, and parents would anticipate receiving these forms of communication on a regular basis (Epstein, 2001). However, schools no longer use these forms of communication with parents. Electronic technology has essentially changed ways of reaching out to families, indicating that revolutionary changes in the way schools communicate with parents are underway (Lunts, 2003). Simply put: Technology is changing the way schools communicate, which affects the way parents are involved in their children's education.

"Technology is only a tool—but a very powerful tool with a variety of solutions to a variety of problems. That is its strength" (Blanchard, 1998, p. 243). Technology has the power to

improve communication between schools and parents by providing easy, efficient, and effective methods of transmitting information (Zieger, 2012). Technology not only keeps parents informed of day-to-day school events, but also serves as an efficient way for parents to volunteer for various opportunities. Technology also provides parents real time access to their child's grades online. What is less clear from the research is how schools rely on technology to communicate with parents and how that reliance might impact parental involvement.

If schools continue to rely on technology to communicate with parents, there may be social justice implications. "Technology is not going to go away, it will become, over time, more equitable" (Starkie, 2012, p. 36); it is a large piece of how schools and families communicate. Yet, the digital divide still exists within the minority and low socioeconomic status populations. These groups still do not have access to technological resources (Gorski, 2002; Hayden, 2003; Norris & Conceicao, 2004). Access to technology is likely shaping the ways in which parents can now be involved in their child's education. To date, this dynamic has not been examined via research. In other words, research has not yet looked at how the reliance on technology to communicate with parents has shaped or changed the dynamics of parental involvement.

Examining how technology has changed parental involvement via in-school participation to more current parental involvement practices via technology will assist in determining if the rise in the use of technology has had a positive or negative impact on parental involvement in school. The purpose of this dissertation is to bring awareness and understanding of the intersection between parental involvement and technology at West Los Angeles Charter (WLAC). WLAC was a small public charter school that served grades six through 12. It was

located on the west side of Los Angeles, which could be described as an urban area. As an administrator at WLAC, the researcher had first-hand knowledge of the school culture, which relied heavily on technology as the primary way to communicate with parents. As stated in the charter petition, WLAC encourages high levels of parental involvement: WLAC asks parents to volunteer 16 hours per family per year. WLAC informs parents that, should they choose WLAC for their child, they are joining a partnership that will ensure the ongoing success of their child. (To protect anonymity, the website is not provided).

Encouraging parental involvement was important at WLAC, because research indicates that parents who are actively involved in their child's education in the early years become less involved as their child advances through the middle and high school grades (Henderson & Mapp, 2002). Parental involvement with older children begins to shift, with fewer opportunities in the classroom and more opportunities outside the classroom. Other reasons for the shift in parental involvement as the child gets older include changes in the size of the school (middle and high), the increasing sophistication of the curriculum, an increase in the number of teachers a student has, and the beginning of students establishing their independence (Henderson & Mapp 2002). Middle school, unlike elementary school, is difficult to navigate for incoming sixth-grade parents and students, because middle school can sometimes be large and complex, making it difficult for parents to figure out how to be involved. Moreover, middle school students have more than one teacher, making it hard to develop personal relationships for students and parents alike. Parents may also find it challenging to know which instructor teaches which subject and how to communicate with him or her. The transition to middle school can be daunting for parents and students. Due to these reasons, WLAC told parents that parental involvement looks different in

middle school than it did in elementary school. One example was that parents are encouraged to cheer for their child from the "sidelines;" in other words, parental involvement in middle school comes more from the things parents do *outside* the classroom than inside the classroom.

WLAC provided many ways for parents to stay informed and involved. These opportunities heavily relied on the use of technology. To keep parents informed, WLAC created and relied on an information-rich school website; sent an electronic newsletter with school events every Friday; and used email to communicate with parents. Additionally, parents were advised to stay abreast of current, available school information by visiting the school website, which was updated frequently, and by accessing Powerschool, the online grading system. This online grading system provided parents 24-hour-a-day access to their child's grades, assignments, quizzes, tests, projects, total number of absences, tardies, and so forth. (Parents were provided a username and password at the start of the academic year.) Parents also had direct access to their child's teacher via email. Lastly, parents received email blasts every Friday about specific information regarding the school. One way WLAC encouraged parents to get involved is by sending them a link so they could sign up for volunteer opportunities through SignUp Genius, a website designed to make signing up for any school event easy. In short, WLAC relied heavily on the use of technology to communicate opportunities for parents to be involved in their child's education.

Despite providing ample ways for parents to get involved in WLAC, every year there was a group of parents who fell short of meeting the 16-hour optional volunteer hours. Over the years, faculty and administration noticed a link between students who were in jeopardy of being retained, having to attend summer school, or just not performing at grade level, to parents who

were not meeting this volunteer requirement. Additionally, these parents appeared to share common characteristics: they were from low-income backgrounds and Spanish speaking. Additionally, teachers shared with the administration that these groups of parents typically did not respond to emails, and that they did not have an email address on file, which put them at a significant disadvantage, considering all communication from the school was done via the Internet. Based on these observations, the researcher began to wonder if these parents lacked access to technology. To be involved at WLAC, parents needed to have access to technology and have the capacity to navigate school-related websites. Parents had to understand how to access the password-protected online grading system and use their email. Yet not all of the families enrolled at WLAC were able to meet these requirements, depending on their access to technology.

School Context

West Los Angeles Charter (WLAC) was a small independent public charter school located in West Los Angeles, California, a large metropolitan area that can be characterized by both major commercial businesses and residential neighborhoods. This area is surrounded by Culver City, Santa Monica, Brentwood/Bel Air, and Beverly Hills. To the south, Culver City is an industrial and residential area; to the west is the beach city of Santa Monica with a great deal of wealth and poverty; Brentwood/Bel Air/Westwood are to the north, where mansions and golf courses exist within gated communities; and to the east is Beverly Hills, with a history of abundance. The West Los Angeles residences are primarily single family homes and the median household income for the area is $49,682 (U.S. Census Bureau, 2010), but likely due to the surrounding neighborhoods, the property values in the West Los Angeles area have been steadily

increasing and are currently worth a great deal more than the median household income reflects (Zillow, 2016). Close to half of the population (48.5%) who live in the area identify as being from Hispanic/Latino origin (U.S. Census Bureau, 2010).

WLAC was an independent charter school, which means that it is not affiliated with any district, but the authorizer of the school is the State Board of Education. WLAC served sixth-through 12-grade students. The demographics at WLAC consisted of a student body of 825 students, 430 of which are middle school students, including 50% Caucasian, 27% Latino, 16% African American, 4% Asian, and 3% other. The free and reduced lunch population was 17%; and 10% was comprised of special education students. WLAC students reflected the residents in the surrounding neighborhood.

Traditionally, families enrolled in WLAC because of the small class sizes, academic rigor, and safe learning environment. To be enrolled in WLAC, families participated in a lottery system, which required parents to attend a mandatory open house. Once they attended the open house, parents were given access to the online application. After they submitted their online application, parents came up to the school to pick up their lottery number. If their lottery number was drawn, then their child was enrolled in WLAC. While historically, the families enrolled at WLAC had been high income; in the last four years, however, there had been a shift in demographics with more diverse families from varying socioeconomic backgrounds enrolling in the school.

At the time of this study, the researcher had been working for WLAC for 12 years. The researcher entered WLAC as a sixth-grade history teacher and during the course of this study was promoted to principal. The researcher's current responsibilities included overseeing

disciplinary matters, observing and evaluating teachers, serving as a governance board member, coordinating all testing, and participating in all Individualized Education Plan (IEP) meetings.

Statement of the Problem

Parental involvement is an essential part of a child's academic success, but what happens when being involved means not only having to have access to technology, but also having to possess the skill to access what is needed to be involved in their child's education? While early research suggested that the use of technology in schools indirectly improves communication, instruction, and student motivation, as well as conserving financial and material resources (Blanchard, 1988), most of the research on the benefits of parental involvement was conducted prior to the rise in the use of technology.

Therefore, conclusions about parental involvement mostly stem from studies on in-school parent activity. Yet, during the middle school years, parental involvement shifts away from in-school activity to consist more of support outside the classroom. Technology has ushered in a movement from providing general information to parents about school events to serving as a more individualized way of communicating about their child's academic progress. Technology may have the capacity to better address gaps in home-school communication and perhaps alter parental involvement trends. Yet, technology may also have the capacity to create an unjust dynamic in schools between parents who have access to information versus parents who face barriers in accessing information. "There is a lack of broad research on parental involvement and communication through technology. There is even less on the effects of Web-based communications on student academic success" (Garrow, 2009, p. 20). As such, there is still a gap

in our knowledge about how the use of technology has impacted the type, quality, and outcome of parental involvement in schools.

Digital Divide

The issues related to technology and parental involvement in schools are further complicated by the phenomenon of the digital divide. "The term digital divide refers to differences between those who have access to technology and those who do not have access to technology" (National Telecommunications and Information Administration [NTIA], 1995). Variations of access have been based on demographics of race, income, education, gender, age, and disability (NTIA, 1995). The digital divide was first highly publicized during the late 1990s and still is widely discussed; research shows that it is both a national and international problem. The digital divide has been said to be a complex and dynamic phenomenon (Van Dijk & Hacker, 2000). There are concerns over the digital divide especially in education, as it reflects the problem of differentiated access and use of technology among students, based on race, socioeconomic status (SES), gender, location, content literacy skills, physical abilities, and language (Attewell, 2001; Becker, 2000; Bushweller & Fatemi, 2001; Carvin, 2000; DiMaggio & Hargittai, 2001; Harrell, 1998; Natreillo, 2001; Hoffman & Novak 1998; Swain & Peason, 2003). The majority of research on the digital divide centers on differences in access and its use based on demographics of race and family income (Talley, 2012).

The research on the digital divide highlights that income, minority status, and parental education level influence the ability to access and use technology. The purpose of this study was to qualitatively examine and compare the experiences of parents from all income levels at

WLAC. WLAC was an appropriate site for this investigation because of the demographic makeup of families enrolled in the school and their varying degrees of access to technology.

As parental involvement is rapidly changing to include and rely on the use of technology in schools, there is an assumption in this practice that parents have not only the access but also the ability to navigate technology. This assumption was a problem at WLAC. Specifically, a shift in the income levels of the families enrolled at WLAC had occurred in the previous four years, which resulted in a split between parents who could access information by using technology, and parents who were unable to access information by using technology. This dichotomy was a problem because some parents were not able to participate fully in their child's educational endeavors. Parental involvement consisted of more than encouraging parents to be a part of the school community; it entailed involving parents from all different demographic backgrounds and providing opportunities for them to be actively involved.

Purpose of the Study

WLAC relied heavily on the use of technology to communicate with parents about their child's academic progress, events at schools, and ways in which the school expected parents to be involved. WLAC also required at least 16 hours of optional parent volunteer hours a year. Yet, the dynamic demographic makeup among parents at WLAC had shifted in recent years, and there was an assumption, based on feedback from teachers and the demographic shift, that the national digital divide as it related to access to technology, may also have been present at WLAC. This qualitative case study increased awareness and understanding about the intersection of technology and parental involvement at WLAC. This study specifically examined the experiences of WLAC parents and illustrated how access to technology influenced their

involvement in the school. Within the conversation about technological access, Van Dijk (1999) defined access as:

> There are four kinds of access: Lack of elementary digital experience caused by lack of interest, computer anxiety and unattractiveness of the new technology ("mental access"); No possession of computers and network connections ("material access"); Lack of digital skills caused by insufficient user-friendliness and inadequate education or social support ("skills access"); Lack of significant usage opportunities or unequal distribution of them ("usage access"). (p. 2)

 Parents from varying economic backgrounds at WLAC were interviewed about their access to technology and about their experiences with parental involvement, within the framework of Van Dijk's (1999) definition of access. The qualitative nature of this study allowed parents to speak about their experiences and issues with "skills access"—those who lack digital skills caused by insufficient user-friendliness and inadequate education or social support. Additionally, parents discussed issues of "usage access"—the school policies that contributed to unequal opportunities for parental involvement. Finally, parents discussed their "skill, usage, material and mental access," allowing for a rich description of how technology and parental involvement at WLAC intersect.

Although there is a lack of research on parental involvement and communication via the use of technology, research shows that certain demographic groups face greater barriers as they relate to technology (Garrow, 2009). Although there is a high percentage of Americans with computers and Internet access (NTIA, 1995), a well-documented digital divide exists between lower and higher socioeconomic status (SES) groups. There are also significant gaps in access to

technology for certain sociodemographic groups. Current discrepancies in access to and knowledge of the Internet lead to a pattern whereby more advantaged families utilize these technologies significantly more than less advantaged families. But less advantaged families are expected to benefit as much—if not more—when they utilize the technology (Bouffard, Simpkins, & Kreider, 2006).

Research Questions

In this case study, the researcher examined issues of access, technology, and parental involvement among parents at WLAC. The two guiding questions were:

1. How does technology influence parental involvement at WLAC and do these experiences differ for parents with and without access to technology?

2. In what ways are parents involved at WLAC and what are their perceptions about school policies and practices related to technology, in terms of facilitating or hindering that involvement?

Significance of the Study

This case study shed light on the policies and practices of WLAC that both assist and hinder parental involvement. As such, this project is significant because it will guide WLAC in constructing new policies that allow for all parents to be involved. The findings will assist the researcher, who is a school administrator at WLAC, in revising school policies, especially for parents who do not have adequate access to technology. This study provided WLAC with a deeper understanding of parental experiences and strengthened the home-school partnership, regarding technology and parental involvement. This study also evaluated how well WLAC collaborated with all parents with regard to meeting parental involvement expectations.

Practitioner Benefits

In addition to supporting more socially just policies at WLAC, other schools may benefit from learning about the findings from this study. Many schools rely on the use of technology to communicate with parents. With very little research on how technology influences parental involvement in schools, this study provides insight about this dynamic at WLAC, which could benefit other school administrators facing similar issues related to access, technology, and parental involvement at their own school sites. It is anticipated that this project could impact the work of other practitioners at similar schools.

Research Benefits

While the study benefits practitioners, it also helps reduce the gap in research on the relationship between the use of technology and parental involvement. Research on the role of technology in schools and the way schools use technology to involve their parents is still limited. After beginning to understand the intersection between the use of technology and parental involvement in schools, future research should examine how these issues influence student achievement. To date, there is no data on the changing dynamic of parental involvement due to the use of technology and the impact that may have on students. The current study attempts to initiate the conversation by first describing how technology and parental involvement were related at WLAC. Future work at WLAC will include linking parental involvement to student achievement.

Policy Makers

Finally, this study has implications for policy makers. Research consistently reports on the achievement gap between those with access to technology and those without. The student

achievement gap is associated with a number of factors, including lower levels of parental involvement. Findings indicate that high-income parents have a distinct advantage in terms of expertise; their knowledge and familiarity with technology is far greater (Desimone, 1999). Schools are able to communicate with parents in a more efficient way through the use of technology. Parents can be notified of school events, student grades, and teacher comments with the click of a button. The digital divide clearly states that the disparities of access, income, and educational level prevent those who lack access, income or education from being involved in their child's education. Policy makers need to know that parental involvement is good for students. They also need to understand that parental involvement looks different than it used to because of the use of technology. They must extend their efforts to close the digital divide to go beyond students—to include parents and families as well.

Theoretical Frameworks

Issues related to parental involvement now include the technological landscape present in schools and in homes. As such, theoretical frameworks related to both parental involvement and the use of technology were applied in this investigation. Epstein's (1988) work has illustrated that parental involvement, rooted in home-school communication, is a major factor in enhancing students' academic performance. Epstein's work on parental involvement in schools has continued since the late 1980s (Epstein & Dauber 1991; Hoover-Dempsey et al., 2001). Sharing information to promote the home-school partnership is often discussed in relation to the use of technology. On this subject, Garrow (2009) explained:

Having the ability to share more information with parents or guardians and students

(stakeholders) through a live venue should help to provide increased support for

students. With the increased communication, comes increased awareness and knowledge—providing the opportunity for stakeholders to make better decisions and realize increased achievement. The use of an online grading system for communication can have a positive impact of the achievement of students while promoting a positive home-school connection. (p. 22)

Technology not only promotes a positive home-school connection, but also delivers information instantaneously and as it evolves. As such, to understand the intersection between technology and parental involvement in this study, the researcher borrowed concepts from two overarching theories: one related to parental involvement and the other related to technology. Specifically, the researcher applied Epstein's (2008) review of the types of parental involvement and Davis's (1989) Technology Acceptance Model (TAM) as the two lenses through which parents' responses to the interview questions about their experiences were analyzed.

Parental Involvement

Epstein (2001) is one of the top researchers in the area of parental involvement, and she offers a "Framework of Six Types of Involvement" that was applied to this study in order to understand parental involvement at WLAC. Epstein (1995) labeled the six types of involvement and provided examples of activities and programs that schools can use that correspond to them (2008):

Type 1: **Parenting**. Parenting activities help families understand adolescents' development, strengthen parenting skills, and set home conditions for learning.

Type 2: **Communicating**. Two-way communication activities keep families informed about and involved in school programs and student's progress.

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Type 3: **Volunteering**. Activities that facilitate volunteerism improve the recruitment, training, and schedule of volunteer stakeholders to support student activities and school programs.

Type 4: **Learning at home**. Learning-at-home activities, designed for students and their families, are coordinated with the student's classwork and curricula.

Type 5: **Decision-making**. Decision-making activities include families' voices in developing mission statements and in designing, reviewing, and improving school policies that affect students and families.

Type 6: **Collaborating with the community**. Collaborating-with-the-community activities draw upon and coordinate the resources of business; cultural, civic, and religious organizations; senior citizen groups; colleges and universities; government agencies; other associations to strengthen school programs, family practices, and student learning and development. (pp. .11–12)

While Epstein covers six types of parental involvement, this study focused on Type 2: **Communicating**: two-way communication activities that keep families informed and involved in school programs and student progress. The notion of communication is highlighted as the framework for this study because this is where WLAC fell short; although WLAC communicated with parents on an ongoing basis, there was still a group of parents that was not involved. As such, WLAC has yet to listen to the parents to establish true two-way communication. Two-way communication with parents and the school is especially critical because school achievement is directly related to the degree of parental involvement in their child's education (National Middle School Association, 1995).

Technology Acceptance Model

Based on the Theory of Reasoned Action (Fishbein & Ajzen, 1975), Davis (1989) developed the Technology Acceptance Model (TAM) to find out what factors cause people to accept or reject an information technology. Davis suggested that *perceived usefulness* and *perceived ease of use* are the two most important individual beliefs about using information technology. Perceived usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989 p. 320). The definition of perceived usefulness is based on the expectancy-value model underlying the Theory of Reasoned Action. Perceived ease of use is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989 p. 320). These two behavioral beliefs, perceived usefulness and perceived ease of use, then lead to individual behavior intention and actual behavior. Davis found that perceived usefulness was the strongest predictor of an individual's intention to use an information technology (LI, 2010). In other words, if someone believes technology will be useful or enhance their current work, then they are more likely to be inclined to use that technology. TAM (Davis, 1989) is one of the most influential research models in studies of the determinants of information systems and information technology acceptance to predict intention to use and acceptance of information systems and information technology by individuals.

Davis's (1989) concept of the Technology Acceptance Model (TAM) is an appropriate theoretical framework to examine the data in the current study in order to understand how parental involvement and technology intersect at WLAC. The basic premise of this model is that the perceived usefulness and a person's perceived ease of using the technology will affect a

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person's attitude about the technology, their decision to use the technology, and ultimately, their use of the technology. Over time, numerous researchers have used this model to understand people's intent to use technology and their actual use of that technology. Although the model has been adapted since it was developed, the essential elements are still evident, demonstrating the enduring value of those elements (perceived ease of use, perceived usefulness, and attitudes toward using technology) in the discussion of technology use. Due to a lack of research on parents' use of technologies to communicate with their child's teachers, it is important to understand parents' experiences with technology to begin to uncover their intention to use technology and their actual use of technology. In this way, interviews with parents at WLAC were examined for issues related to perceived usefulness, perceived ease of use, and attitudes about technology.

Research Design and Method

To investigate the research questions, the researcher employed a case study research design and collected detailed information using a variety of data collection procedures over a sustained period of time (Creswell, 2014; Stake, 1995; Yin, 2009, Yin, 2012). Qualitative data derived from interviews with 16 middle school parents were collected and analyzed, and school documents and institutional data were reviewed. The researcher reviewed all communications from WLAC to parents; documentation related to policies about parental involvement and/or technology; and institutional data in the form of the parent income survey that families filled out at the start of the academic year.

This case study explored issues of technology and access as they related to parental involvement at WLAC. Semi structured interviews lasted approximately one hour, with middle

school parents of students in sixth through eighth grade. The reason for selecting middle school parents was that the research indicated that parents have traditionally tended to decrease their involvement as their children advanced in school (Epstein, 1995). As such, middle school is a critical juncture at which understanding parental involvement—or the decrease in such involvement—may be critical for school administrators.

To examine the situation at WLAC, the researcher reviewed research about the digital divide and used this knowledge to identify appropriate parents as participants. Specifically, clear evidence suggests that the digital divide affects people based on socioeconomic status (SES), income, education, and so forth. The researcher purposefully selected parents from varying socioeconomic backgrounds to interview about their experiences at WLAC. The research on the digital divide in public schools is limited (Talley, 2012), and this study sought to fill gaps in the literature by applying the concept of the digital divide to parental involvement at a public charter school in West Los Angeles. Findings will help WLAC administrators revise policies to accommodate parents who do not have access to technology and, ultimately, eliminate the barrier of the digital divide that prohibits some parents from becoming involved at WLAC.

The selection criterion for participation was a purposeful sampling of a total of 16 middle school parents: four high-income parents, four upper-middle income parents, four middle-income parents, and four low-income parents. The reason for stratifying based on income level was due to the concept of the digital divide, which indicates that income is a major factor in access to and use of technology. The administrator-researcher also included a mix of ethnicities to ensure that the sample represented the larger parent community at WLAC.

This study was conducted in a public charter school located in West Los Angeles, California, called WLAC. It examined the issues of access, technology, and parental involvement. The study examined differences in access to technology and how that related to parental involvement. The study discovered patterns of access that existed among the parent body and experiences parents had had with school involvement. The conclusions of the study will impact school policies related to technology usage for parental involvement at WLAC.

Limitations

Due to the case study approach, the results of this study may not be generalizable beyond WLAC because the context of parental involvement, technology, and the digital divide may be different at other schools. However, similar schools to WLAC can decide if findings may relate to the dynamic present in their schools. The study also only included parents of middle school students (grades six through eight), purposefully due to the research that indicates that parents traditionally tend to decrease their involvement as their children advance in school (Epstein, 1995). Still, this further limits the generalizability of the findings to only middle school parents. Another limitation of the study includes the issue of bias. The researcher is an administrator at the school site, with direct influence over the implementation of school policies and procedures. The administrator-researcher's positionality includes the reality that there is a digital divide among the parents at WLAC, which is hindering their ability to be involved. The administrator-researcher believed this issue of access was putting parents at an extreme disadvantage considering all communication is done via the Internet at WLAC. To remain as objective as possible, the administrator-researcher interviewed several parents from each income level to triangulate findings. The administrator-researcher treated all responses from participants

with integrity and impartiality. The administrator-researcher provided participants with the opportunity to review their interview transcripts. Through the process of "member checking" (Creswell, 2014, p. 201), the administrator-researcher's interpretation of meaning was reduced and participants had more opportunity to clarify their meaning. While positionality may limit findings, the benefit of serving as an administrator-researcher in this study is the opportunity to act on the findings immediately at WLAC.

Summary

Schools and parents share responsibility for student success. Schools have the responsibility to provide guidelines to parents so they know how to be involved and engaged. Additionally, if parents do not feel valued they will not participate or become involved. Emphasizing equitable technological practices and involvement opportunities with WLAC parents may encourage a more established partnership with the school. If awareness is brought to school leaders then positive change can be made to improve involvement for all parents regardless of income.

A five-chapter format is the organizational design of this study. The study is introduced in Chapter 1. A review of relevant literature to the study is presented in Chapter 2. Chapter 3 details the methodology to be used in conducting the study. Chapter 4 reports the detailed results of the data analysis, and Chapter 5 unveils the summary of findings, implications, and conclusions along with recommendations for future studies.

CHAPTER 2

REVIEW OF THE LITERATURE

The purpose of this study was to investigate access to technology as it related to parental involvement at West Los Angeles Charter (WLAC) School. As an educational leader at WLAC, the administrator-researcher noticed issues related to parental involvement and issues related to access to technology among parents. These issues have emerged in recent years, corresponding to a shift in the demographic makeup of parents and inclusion of more families from lower income areas. Yet, the policies at WLAC remained the same; parents are required to volunteer several hours each semester and WLAC relied heavily on technology to communicate with parents. The dichotomy between parents who have access and parents who do not have access to technology presents a social justice issue; as an educational leader, the administrator-researcher was committed to investigating parents' experiences to better inform WLAC's policies related to technology and parental involvement.

The following literature review will discuss the social justice implications present when administrators fail to consider their school's culture of reliance on technology to involve parents in schools. First, the historical context of access to technology and what it means will be discussed. Next, the notion of the digital divide is explored, concluding this section with a detailed look at the disparity in access particularly for lower income families. Literature illustrating how technology is crucial to the school context because of its impact on student achievement is then presented. Linking technology to schools provides a transition to discuss parental involvement, and the researcher documents the research related to how parental involvement impacts students in schools, especially highlighting the research about parental

involvement during the middle school years, is outlined. Finally, within sections of the literature review, the theoretical framework for the current study is defined, which includes both Epstein's (2008) review of parental involvement and Davis's (1998) Technology Acceptance Model.

Social Justice Implications

Unequal access to computers, the Internet, and other forms of communication technology is a concern. In the 1990s and prior, home computers were rare, expensive, and not relevant or necessary for most people. Not until the High Performance Computing Act passed on December 9, 1991, did mass Internet access in the United States became a possibility for all people. The High Performance Computing Act was set to boost the coming millennia. This bill assisted in the creation of a high-speed fiber optic network—or what was called the National Information Infrastructure (NII). The effect of this bill on Internet access was unpredictable. In the Fall of 1990, there were approximately 313,000 computers online throughout the United States; by 1996, that number increased to 10 million (Campbell-Kelly & Aspray, 1996). The High Performance Act changed the economy, communication, and society.

The core of the United States Telecommunications Policy is to meet the goal of "universal service"—the idea that all Americans should have access to communication technology. In July 1994, the National Telecommunication and Information Administration contracted with the Census Bureau to include questions about computer ownership and usage in a survey of the American people. This survey indicated that the less education one has, the lower the level of computer accessibility (NTIA, 1995). This report provided important insight about the socioeconomic implications for technology as it related to telephone and other computer devices at the time. It focused on serious gaps in the levels of technology available to different

households in the US. These gaps in access to technology have broadly been discussed as the digital divide.

The Digital Divide

The exact origin of the term *digital divide* cannot be determined (Foster & Borkowski, 2004), but it has been in use for over a decade. Educators and policy makers have frequently used this phrase when addressing issues of empowerment and democracy (Williams & Alkalimat, 2002). These discussions preceded interest in documenting the digital divide phenomenon through various identifiers, including types of Internet or computer access (both quality and quantity), and available and/or actual uses of these technologies (Angus, Snyder, & Sutherland-Smith, 2003; Attewell, 2001; Banister & Fischer, 2010; Moghaddam & Lebedeva, 2004).

The first year the digital divide became a focus of public attention was 1996. The year prior to that, the Clinton administration's National Telecommunication and Information Administration (NTIA) had issued a report calling attention to information "haves" and "have nots" (NTIA, 1995). The second NTIA report, in 1998, and its accompanying publicity helped to popularize the term, equating the digital divide with a "Disparity between various groups in the areas of computer and Internet use" (Henderson, 2000, p. 60).

As the Internet becomes a more mature and pervasive technology, the digital divide among households of different races, incomes, and education levels may narrow. This pattern is already occurring with regard to home computers. Race matters less at the highest income level, and the gap is narrowing among households of higher income and education levels. Education and income level appear to be among the leading elements driving the digital divide today.

Because these factors fluctuate along racial and ethnic lines, minorities will continue to face a greater digital divide moving into the next century (NTIA 1999).

Disparities in Access

The digital divide is not correcting itself. It is clear that minority status, low-income status, and educational level are factors associated with a lack of access to technology. These individuals are at a distinct disadvantage when it comes to accessing technology, creating a social justice issue locally and nationally.

NTIA'a initial report, *Falling Through the Net: A Survey of the "Have Not's" in Rural and Urban America* (July 1995), was the first of its kind to survey household computer modem ownership by degree of urbanization. NTIA's second report, *Falling Through the Net II: New Data on the Digital Divide* (July 1998), presented updated information regarding household telephone and computer ownership, but focused on household on-line access instead of modems. The third survey, *Falling Through The Net: Defining the Digital Divide,* further defined the digital divide, and provided new information on Internet access and usage (National Telecommunications and Information Administration, 1999). This report's primary focus was Internet access and usage as it related to technology. It set out to measure the extent of computer and Internet connection in U.S. households and individuals.

Although the report did not mention the exact phrase *digital divide*, it found that the poor in general had the lowest accessibility rates of National Information Infrastructure, while the poor who had access to the Internet in their homes were more likely to engage in online services that facilitate economic empowerment (National Telecommunications and Information, 1995). To have access to computers and to the Internet are becoming increasingly vital in the

information age. It is in the best interest of everyone to ensure that no American is left without access (NTIA, 1999). Those who do not have access will fall further and further behind in accessing information that affords opportunity.

While Americans are becoming increasingly connected, there is still insufficient access for Blacks and Hispanics; they are less connected than Whites are at home (NTIA, 1999). For example, the technology gap between Blacks and Whites continues to widen (U.S. Department of Commerce, 2000). Between 1997 and 1998, the gap between White and Black households increased by 37.7% (from a 13.5 percentage point difference to a 18.6 percentage point difference), and by 37.6% (from a 12.5 percentage point difference to a 17.2 percentage point difference) between White and Hispanic households (NTIA, 1999, p. 8). While two-thirds of White children have gone on-line, just 45% of Black children and 37% of Hispanic youth have ever done so (Mason & Dodds, 2005; NCES 2002).

White households were still more than twice as likely (40.8%) to own a computer than Black households (19.3%) or Hispanic households (19.4%) (NTIA, 1998). Internet access also increased in the area of computer ownership for all demographic groups. For example, Internet access increased 40.5% for White households, 45.4% for Black households, and 44.8% for Hispanic households. While Americans were becoming increasingly connected, there were still significant differences in access among Blacks and Hispanics, who are less connected than Whites, especially in terms of access from home (National Telecommunications and Information Administration, 1999).

Disparities in Access: Income Levels

Income has been cited as the single most important determinant of access to information technology (Dowling & San Diego Regional Technology Alliance, 2001). The findings from the 1995 NTIA study indicated that the number of Americans who owned computers had increased to over 50%. It also broke down American computer ownership by income level. Households that had earnings over $75,000 were approximately seven times more likely to own a computer than those whose household earnings were between $5,000 and $10,000.

Across the United States, however, households in the lower income bands registered increases in Internet access much faster than the national 58% gain. Households with less than a $15,000 income had a 12.7% Internet rate. Between 1997 and 1998, the income band improved 82% from 3.9 to 7.1%. At the $15,000 to $24,999 income levels, 21.3% of households had Internet access. The rate of increase between 1998 and 2000 was 93%; even before that, the rate had increased steadily from 8.1% in 1997, to 11.0% in 1998, to 21.3 in 2000. In August 2000, the rate for households with incomes between $25,000 and $34,999 stood at 34%, an increase of 78% over the 19.1% rate in 1998 (NTIA, 2000).

The impact of income on Internet access is evident even among families with the same race and family structure. Among similarly situated families (two parents, same race), a family earning more than $35,000 is two to almost six times as likely to have Internet access than a family earning less than $35,000. The most significant disparity is among Hispanic families: two-parent households earning more than $35,000 are nearly six times as likely to have Internet access than those earning less than $35,000 (NTIA, 1999).

The digital divide is a complex problem. As indicated at the beginning of the study, there is a digital divide occurring on all levels: at WLAC, locally, and nationally. The term digital divide is not new; in the early 1990s, the digital divide could be used to distinguish between the information rich and the information poor. Later came the Internet, which helped make the information gap between the "haves" and the "have-nots" more visible (NTIA,1995). For this study, the concept of the digital divide refers to unequal access to information technology by income level. The digital divide is a problem especially in education, but specifically in the area of parental involvement, causing inequalities in the ability to access and to use information communication technology. Attewell (2001) has stated that poor and minority families are less likely than other families to have access to computers or the Internet, creating a technology gap between those families who have access to technology and those families who do not have access to technology.

These disparities were also prevalent at WLAC: if parents were not given access to technology, they could not be fully involved in their child's education. However, before examining how technology can be used as a communication tool, and more specifically how technology, through improved parent/teacher communication can improve parental involvement, it is valuable to have an understanding of the factors that may facilitate or hinder people's use of technology.

Technology Acceptance Model Framework

People use technology to access various forms of information (Brenner, 2013). The use of technology allows people to access information worldwide regardless of space and time (Hussein & Nassuora, 2011). According to Davis (1989), people's use of technology is based on

their perceptions of the technology's usefulness and ease of use (effort required to use the technology). Wang, Wu, and Wang (2009) agreed with Davis with regard to ease of use, but Wang et al. also suggested that people may use technology based on their perceptions of the technology's performance and their exposure to social influence to use the technology.

With growing technology needs in the 1970s, and increasing failures of system adoption in organizations, predicting system use became an area of interest for many researchers. However, most of the studies failed to produce reliable measures that could explain system acceptance or rejection (Davis, 1989). In 1985, Davis proposed the Technology Acceptance Model (TAM) in his doctoral thesis at the MIT Sloan School of Management (Davis, 1985). Davis proposed that system use was a response that could be explained or predicted by the motivation of the user, which is directly influenced by an external stimulus consisting of the actual system's features and capabilities. Davis relied on the previous work by Fishbein and Ajzen (1975), who formulated the Theory of Reasoned Action. Davis further refined his conceptual model to propose the Technology Acceptance Model (TAM).

Davis (1985) suggested that users' motivation could be explained by three factors: perceived ease of use, perceived usefulness, and attitude toward using the system. Davis hypothesized that the attitude of a user toward any system was a major determinant of whether the user was influenced by two major beliefs: perceived usefulness and perceived ease of use, with perceived ease of use having a direct influence on perceived usefulness (Chuttur, 2009).

Davis (1985) continued to refine his model by modifying the relationships that he initially formulated. Other researchers applied the model and proposed several additions to the TAM and, over time, this model evolved into a leading theory for explaining and predicting

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system use. TAM has become so popular that it has been cited in most of the research that deals with user acceptance of technology (Lee, Kozar & Larsen, 2003).

The basic premise of TAM is that people's use of technology is directly dependent on their decision to use a particular technology (Davis, 1989). In addition, an individual's choice to use a particular technology is influenced by his or her perceived ease of use of the technology, perceived usefulness of the technology, and attitude toward using that technology (Davis, 1989).

Perceived Ease of Use

This concept refers to the degree to which a person believes that using a particular system would be free of effort. The researchers found that the perceived quality of the technology was related to perceived ease of use and that perceived ease of use affected perceived usefulness of technology.

Perceived Usefulness

Usefulness is the degree to which a person believes that using a particular system enhances job performance. As with the concept of perceived ease of use, researchers have explored the concept of perceived usefulness with various technologies and have found similar positive connections. Antón, Camarero, and Rodriquez (2013) also found a positive relationship between perceived usefulness and attitude toward using technology. Finally, Teo (2010) and Teo Ursavas, and Bahçekapili (2011) found that perceived usefulness was a significant factor of both attitude toward computer use and intention to use computers.

Attitude Toward Using Technology

Attitudes also predict the usage of technology. Researchers who have explored the concept of attitudes toward using technology have found, in general, that people have positive

attitudes toward using technology (Davis, 1989). Again, as with the concepts of perceived ease of use and perceived usefulness, researchers have explored the concept of attitudes toward using technology with various technologies and have found similar positive connections.

The justification for selecting TAM as one of the theoretical frameworks for this research study included the fact that numerous researchers had used this model to understand people's intent to use technology and their actual use of that technology. Schultz and Slevin (1975) carried out an exploratory study, and found that perceived usefulness provided a reliable prediction for self-predicted use of a decision model. Robey (1979) replicated the work of Schultz and Slevin (1975), and confirmed the high correlation that existed between perceived usefulness and system usage. The importance of perceived ease can be found in the meta-analysis of Tornatzky and Klein's (1982) study on innovation adoption. Tornatzky and Klein studied the relationship between the characteristics of innovation and adoption, and found that the complexity of an innovation was one of the three factors that had the most consistent significant relationships among a wide range of innovation types.

Bandura (1982) showed the importance of considering perceived usefulness in predicting behavior, suggesting that behaviors are predicted by self-efficacy and outcome judgments. Self-efficacy, which was similar to perceived ease of use, was defined as judgments of how well one can execute courses of action required to deal with prospective situations, whereas outcome judgment, which was similar to perceived usefulness, was defined as the extent to which a behavior, once successfully, executed is believed to be linked to valued outcomes. In other words, the perceived usefulness (self-efficacy) and perceived benefit of using technology (valued outcome) would predict the use of that technology (behavior).

Swanson's (1982) research provided evidence that perceived ease of use and perceived usefulness were both important behavioral determinants. Swanson hypothesized that potential users would select and use information reports based on a tradeoff between perceived information quality and associated cost of access.

Although the model has been adapted since it was developed, the essential elements are the same, demonstrating the enduring value of those elements (perceived ease of use, perceived usefulness, and attitudes toward using technology) in the discussion of technology use. Due to the advancements in technology, it is essential to understand if parents' use of technology is directly dependent on their decision to use technology. Due to a lack of research on parents' use of technology to communicate with their child's teachers and/or school, it is important to understand parents' intentions to use technology.

TAM has direct applicability to this study because its structural elements provide data relevant for designing school programs to promote parental use of technology to communicate with teachers and the school. Previous research has indicated that parental involvement can increase student outcomes and that technology can provide an avenue for parent/teacher communication (and thus parental involvement). However, this information has little value in and of itself, unless parents' motivation for using technology to communicate with teachers is made apparent.

Education and Technology

Research indicates that having a computer at home is associated with positive student outcomes (Fairlie, 2012. Student learning also increases when parents are involved in the process of academic achievement (Van Roekel, 2008). While studies have shown that low-income

parents value education as a route to economic and social mobility (Delgado-Gaitan, 1992; Goldenberg & Gallimore, 1995; Scott-Jones, 1995), their actual involvement often falls short of school expectations (Drummond & Stipek, 2004). Issues of access to technology, especially based on income level, complicate parental involvement in schools. Higher levels of household income correspond to an increased likelihood of owning a home computer and having access to the Internet, regardless of race. Students who come from high socioeconomic backgrounds achieve higher grades in school than students who come from lower socioeconomic backgrounds (Henderson & Berla, 1994). All told, school administrators need to examine ways in which technology is present in schools, while considering how the digital divide and issues of unequal access may be present among families.

Technology is a tool for schools to efficiently disseminate information about students. When parents receive frequent and effective communication from the school, their involvement increases (Hampton et al., 2002). The Internet has unlocked possibilities in improving communication with parents and bridging the communication gap between parents and schools, thus increasing opportunities for parental involvement. The use of technology expands opportunities for parents to communicate with their child's school and become more knowledgeable about the education their child is receiving (Lunts, 2003).

Communication in any form from a school promotes positive attitudes in parents and students, which can be an important part of a successful home and school partnership (Hill & Tyson, 2009; Patterson, Webb, & Krudwig, 2009; Thompson, 2008). Additionally, communication often contributes to improved parental involvement (Crosnoe, 2009; Shirvani,

2007). The literature confirms the important role parental involvement plays in the success of their child (Lareau, 1987).

Parental Involvement in Schools

Previous studies suggest that school policies and practices generate high levels of parental involvement. When parents are made to feel welcomed and valued within the school, they are more likely to become involved in their children's school experience (Ames, 1993; Hoover-Dempsey, 2005). When both school and parents work together to support learning, students tend to do better in school, stay in school longer, and like school more (Hampton et al., 2002).

Numerous studies have shown that regardless of how it is defined, parental involvement is important to a child's success at school (Bracey, 2001). "The closer the parent is to the education of the child, the greater the impact on child development and educational achievement" (Kasting, 1994, p. 146). Parental involvement is beneficial to education and the development of the child (Matzye, 1995). Findings from the pertinent research cited on the National Parent Teacher Association Website (National PTA, 1998) include the following:

> When parents are involved, students achieve more, regardless of socioeconomic status, ethnic/racial background, or the parents/education level. Different types of parent/family involvement produce different gains, in programs that are designed to involve parents in full partnerships, student achievement for disadvantaged children not only improves, it can reach levels that are standard for middle-class children. In addition, the children who are the farthest behind make the greatest gains, the most accurate predictor of a student's achievement on school is not income or social status, but the extent to which that

student's family is able to (1) create a home environment that encourages learning: (2) communicate high, yet reasonable, expectations for their children's achievement and future careers; and (3) become involved in their children's education at school and in the community. (Illinois State University, Center for the Study of Education Policy, 2004, pp. 41–42)

As Lareau (1989) has added: "The idea that parents can and should be involved in their children's education … has attained the level of an institutionalized standard" (p. 34). Schools have an obligation to communicate with families about their children's progress and performance. According to Lareau (1989), parental involvement in school is critical both for the families and for school performance improvement.

Parents of disadvantaged and minority children can and do make a positive contribution to their children's achievement in school if they receive adequate training and encouragement in the types of parental involvement that can make a difference (Cotton & Wikelund, 1989). When schools, families, and communities work together to support learning, children tend to do better in school, stay in school longer, and like school more (Illinois State University, Center for the Study of Education Policy, 2004). Moreover, the Illinois State University, Center for the Study of Education Policy (2004) has stated:

Student learning increases when parents are invited into the process by helping at home. Enlisting parental involvement provides educators and administrators with a valuable support system creating a team that is working for each child's success. The vast majority of parents are willing to assist their students in learning, but many times are not sure what assistance is most helpful and appropriate. Helping parents connect to their children's

learning enables parents to communicate in powerful ways that they value what their

children achieve. Whether it's working together on a computer, displaying student work

at home, or responding to a particular class assignment, parent's actions communicate to

their children that education is important. (p. 48)

An abundance of studies related to parental involvement across grade levels has

emphasized the importance of Epstein's review of parental involvement and draws increased

attention to the need for home-school partnerships rooted in communication in places where they

currently do not exist. Although much research exists in explaining the benefits, a more detailed

picture of its benefits is achieved when it is viewed at the middle school level.

Parental Involvement in Middle School

The earlier parental involvement begins in the child's educational process, the more

powerful the effects will be (Carter, 2002). Although parental involvement has been shown to

benefit students at all grade levels, the nature of the involvement is most beneficial to children

when they reach adolescence (Carter, 2002). As it relates to middle school students, parental

support is a central source of stability in their turbulent lives (Carter, 2002). Parents generally

become less involved as their child grows older, and their connection is more likely to take

different forms such as monitoring homework and assisting at home, which can result in

achievement and good behavior. Regular home-school communication about the student's

academic progress is essential. WLAC, for example, incorporated a web-based information

system that would allow parents easy access to information about their children's scholastic

performance, intending for it to operate as a factor in increasing their active involvement and

collaboration with the schools (Hampton et al., 2002). Keeping parents informed enhanced the

parent-school partnership at WLAC. It is evident that elementary school is vastly different than middle school. "It has been continually noted in both anecdotal and empirical investigation that parental involvement decreases at the middle school level. A different type of involvement is needed at this age" (Beghetto, 2001, pp. 21–22). The reasons for the decline in parental involvement at the middle school level are myriad, but WLAC had recently turned to technology to improve home-school communication efforts. Rutherford, Anderson, Billig, & RMC Research Corp. (1997) stated the following:

> A report from the U.S. Department of Education cites several reasons for the decline in involvement, as children grow older. Parents of middle schoolers often report feeling that children should do homework alone, and that the parents shouldn't try to help if they're not experts in the subject. The structure of many middle schools can also deter parents. Middle schools are larger and more impersonal than most elementary schools, and students may receive instruction from several teachers, meaning parents no longer have one contact in the school that knows their child well.

One of the universal complaints of middle school educators concerns the predictable decrease in parent involvement compared to the levels of involvement observed in the elementary years. Though many middle schools have been successful in maintaining strong parental contact, there is a general consensus that it does not happen as easily as it did just a few years prior. This is a serious concern. The risk of decreased parental involvement means that the school will operate in isolation of parent expectations. Parental involvement is essential if schools are to successfully educate the whole child. If parents do not believe the middle school is reflecting their desires, obtaining their cooperation is difficult (Uebbing & Cooper, 1992).

Parental Involvement Framework

According to Epstein (1983), substantial evidence indicates that students' achievement increases when their parents' school-related involvement practices are effective (cf. Comer, 1980; Goodson & Hess, 1975; Henderson, 1987) Moreover, parental involvement is related to differences in socioeconomic status (SES). Parents with a higher income and more education maintain stronger relations with school administrators and teachers than parents with lower incomes (Baker & Stevenson, 1986; Lareau, 1989). Epstein therefore asserted that it is the school's responsibility to establish and maintain accessible channels of communication between parents and school to ensure a wide dissemination of information. A synthesis of research on parental involvement indicates that regardless of family income or background:

> Students with involved parents are more likely to: Earn higher grades and test scores, and enroll in higher-level programs; be promoted, pass their classes, and earn credits; attend school regularly; have better social skills, show improved behavior, and adapt well to school: and graduate and go on to postsecondary education. (Henderson & Mapp, 2002)

The overwhelming conclusion of many researchers substantiates the claim that parental involvement is a necessary component for academic success for students. Based on this conclusion, (Epstein, 1998) defined six types of involvement describing relationships between the family, school, and community: parenting (skills), communicating, volunteering, learning at home, decision making, and collaborating with the community. Epstein emphasized that all six of these involvement types must be included to have successful partnerships (Wanke, 2008, p. 9). Although there are many classifications of parental involvement types, Epstein's classifications warrant more detailed exploration.

Parenting

This category includes the basic responsibilities of families—such as providing housing, health care, nutrition, clothing, and safety, and creating home conditions that support children's learning (e.g., purchasing necessary books and other school supplies, providing a place to study, etc.). Parenting also implies that parents are warm and responsive to their children, communicate with them and support their development.

Communicating

This type of involvement concerns the basic responsibilities of schools, including establishing two-way communication between family and school. This type of involvement assumes that schools keep parents informed about school matters by sending newsletters or report cards, calling, e-mailing, or visiting parents, and so forth. In addition, parents can address their concerns to the teacher or school administration both by contacting them directly or through correspondence.

Volunteering

According to Brent (2000), the term "volunteer" usually refers to persons who devote their spare time to work on a routine basis without monetary compensation, usually under the direction of a school employee, in support of educational activities and school operations. He clarified, however, that parental engagement in PTA, PTO, or other types of decision-making organizations involving parents, teachers and, perhaps students and other community members is not volunteering.

Learning at Home

This type of involvement suggests that parents are involved in curriculum-related activities occurring at home (e.g., assisting with homework, discussing books with their child, brainstorming ideas for school projects).

Decision Making

Decision-making activities include families' voices in developing mission statements and in designing, reviewing, and improving school policies that affect students and families.

Collaborating with the Community

Collaborating-with-community activities draw upon and coordinate the resources of business; cultural, civic, and religious organizations; senior citizen groups; colleges and universities; government agencies; other associations to strengthen school programs, family practices, and student learning and development. (Epstein, 2008, pp. 11–12).

Of the six types of parental involvement described by Epstein (2008), communication is the foundation of a solid partnership with schools. When parents and educators communicate effectively, positive relationships develop, problems are more easily solved, and students make greater progress (National PTA, 1997). As such, Epstein's concept of *communication* within this model of parental involvement was applied as the theoretical framework for understanding parents' experiences with involvement at WLAC. Specifically, the definition of communication in this framework emphasized two-way communication. Applying this definition to the current study, parents were invited to share how they communicated with the school and how the school communicated with them, to explore what was working and what was not, and to offer suggestions for improvement.

One way communication has evolved in school settings is through the use of technology. Access to the Internet has made it possible to improve education—including bridging the communication gap between parents and schools—by increasing opportunities for parental involvement (Hampton, Anderson, & Sigman, 2002). Computer technology is proving to be a useful tool for promoting communication between home and school, encouraging active collaboration among teachers, parents, and students in order to build greater student achievement in school (Patrikakou, Weissberg, & Rubentstein, 1998).

Technology has given parents and schools a new way to communicate. Simply having access to technology has changed the nature and frequency of communication between schools and parents, especially at WLAC. When parents receive frequent and effective communication from the school or program, their involvement increases, their overall evaluation of educators improves, and their attitudes toward the program are more positive (Illinois State University, Center for the Study of Education Policy, 2004). Determining an easy, efficient, and effective way of keeping parents involved and informed is a school's obligation, which includes establishing, monitoring, maintaining, and gauging the effectiveness of various communications between the school and the home.

Conclusion

By improving levels of parental involvement, school-based parental involvement programs can have positive effects on a student's academic achievements at the elementary and high school level (Jeynes, 2012). Although the No Child Left Behind Act has encouraged parents to be involved in their children's academic lives, ultimately it is the school's responsibility to provide parents with meaningful opportunities to become more involved (Smith, Wohlstetter,

Kuzin, & De Pedro, 2011). An individual school's effort to communicate with parents can increase involvement and student achievement, benefiting the school, parent, and more importantly, the students (Fan & Williams, 2010; Galindo & Sheldon, 2012; Jeynes, 2012).

The existing research on parental involvement emphasizes the importance of engaging parents in order to increase student achievement. Communication is emphasized as a major component of effective school-parent partnerships to assist students. However, studies about parental involvement focus mostly on involvement in schools, without specific analysis of the interplay of the use of technology and parental involvement.. What is known is that the digital divide still exists and affects minorities, low-income families, and families that lack education. If schools rely on technology to engage parents, some parents may be inevitably left out of this engagement by virtue of not having access to technology. The current study helps fill the gap in our understanding about how technology and parental involvement intersect by investigating ways to bridge the digital divide.

Students who succeed in school are almost always supported by their families, while other students struggle without support from home (Epstein, 2008; Epstein & Rodriguez-Janson, 2004). The middle school level is a time when students experience complex emotional, cognitive, physical, and social development; to accommodate these changes, parental involvement needs to increase. If the opposite occurs, both student achievement and success is compromised (America's Promise Alliance, 2009; Christenson & Sheridan, 2001; National PTA, 1998; Okun, 2008; Pianta & Walsh, 1996; Schargel & Smink, 2001; Singh et al., 1995). Based on this research, the current study investigated parents of middle school students at WLAC to understand their experiences with technology and school involvement. It is important to know

which families are and are not receiving the communication so WLAC can work to reach all

families in order to develop effective two-way communication.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

Imagine a school environment that heavily relies on technology to communicate with parents and assumes all parents have access to technology. What happens when being involved as a parent means having access to technology? What happens when some parents do not have access to technology? WLAC emphasized how both school and parental involvement equates to positive student outcomes. The purpose of this study was to understand the intersection of parental involvement and technology at WLAC.

The benefits of parental involvement for students are validated consistently. Research has also demonstrated the interconnectedness between parent-school relationships and processes by which this relationship encourages parental involvement (Delgado-Gaitan, 1991; Drummond & Stipek, 2004; Mapp, 2003). To add to the current body of research, the administrator-researcher investigated parental involvement, while discussing experiences with technology among parents at WLAC, through a case study design.

According to Merriman (1998), a case study design provides a way to gain an in-depth understanding of the situation and meaning for those who are involved. Descriptive case studies provide a means whereby participating individuals are free to express their personal and unique perspectives on a situation. In this way, the administrator-researcher recounted the stories of WLAC parents with and without access to technology in a descriptive manner so the reader experienced the context in which they occurred.

Research Questions

The administrator-researcher conducted an investigation of the intersection of parental involvement and technology at WLAC. The topic of inquiry is broadly defined, as technology used to increase parental involvement—the mechanisms, environments, and practices themselves—may be considered unique in nature. According to Merriam (1998), such an environment lends itself to a qualitative case study approach in order to fully explore the richness of relevant information to be uncovered at the school site. Given these considerations, the following research questions were the guide for the study:

1. How does technology influence parental involvement at WLAC and do these experiences differ for parents with and without access to technology?

2. In what ways are parents involved at WLAC and what are their perceptions about school policies and practices related to technology, in terms of facilitating or hindering that involvement?

Method

The current study utilized qualitative research methods to answer the above research questions on parental involvement and technology, to better understand the gap in access among families of different demographics at WLAC. Qualitative methods are a way to explore and understand the meaning individuals or groups ascribe to social or human problems (Creswell, 2014); in this case, it would be to gain a better understanding of parents who do not have access to technology so they, too, may get involved in their child's education. Using qualitative methods, specifically interviews, the general study design was a case study conducted at the school site where the researcher worked (WLAC). As Creswell (2015) explained:

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Case studies are a qualitative design in which the administrator- researcher explores in depth a program, event, activity, process, or one or more individuals. The case(s) are bounded by time and activity, and the administrator – researcher collect detailed information using a variety of data collection procedures over a sustained period of time. (p. 241)

The rigorous research methods employed in this study included parent interviews and a review of school documents and institutional data. Document review consisted of all communication the school sent to parents and all school policies related to involvement and/or technology. Institutional data also included student and parent names and household income levels. This approach provided a broad understanding of technology and parental involvement. Parent interviews included speaking to a variety of parents from different socioeconomic backgrounds to gain insight about the varying experiences of parents at WLAC.

Patton (1987) stated, "The creative use of technology can greatly increase the quality of field observations and utility of the observational records to others" (p. 308). For each on-site interview, the administrator-researcher used a tape-recorder or the equivalent. Validity affirms that an instrument used to measure a phenomenon is, in fact, measuring that phenomenon. A qualitative case study records—rather than measures—events from a holistic perspective and is bounded by the specific environment of the study site. The accuracy and consequent validity of the administrator-researcher's record of observed events may be enhanced with the use of a tape recorder or the equivalent and other recording devices during research sessions, as was done in the present study.

The Context: West Los Angeles

The current study took place at a school located in West Los Angeles, California. .

According to the 2010 census data, the median household income (in 2014 dollars) for the area

was $49,682. Descriptively, the area includes both wealthy surrounding neighborhoods (i.e., Bel

Air/Brentwood and Beverly Hills) as well as sections marked by poverty. As a West Los Angeles

resident, the administrator-researcher has insight into the living dynamics of the neighborhood.

While to the passerby, apartment buildings may look expensive, there may be several families

living in one apartment. In addition to the residential neighborhoods, there are major commercial

properties along major boulevards, bringing commercial traffic to a commuter city. The residents

are very diverse, with 49.8% identifying as White alone; 11.3% Asian alone; 9.6% identifying as

Black or African American alone; less than 1% identifying as American Indian and Alaska

Native alone; and only 0.1% identifying as Native Hawaiian and Other Pacific Islander. The

census data also offered that 4.5% identified as two or more races. The census separates

questions related to Hispanic or Latino origin; these data suggest that 48.5% of residents in the

area identify as such, while 28.7% identify as White, not Hispanic or Latino. Taken together, the

area is very diverse in both ethnic breakdown and income.

The area is also characterized by diversity in the educational system. Traditional public

schools, public charter schools, independent schools, and religiously affiliated schools are all

available in the surrounding area. While charter schools have become the fastest growing sector

of public education nationally, with approximately 2.3 million students enrolled in charter

schools (National Alliance for Public Charter Schools, 2012), Los Angeles boasts the largest

number of students enrolled in charter schools compared to all other school districts in the

nation. Close to 120,000 students are enrolled in charter schools in Los Angeles, demonstrating the popularity of charter schools in the area.

The Case: WLAC

The case for this study is defined as WLAC, a charter school where parents of middle school students were invited to participate in the data collection to offer their experiences about technology and parental involvement at WLAC. West Los Angeles Charter was a single-site school located in West Los Angeles, California, sandwiched between commercial and residential real estate. Although WLAC is a sixth- through 12th-grade school, the focus of this study was only on grades six through eight. Focusing on middle school is purposeful; research illustrates that parental involvement changes drastically during these school years, indicating a critical educational phase for students (Hill & Tyson, 2009).

WLAC was a free, parent-founded, independent, high-performing, public charter school currently serving grades six through 12. WLAC opened in September 2003 under its charter, granted by the State Board of Education. The Charter Schools Division of the California Department of Education supervised WLAC. Approximately 825 students were enrolled at WLAC. The demographic makeup of students included: 50% Caucasian, 27% Latino, 16% African American, 4% Asian, and 3% other ethnicity of students. The free and reduced lunch population was 17%; 10% of students indicated special needs. There were approximately 430 students in the sixth through eighth grades.

Parent Culture

Parents are taking interest in charter schools, especially in Los Angeles. Waitlists are long and need is great. There is high demand by parents wanting their child to be accepted to

WLAC. Every year more than 1,000 parents applied to enroll in WLAC for about 100 spaces. The demand stemmed from having a rigorous curriculum, a safe learning environment, and small class sizes. The demand was not just at WLAC, but all charter schools in the area.

The development of WLAC was a community effort by involved parents who organized in early 2000 to start a new school that provided a choice in public education. Obtaining the charter and opening of the school in September 2003 depended on many parents who volunteered their time, effort, and resources to make the promise of WLAC a reality for their children and others.

WLAC was based on the premise that close, strong, on-going collaboration between parents and educators is the single most important determinant of student success. Accordingly, WLAC expected a high level of parental involvement as an integral part of the school's educational program. WLAC parents had to sign a Home-School Contract that required 16 hours of volunteer work per family per year.

Conditional Use Permit (C.U.P.)

WLAC was the first high school to be established on the Westside of Los Angeles in more than 47 years. Given the dense and highly populated West Los Angeles area, a C.U.P. was imposed on WLAC to address the concerns of the neighbors about having a sixth- through 12th-grade school in the area, which they believed would bring more traffic and overcrowd an already crowded area. Parking spaces were limited on campus. Parents had to choose one of the following transportation methods upon accepting enrollment to WLAC: school bus, public transportation, bike, walk, or carpool. The school was required to provide off-site parking for both faculty and staff, have a representative from Los Angeles Department of Transportation

(LADOT) monitoring the morning and afternoon carpool, report any violators of the C.U.P. with a written warning, and make a phone number available to anyone who had a complaint.

Technology

The school had a media lab with 30+ iMacs, 4 mac carts each with 30 Macbook Pros or Macbook Airs, and 1 iPad cart with 30 iPads. In addition, each classroom had one or more iMacs. Each math classroom used SMART interactive whiteboards—the world's leading interactive whiteboard that combines the simplicity of a white board with the power of a computer, and brings interactivity to any environment (vivid-acoustics, 2016).

School Mission

According to the school's handbook and website (to protect anonymity, the website is not provided), the mission of WLAC was to provide an academically rigorous, highly individualized education for 21st-century students in grades six through 12. In the decades to come, personal success will require increasingly high levels of competency, independence, and self-reliance in an ever-changing, ever more complex society, whether individuals choose to manage their own businesses, work within public or private organizations, or raise families whose children will face the same challenges. WLAC was producing competent, independent, self-reliant students by creating a learning environment that promoted academic excellence and strong character development as the antecedents for success in college preparatory high school programs. WLAC was founded on the following precepts: offering a rigorous core curriculum that provides a strong foundation in reading and language arts, mathematics, science, and history and social science, supplemented with diverse enrichment opportunities in world languages, visual and performing arts, physical education and health, and information technology; maintaining a robust

program of community service and extracurricular activities designed to have maximum synergy with the academic program; following clearly defined and closely monitored performance standards that assured progress toward the school's educational goals in full compliance with all applicable state standards; a cooperative community of parents and educators that shared responsibility for the school's governance, operation, and educational program in the best interests of the school's students; supporting the goal of maintaining a small student body, taught in classes as small as resources permit (the aim was 30 students or fewer per class); and encouraging a personal learning environment that challenged each student according to his or her ability through differentiated instruction within an integrated curriculum.

Educational Culture

WLAC served students of diverse cultural, ethnic, and socioeconomic backgrounds from throughout greater Los Angeles whose families shared the common goal of creating a strong, unified educational environment for their children. WLAC's educational culture fostered academic achievement through high expectations, genuine accountability, and individualized attention both at home and in school. This home/school collaboration enabled students to become competent, creative, self-motivated, lifelong learners with a clear sense of their individual worth and their responsibilities to society.

When students graduated from WLAC they were self-motivated, taking a proactive approach to their own academic pursuits, as well as their social behavior and personal goals. They were also able to act ethically and take personal responsibility for their actions. The following list is WLAC's mission and philosophy for its students.

1.   Students become technologically competent in exchanging and accessing information, identifying what constitutes accurate information as they search the Internet, and communicating fluently through a variety of technologies to suit the ever-changing demands of a dynamic globally interconnected, multicultural, and multiethnic world.

2.   Students become lifelong learners dedicated to exploring the richness of shared knowledge and inspired by the diversity of learning opportunities available in the environment around them. They are well equipped to live and continue to learn in an increasingly complex and information-rich modern world.

3.   Students are critical thinkers, able to analyze and understand complex systems requiring problem-solving skills while questioning and inquiring using an "outside-the-box," holistic, and creative approach.

4.   Students are global contributors, conscious of the far-reaching impact they can have by actively participating in meaningful service to their communities in a collaborative manner and using their individual voice as part of the collective to address the issues and needs they observe.

Participants

All participants in this study were parents of students who were currently enrolled at WLAC. The administrator-researcher attempted to interview parents from various socioeconomic backgrounds. This purposive and stratified sampling technique (Creswell, 2014) was appropriate for the study because research on the digital divide has clearly indicated that income levels and minority status are associated with a lack of access to technology (Gorski, 2002; Hayden, 2003; Norris & Conceicao, 2004).   Stratifying by income and ethnicity increased

the chances that the sample included parents with different experiences related to technology and involvement at WLAC. If the sampling technique did not produce a sample with varying experiences related to access, the administrator-researcher would have had to continue to sample until saturation occurred. In other words, the administrator-researcher would have stopped collecting data when the categories (or themes) were saturated: when gathering fresh data no longer sparks new insights or reveals new properties (Creswell, 2014). The majority of parents at WLAC who were in the highest income bracket identified as Caucasian, thus limiting the ethnic diversity available to be sampled at that income level for participation in this study.

Participants were selected based on the annual household income survey they received from the school each year. Examining this institutional data provided the income brackets for selecting the participants. Based on the income levels represented on the annual household income survey, income was stratified into four categories: less than $25,000; $25,000 to $49,000, $50,000 to $74,999, and over $200,000. In reviewing the income brackets of participants, there was a gap between the income ranges of $74,999 to $199,000. Parents who fell in this income level are not represented in the study because this income bracket was not represented on the returned surveys.

The participants in the study were parents of students in the middle school, grades six through eight. The administrator-researcher interviewed 16 parents: four from the high income level, four from the upper-middle income level, four from the middle income level, and four from the low-income level. Income brackets were defined as:

Low Income

Four parents from this group were interviewed. These parents were all female, three of whom were Latina and one Persian, ranging in age from 30 to 40 years of age, and whose annual income was under $25,000.

Middle Income

Four parents from this group were interviewed. Two African Americans, one female and the other male between 40 and 50 years old, one Caucasian female between the ages of 40 and 50 years old, and one Latino female from the ages of 30 and 40 years old. All had an annual income between $25,000 and $49,000.

Upper-Middle Income

Four parents from this group were interviewed. This parent group included one African American female between 40 and 50 years old, one Asian American female between 40 and 50 years old, and two Caucasian females between 50 and 60 years old, and another Caucasian female between 40 and 50 years old. All of these parents had an annual income between $50,000 and $74,999.

High Income

Four parents from this group were interviewed. These parents were all Caucasian, and included two males and two females, with ages ranging from 40 to 50 years old. Their annual income was $200,000 or more.

A review of the demographics represented in the income levels above suggest that the highest income level consisted of all Caucasian families and predominantly female participants. While families were recruited to participate, the researcher asked for one parent to be

interviewed and, as such, families determined which parent would participate. Only two male participants (i.e., fathers) were interviewed. One male participant came from the middle income bracket and the other came from the highest income bracket.

<p style="text-align:center">Procedures</p>

The administrator-researcher sent a mass email to the middle school parent body with an open invitation to participate in the study; the email contained detailed information about the purpose and expectations for participation. Once parents indicated interest, the administrator-researcher cross-referenced parent names with both the income survey that was sent out earlier in the year along with financial aid applications. WLAC's middle school student body was comprised of 430 students, which suggested approximately 900 parents in the total population, from which the purposeful sample was drawn, after stratifying by income level.

Interviews

The administrator-researcher conducted face-to face interviews with participants, and also conducted telephone interviews, basing the decision on what was preferred by the parents. Additionally, due to the researcher's dual role in this project as both a researcher and an administrator of the school, the administrative-researcher offered to conduct the interviews in a setting most comfortable for parents, which was the school library. The researcher found a private room on campus in an attempt to remove any discomfort related to the researcher-administrator role, so that parents could speak openly about their involvement.

The interviews involved some structured and open-ended questions that were few in number and intended to elicit views and opinions from the participants (Creswell, 2014). This type of data collection was useful when participants could not be directly observed, providing

historical information, and allowing administrator-researcher control over the line of questioning (Creswell, 2014). The interviews were semi structured, such that while the administrator-researcher followed a set of structured questions, the administrator-researcher also followed the flow of the conversation based on what parents shared during the interview.

Interview Protocol

The administrator-researcher answered the research questions by interviewing all 16 participants, asking seven to nine open-ended questions with follow-up prompts for each (see Appendix A). The interview protocol included questions about the type of involvement parents have with WLAC; the type of involvement that allows parents to feel most connected to WLAC; whether WLAC offers suggestions to parents about how to be involved; whether parents utilize WLAC's technological resources (e.g. website, email blast, online grade book) to get information about school events, policies, or their child's schoolwork; a description of the resources parents use and why; and reactions to the school-wide policy about parent involvement. The questions were developed based on a review of the literature on technology in schools and the digital divide. Furthermore, the interview protocol was vetted by the dissertation committee, including an expert in qualitative interview procedures, and the Institutional Review Board. Based on the flow of the conversation, parents with access to technology were also asked about whether technology has increased their involvement and how; whether technology provides sufficient ways to stay connected; and challenges parents have experienced using technology. Parents were also asked to reflect on examples of what works and does not work at WLAC with regard to technology and parental involvement. Parents who indicated not having access to technology were asked to share their challenges with technology to stay involved at

WLAC. If a lack of access to hardware was shared as the primary challenge, parents were then asked to discuss resources they would need to access technology; whether they thought they would use the school's website and grade book; whether communication about opportunities was sufficient; whether they felt "left out" because of issues with access to technology; and whether parents were able to stay involved even without access to technology. All parents were invited to conclude the interview by offering suggestions for what the school could do differently to support families in the areas of technology use and parental involvement.

Interviews did not go beyond an hour and a half in length. The researcher read the questions and clarified any questions the participants had. The researcher audiotaped and transcribed the interviews (Creswell, 2014), with permission from the participants. After transcriptions were completed, devoid of identifying information, the researcher invited the participants to review their transcripts and make any edits they felt necessary. This process of member checking meant the researcher-shared parts of the transcribed interviews, such as the major findings and initial themes, with the participants. This process also meant that the researcher had follow up interviews with all 16 parents to edit and clarify the transcripts from the interviews.

Document Review

In addition to the interviews, several documents were reviewed for this study: the income survey, WLAC's policies on parental involvement and the home-school contract, and the home/parent technology survey, which was reviewed by the researcher in order to gain a better understanding of the type of devices parents have access to, so that they can be involved in their child's school. Creswell (2014) referred to these as *qualitative documents*. The income survey

was reviewed and provided information used to select participants. WLAC sent this survey out at the beginning of the year to provide those in need with assistance. The survey also offered a snapshot of what percentage of the families fell into specific income brackets. The administrator-researcher reviewed the income survey of parents who were interested in participating in the study, and chose 16 parents who represented all four designated income levels.

Analytical Plan

Although hand coding is a laborious and time-consuming process, even for data from a few individuals, the administrator-researcher applied Tesch's (1990) Eight Steps in the Coding Process to the interview data. These steps included:

1. The administrator-researcher needed to get a sense of the whole and read all the transcripts carefully.

2. The administrator-researcher then went through the interviews and picked one document (i.e., one interview) and reflected: "What is this about?"

3. Once the administrator-researcher completed this task for several participants, the administrator-researcher made a list of all noted topics, and clustered together similar topics. These topics were formed into columns.

4. The administrator-researcher then took this list and went back through the data.

5. The administrator-researcher found the most descriptive wording for the topics and turned them into categories.

6. The administrator-researcher then made a final decision on the abbreviation for each category and alphabetized these codes.

7. The administrator-researcher assembled the data material belonging to each category in one place and performed a preliminary analysis.

8. The administrator-researcher then recoded existing data.

The administrator-researcher read the interview transcripts in order to draw out themes and commonly used words; with each read, the administrator-researcher attempted to compare the experiences within the same income bracket as well as those from different income brackets. The administrator-researcher also looked to connect what the literature stated with the actual findings from each interview.

The research questions were addressed by the collection of data from interviews and documents. The data analysis process in the qualitative case study is focused on a "holistic understanding of the situation to construct a plausible explanation about the phenomena being studied" (Merriman, 1998 p. 204). The multiple sources of data collection were brought together to form a triangulation, whereby reliability was confirmed. Multiple sources of data helped to explain the relationship between technology and parental involvement at WLAC and address the research questions.

Limitations

The study was limited primarily because it only included parents in grades sixth through eighth grades. The study is not generalizable beyond the research site, and it is limited to schools with similar demographics and school resources. Other limitations based on using interviews for data collection are the following: interviews provide indirect information filtered through the views of interviewees, and they provide information in a designated place rather than the natural field setting. The researcher is an administrator at the school site and may have presented pressure for

parents to respond in a particular and positive way about the school (Creswell, 2014). However, the researcher received both Institutional Review Board approval and approval from the principal prior to conducting the study. To further compensate for limitations, the researcher attempted to stratify the participants based on income to increase the diversity of the sample. The researcher also conducted member checking to mitigate any personal bias in the interpretation of the data.

Summary

This chapter provided an overview of the case for this study and the methods by which the case was examined, including a description of the interview protocol, documents, and procedures for collecting data. Additionally, this chapter provided a review of the data analysis procedures used to evaluate the data. The following chapter will describe and summarize the findings of the study.

CHAPTER 4

FINDINGS

Background and Context

WLAC served 825 diverse students from sixth through 12th grade, with 430 students in the middle school. While historically, the families enrolled at WLAC had been high income, reviewing institutional documents suggested that in the previous four years there had been a shift in demographics with more diverse families from varying socioeconomic backgrounds enrolling in the school (see Table 1). The background context for this shift occurred when a local councilman proposed that WLAC give automatic preference to the local elementary school located down the street in order for WLAC to continue to occupy its current site. The councilman's proposal was passed by the city council and had to be adopted; enrolling these students became part of WLAC's guidelines. The local elementary school was comprised of over 70% socioeconomically disadvantaged students, meaning that more than half of their school population qualifies for reduced or free lunch. Over 70% of their student and parent population were also second language learners. The councilman shared that automatic admission into WLAC would give both students and parents a chance at a better education.

The table below reviews the shift in demographics over the previous four years, including the number of students enrolled in the middle school, ethnic breakdown of students, special education status, English learner status, free and reduced lunch status, and number of zip codes represented among families enrolled at WLAC.

Table 1

WLAC Demographics from 2012 to 2016*

School Year	2012–2013	2013–2014	2014–2015	2015–2016
Grade Level: 6th	158	148	152	152
Grade Level: 7th	158	153	151	147
Grade Level: 8th	158	150	151	148
Ethnicity: Hispanic/Latino	24%	23%	24%	26.50%
Ethnicity: African American	11%	13%	12%	10%
Ethnicity: Asian	5%	12%	12%	13%
Ethnicity: White	48%	51%	50%	49%
Ethnicity: Other		1%	1%	1%
Special Education	47	45	45	45
English Learner/RFEP/LEP	7	18	30	66
Free & Reduced Lunch	17%	18%	21%	24%
Zip Codes	54	59	66	73

*WLAC Annual Racial & Ethnic Breakdown School Spreadsheet

As seen in the table above, the ethnic makeup of students attending WLAC had shifted in the previous four years, with more students enrolled who identified as Latino and as Asian in 2015–2016 compared to 2012–2013. The number of zip codes listed in the table above indicates that families from more areas around West Los Angeles were enrolled in the school. In other words, WLAC was serving families from more neighborhoods than it had previously.

In addition to the institutional data gathered annually about the racial and ethnic breakdown of students, families were asked to fill out a home language survey on an annual basis. For the 2014–2015 school year, the majority of families reported speaking English in the home, yet 43% of families also reported speaking a language other than English in the home. This is a shift from four years ago when most families spoke English only in the home. These data are important for school administration given that students would often arrive to WLAC

already "Redesignated Fluent English Proficient" rather than "English Learner," suggesting that they had command of the English language. However, that was not necessarily the case for their parents.

Finally, using the zip codes of families enrolled in WLAC to find the median household income using census data (http://maps.latimes.com/neighborhoods/neighborhood/west-los-angeles/) suggested that more families from lower income areas were enrolled at WLAC during the 2015–2016 school year compared to four years ago. Based on these data, there has been a clear shift in the demographic backgrounds of families enrolled at WLAC over the previous four years.

WLAC's culture placed great emphasis on parental involvement as a major contributor to improved student outcomes. But WLAC had a conditional use permit (C.U.P.) placed on the building, which restricts the number of cars that could be on campus at any one time and limited how many parents could be on campus at any given time. Parents have often complained about the C.U.P. and how it prevented them from making more of a connection with the school, based on having limited opportunities to be physically on campus. As such, the school culture at WLAC relied on technology, which for many years has worked to keep parents involved and informed.

Given the shift in family demographics at the school, and the reliance on technology to communicate to families, the purpose of this study was to examine issues of technology, access, and parental involvement at WLAC. The administrator-researcher employed a case study research design and collected detailed information using a variety of data collection procedures

over a sustained period of time (Creswell, 2014; Stake, 1995; Yin, 2009, Yin,

2012). Specifically, the research questions guiding this study included:

1.   How does technology influence parental involvement at WLAC and do these experiences differ for parents with and without access to technology?

2.   In what ways are parents involved at WLAC and what are their perceptions about school policies and practices related to technology, in terms of facilitating or hindering that involvement?

To answer these research questions, the administrator-researcher reviewed all communications WLAC sent to parents; documentation related to policies about parental involvement and/or technology; and institutional data such as parent income levels. Specifically, the administrator-researcher reviewed the school documentation related to policies about parental involvement and technology to examine how the school communicated with parents, and the expectations the school had of parents. As outlined on the home-school contract document, which every parent received and signed upon enrolling their child in WLAC, the terms of the home-school contract were as follows:

- Volunteer at least (16 hours/year/per family) during school hours, weekends, or evenings to participate in a school project, event, or classroom activity in addition to the other hours recommended by the Home-School Contract.

- Each family is responsible for overseeing their child's community service project, insuring his/her completion of at least six (6) hours of community service for grades 6-8th and at least ten (10) hours for 9-12th per year, per child, as outlined in the WLAC Community Service document.

- Read the Charter to understand the educational plan of the school, the school's operation, and the roles, rights, and responsibilities of parents and their children.

- Participate in understanding and abide by the Transportation Mitigation Program TMMP/Student Transportation & Parking Policy. This program is designed to reduce pollution and traffic congestion and to show the children how we can positively affect the environment every day. The ability of the Charter School to operate at the school site and maintain its enrollment is conditioned upon compliance by the WLAC families with the Home-School Contract and the TMMP/Student Transportation & Parking Policy.

- Attend a mandatory orientation launch meeting to learn about charter schools, the school's educational program, the Home-School Contract, and ways in which parents can contribute to the success of both their child and the school.

- Participate in the election of parent representatives to the Governance Council.

- Complete and return all required forms, questionnaires, and other requests for information.

- Ensure the completion of homework and class projects.

- Reinforce at home the importance of education on a daily basis and discuss with each child what was taught at school.

- Assure that each child arrives at school on time, dressed appropriately, and ready to learn.

- Understand and reinforce the Student Conduct Code and the Student Dress/Uniform Policy.

- Attend all scheduled parent-teacher conferences each year for each child.

- Attend back-to-school night, open houses, and other school-wide events.

- Participate as a family in extracurricular school events such as book fairs, plays, talent shows, festivals, and fund-raising activities.

- Exercise respect in all forms of communication with all WLAC community members including teachers, administrators, staff, and other parents. Please note that all communication directly with WLAC staff and administration must be conducted on a specific needs basis and follow the communication protocols established in the WLAC student/parent handbook.

- Self-report their compliance with the Home-School Contract using the forms provided by the school.

- Use the school's dispute resolution process to settle complaints, conflicts, and disputes that may involve the school and/or its various stakeholders, including administrators, teachers, staff, students, and other parents.

- Reimburse the school for school property that is lost or damaged by your child.

- Ensure that your child complies with the school-wide "no littering" policy, which applies to the school grounds and the residential neighborhood surrounding the school (to protect anonymity, the website is not provided),

As seen in this contract, issues around transportation, respectful communication, and expected number of parental volunteer hours was clearly communicated to families who enrolled at WLAC.

Finally, the researcher reviewed the technology survey given to parents to measure what types of devices parents had access to at home. This survey asked parents to check off items to which they had access. The items on the survey are represented below.

Table 2

Technology Survey

Please check all items you have access to:

	Home or Desktop Computer
	Laptop
	Email Address
	Ipad/Tablet with internet
	Work Computer
	Other_____(i.e., Library, Community Center, etc.)
	No Technology Devices

Please describe what types of technology you use for communication with WLAC:

	Home or Desktop Computer
	Laptop
	Email Address
	Ipad/Tablet with Internet

	Work Computer	
	Other_____**(i.e., Library, Community Center, etc.)**	
	No Technology Devices	

The survey was administered to parents at the end of their parent-teacher conferences, and 134 surveys were returned out of 430 middle school families. Most parents took less than a minute to fill out the technology survey.

In addition to a review of these school documents, to answer the research questions, the administrator-researcher further collected and analyzed qualitative data derived from interviews with 16 middle school parents. To investigate issues of parental involvement and technology, parents from WLAC were purposefully sampled to represent different income levels. The four categories of income level created to reflect the parent dynamic at WLAC were:

1. Parents with an annual income under $25,000 (defined for this study as low income);

2. Parents with $25,000 to $49,000 annual income (defined as middle income);

3. Parents with $50,000 to $74,000 annual income (defined as upper middle income); and

4. Parents with an annual income of $200,000 or more (defined as upper income).

Table 3 provides an overview of the income level, gender, and ethnic breakdown of participants. Stratifying by income was important in order to hear about the experiences of parents within these categories, as encouraged by NTIA findings.

Table 3

Income Level, Gender, and Ethnicity of Participants

Income Level	Gender	Ethnicity
Under $25,000	4 Female, 0 Male	3 Latino; 1 Persian
$25,000 to $49,999	3 Female; 1 Male	1 White; 2 African-American; 1 Latino
$50,000 to $74,999	4 Female, 0 Male	2 White; 1 African-American; 1 Asian
$200,000 or more	3 Female; 1 Male	4 White

Of the 16 parents who were interviewed, only two were male. The highest income bracket was represented by an all-White ethnic group, which included three females and one male. In the income level of those earning less than $25,000 per year, all participants were female, three were Latino, and one identified as Persian. Ethnic minorities were clearly represented in the lower income brackets, while White families were represented at the upper income levels, similar to findings by NTIA (1995) suggesting that income and ethnicity are often related.

In a semstructured format, parents from each income level met with the administrator-researcher individually for approximately one hour to discuss patterns of technological access that existed among the parent body and experiences parents have with school involvement. The administrator-researcher then analyzed all data through the lens of two theoretical frameworks to highlight the issues present for parents at WLAC related to both parental involvement and technology. Specifically, the two frameworks included Epstein's Parental Involvement Model (2008) and Davis's Technology Access Model (1989). Overall, findings related to parental involvement and then related to technological access are presented below, followed by a specific breakdown of examples according to each theoretical framework.

Overall Findings

Based on interview data, it was evident that technological access and parental involvement at WLAC were closely intertwined. For example, parents who struggled with technology in general were limited in their involvement, specifically due to issues with the English language and with issues related to a lack of technological skills to navigate online school systems. While the desire to be involved was apparent across all families, comfort with participating was a barrier expressed by the lower-income parents. Specifically, these parents shared discomfort and frustration and often the need to rely on others to translate information.

Parental Involvement

Based on the interviews with families and a review of institutional data, the findings related to parental involvement indicated that all parents were involved at WLAC. This involvement differed by income level, however, in that lower income parents engaged with the school by providing direct services such as cleaning the school, donating items, and volunteering at school events, while upper income parents were involved by participating in the school auction, carpooling, and attending sporting events. Additional factors that contributed to parental involvement included the C.U.P. and the belief that regardless of not having the ability to be on campus. There were still ways to be involved in the school. Varying degrees of involvement were evident based on the income levels of the parents at WLAC. Here are the examples of how parents demonstrated their involvement:

Lowest income level (Under $25,000). Parents from the lowest income level indicated their involvement with WLAC through direct action such as cleaning the school, volunteering for school events, and chaperoning dances and field trips. As one parent shared: "We come and

clean when they sending mail [sic]." And another parent shared: "I usually come to help selling things when teacher's doing something like Halloween or other things [sic]." These opportunities made the parents feel connected with the school.

Middle income level ($25,000–$49,999). Parents from the middle income level indicated their involvement with WLAC by participating in the recycling program, doing laundry by washing loaners (clothes that are loaned out by the school), coaching sports teams, providing transportation for students whether carpool or players, chaperoning field trips, participating in the book fair, assisting at a shuttle location, or providing additional supervision at the park during physical education class.

Upper middle income level ($50,000 –$74,999). Parents in this category listed examples of involvement, such as donating items for the silent auction and chaperoning dances and field trips. One parent of the upper middle income level expressed that time to volunteer was limited due to work obligations: "Sometimes I feel a little disconnected. I think that if you are able to be here on an ongoing basis, if you're able to participate or your job doesn't keep you away, then you feel more connected." Another parent stated: "I would really love to do more, but just because of time constraints, I can't at this point, but I have a goal [sic]." Parents wanted to participate more, if they had the time, but many of them struggled with not having the time to volunteer.

Upper income level ($200,000 or more). Parents in the higher income level stated they volunteered by helping the college counselor conduct research on schools. Another parent stated their involvement included some political participation the school needed in getting support for

occupying its current location. These parents volunteered their time by assisting with the needs of the school that appeared to have more of a long-term impact on the school.

Overall, parents whose children attended WLAC entered the school with the expectation of being a part of their child's education by being involved in some capacity. Although involvement looks different from one income level to another, they are in fact involved. As the demographic make-up continued to shift, WLAC will need to make adjustments to ensure all families who attend WLAC feel comfortable with technology in order to encourage greater involvement. There was a shared responsibility among the parents and the school; schools have a responsibility of providing guidelines to parents so they know how to be involved and engaged, and parents have a responsibility to ask questions and seek help when needed. If awareness is brought to the school leaders about some of the barriers some parents face, it can encourage changes to provide more just opportunities for all parents who want to be involved, regardless of income level.

<div align="center">

Technological Access

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Based on institutional data, all WLAC parents, across income levels, had access to technology. A parent survey about technology was administered to school parents on the night of parent conferences in the spring of 2015. Based on this survey, 134 out of 430 middle school families confirmed that they had access to technology, ranging from smartphones, to tablets, to work or home computers or laptops. Parents were also asked to describe what types of technology they used for communication with WLAC; the choices were: home or desktop computer, laptop, mobile device with Internet, email address, iPad/Tablet with Internet, work computer, other, or no technology devices. Families replied they had access to all of the above choices. Even though families had access to technology and indicated that they used technology

to communicate with WLAC, frustration and barriers related to technology persisted, most often among families from the lowest income levels. For some parents, the frustration that all school communication was offered in English only was articulated as a barrier. For some parents, having to rely on family members to translate the information was another barrier. Lastly, other parents found it frustrating that they were not able to access information using their smartphone or that they had difficulty remembering their password.

Epstein's Parental Involvement Framework

In addition to the broad findings presented above, the interviews were analyzed through the lens of each theoretical framework. Epstein's review of the various types of parental involvement (1989) was the framework selected in order to understand more about parental involvement in schools. Epstein asserted that it is the school's responsibility to establish and maintain accessible channels of communication between parents and the school to ensure a wide dissemination of information. Based on this conclusion, Epstein (1989) defined six types of involvement describing relationships between the family, school, and community: parenting (skills), communicating, volunteering, learning at home, decision making, and collaborating with the community. Epstein emphasized that all of these six types of involvement need to be included to have successful partnerships (Wanke, 2008). Of the six types of parental involvement as described by Epstein, *communication* is the foundation of a solid partnership with schools. When parents and educators communicate effectively, positive relationships develop, problems are more easily solved, and students make greater progress (National PTA, 1997). As such, Epstein's concept of communication, within this model of parental involvement, was applied as the theoretical framework for understanding parents' experiences with involvement at WLAC.

Specifically, the definition of communication in this framework emphasizes two-way communication, indicating a reciprocal relationship between the school and the parent. Applying this definition to the study, parents were invited to share how they communicated with the school and how the school communicated with them, explore what was working and what was not, and offer WLAC suggestions for improvement. While two-way communication is the recommended course of action by Epstein (2008), examples of one-way communication also emerged during interviews with WLAC parents.

One-Way Communication

Based on the data, the research defines one-way communication as information that is created to inform parents, but not necessarily to establish a dialogue. WLAC attempted to communicate with parents by using many forms of one-way communication, such as Powerschool (WLAC's student information system), Weekly Email Blast, SignUp Genius (A free online software tool to help WLAC manage volunteer opportunities or event planning), and the homework and school websites. These one-way communication systems were created in an attempt to communicate with parents because of the physical limitations associated with the C.U.P., meaning parents needed preapproval from a school employee before volunteering on campus. WLAC believed that one-way communication would be the most efficient way to communicate with the parents about what was happening at the school.

WLAC invited parents to volunteer through a link called SignUp Genius. SignUp Genius is an online form that makes signing up for any school event quick and easy; it allows parents to sign up for a specific time slot when a teacher needs help with something in the classroom or at the school. Overall, parents reported liking the convenience of signing up at home or work using

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SignUp Genius to help out the teacher at school. One parent from the upper middle income range stated: "SignUp Genius is a very effective way to reach parents that are all over the place and people who are too busy." On the other hand, a parent from the middle-income range expressed that the tool is great, but the times offered on SignUp Genius tended to be during the school day and "it is hard to be available when I have to work."

Powerschool is another website that enables parents to learn about their student's progress. Parents in every income level unanimously agreed that Powerschool is an important tool as it related to their child's progress. This system provided parents with real time access to their child's grades, assignments, quizzes, test, attendance, tardies, and direct access to their child's teachers. Parents felt these tools assisted in making sure their child was staying on track with their schoolwork. Overall, parents found Powerschool and Signup Genius to be easy to access and easy to understand.

Parents from all income levels expressed the school website, the homework link, the online school calendar, and the weekly email blast helped them stay informed and get the information they needed when they needed it. One parent stated that the "one- way communication such as the school website, homework website, and the weekly email blast provided helpful information in keeping me connected to the school and my child." One-way communication is important in establishing a connection with the school and the parent. Parents felt connected because of the one-way communication efforts.

Barriers to one-way communication. Two major issues emerged from the interview data related to one-way communication. First, it was noted that all communication from the school to parents was offered only in the English language and therefore was difficult for many

parents to access. A parent from the lowest income range of under $25,000/year stated: "I do not volunteer, because I do not grasp the English language and feel intimidated having to communicate in English." Many families shared that sentiment. Because communication was not translated, they relied on a family member for assistance in order to participate in school activities. Parents in the lowest income bracket found the information hard to understand without the assistance of a family member who understood the language better and who was available to translate when needed. As one parent stated: "If my son doesn't want to show me his grades there is no way for me to know."

Secondly, not having the skill to navigate the school websites was a barrier to parents. As one parent stated: "More of my problems is to get into a website [sic]." This parent expressed that when she clicked on a tab, she did not know how to get back to the previous page. Another parent stated: "It is complicated to navigate through the website as a Spanish speaking parent," due to the vocabulary used on the website not being a part of their everyday language; for example because of words like: "department" and "student life," the parent was unaware that the "department" tab would provide the parent with a list of departments with each teacher listed and the "student life" tab was a link to all things related to students. A parent in the upper-income level ($200,000 or more) shared: "I rely on my child for information and trust them to share that information, therefore I do not rely on technology." Another parent said: "I'm not a big technology person."

"Somebody else might feel that the technology was more important but for me, it's all about communicating with humans." What was distinctly different among the upper-income families versus the lower income families was that the upper income families relied heavily on

communicating with their child and placed less emphasis on technology, as opposed to the lower-income parents who relied more heavily on the technology and less on communicating with their child. Is technology a luxury for upper class but a necessity for lower class?

Two-Way Communication

Borrowing from Epstein's framework, two-way communication can be defined as a dialogue between the school and the parent. Parents discussed two-way communication during the interviews, typically by providing examples of their responses to the one-way communication by the school. Therefore, two-way communication often meant that parents initiated the dialogue, but parents were pleased to find responsive school staff. Major examples of two-way communication that emerged from the data included comments about email and timely responses.

Email. Specifically, the ability to email with teachers "back and forth" regarding their child's performance and progress was expressed by parents from across the income levels, as being extremely valuable. For example, one parent shared, "To know I could email my child's teacher(s) if I have a concern or a question, they are quick to respond." Another parent indicated "If I have a question someone in the school is able to direct me to the person who can answer my question." A third parent shared, "I have nothing negatively to say about teachers responding to my emails, they have all been so responsive." Similar quotations indicated that parents across income levels all valued the use of email at WLAC as great examples of two-way communication.

Timely responses. WLAC parents liked that whenever they had a question or a concern, school staff were responsive and accurate in providing the necessary information. One parent

stated: "It's nice to know that someone has the answer to my question." Parents wanted to know how their child was doing, and wanted to know what could be done to improve their child's academic progress. Parents expressed that having this kind of communication helped them implement rewards or consequences for their child at home. In contrast, parents at the lowest income level expressed frustration with how WLAC communicated. While the barriers came from English-only communication, there was little to no initiative to send an email to a teacher or a staff member, which would result in two-way communication. When technology did not work, they were more than likely to pick up the phone and call the school for help, but sometimes it would take days for personnel to reply to their question, which did not lead to a timely response or dialogue.

Parental Involvement Conclusion

In the past, schools communicated with parents by using a regular schedule of notices, memos, phone calls, newsletters, and other communication that was sent home; parents would anticipate receiving these forms of communication on a regular basis (Epstein, 2001). However, more and more schools are relying on technology to communicate with families. Electronic technology has essentially changed the traditional ways of reaching out to families, indicating that revolutionary changes in the way schools communicate with parents are underway (Lunts, 2003). Simply put: technology is changing the way schools communicate, which affects the way parents are involved in their children's education. Learning about parents' experiences at WLAC shed light on the ways in which technology can both facilitate and hinder their involvement.

Technology Acceptance Model

The framework selected to understand more about parents' experiences related to technology was Davis's (1989) Technology Acceptance Model (TAM). The basic premise of TAM is that the perceived usefulness of technology, and a person's perceived ease of using the technology, affects a person's attitude about the technology, decision to use the technology, and ultimately, use of the technology (Flowers, 2015). Applying this framework, the following examples showcase WLAC parents' perceived ease of use and their perceived usefulness of technology, followed by conclusions made about parents' attitudes toward technology at WLAC.

Perceived Ease of Use

Perceived ease of use is the degree to which a person believes that using a particular information system or information technology will be free of effort. WLAC parents expressed various degrees of frustration suggesting a difficulty in their perceived ease of use as it related to the use of technology in order to stay involved in their child's education.

Low-income level (Under $25,000). Parents from this category indicated extreme frustration with the technology. One parent said, "I always have trouble; the website isn't translated;" she was unable to navigate the website to find what she needed. Additionally, the terms used on the website were not part of her everyday language, such as "Student Life" (which is the heading used on the website for parents to click on to learn about all things related to the student population such as school events and important dates). Another parent said, "I get lost. I'm not familiar with the computer." She did not have the skill to navigate the Internet. She described how she had trouble finding a website, let alone logging into a password-protected site. Another parent indicated, "I'm not computer savvy," and followed with, "If everything was

not computerized we would be more involved." This parent was frustrated that everything had gone digital and nothing was hard copy anymore. She commented on not growing up like this and feeling left behind, commenting that this was a hard reality. She had to rely on other people to get information and she shared that she did not like it. The ease of use for this group of parents was clearly not present. They said they were frustrated, not familiar with computers, and not savvy. In conclusion, using technology was very difficult for them.

These groups of parents were not in a place of ease, but of frustration with the fact they were not computer savvy and would rather receive the information as a hard copy instead of having to search the Internet. Some parents also mentioned having to rely on a family member, which did not suit them, because in some cases it was their child. "I have to sit next to my child and have him show me everything, he has to read and translate every detail." This particular parent was not sure if the information her son was providing was accurate. Another parent indicated she had to translate the information for her husband, who was able to volunteer for school events, but by the time her husband understood what was needed, the event had already passed or the volunteered spots were already taken up. The level of frustration among parents at this income level stemmed from not being familiar with computers or having to rely on family members to translate the information.

Middle-income level ($25,000– $49,000). Parents from this income level discussed issues related to their perceived ease of using technology, particularly when they would attempt to access WLAC's student information system or website. These parents indicated that they would attempt to use their smartphone but they would encounter difficulties, leading to the conclusion that technology was not easy to use. For example, one parent stated: "I still have to

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remember my login, because I had to create an account because I forgot my password." Another parent discussed difficulty using technology: "There is issues with me accessing my child's grades with my phone, so I just go to my regular computer [sic]." Yet another parent shared: "I do not have a smartphone, but my husband does, thinking having this device would make things easier instead it made things more difficult, because the software didn't recognize the device."

This group of parents indicated that they wanted to access the student information system or website but encountered difficulties when they tried. A common theme that emerged was that difficulties occurred when trying to use their smartphones; they were often not successful either because the website did not recognize the smartphone or there were issues remembering their passwords. These examples indicated a level of frustration with the device they were using or with forgetting their login information. Such experiences led parents to conclude that the technology was not very easy to use.

Upper-middle income level ($50,000–$74,999). Parents from this income level also shared some similar frustration with forgetting passwords, but mainly concluded that they were easily able to navigate the technology. For example, one parent stated that it was a little difficult "having to remember the password" but that otherwise "it is very easy to navigate the school website." Another parent shared: "Signup Genius is the easiest way to get parents to commit and to know if they're going to come and show up." One parent stated: "I use technology all the time, it's how we communicate, so I do not find it difficult to use." Overall, this group of parents was able to navigate through the website and get the information they need. Parents found the way of communicating via technology a part of everyday life. Their interpretation of ease of use of technology was "easy."

Upper-income level ($200,000 or more). Parents from this income level did not comment on the ease of use of technology during the interviews. Across all interviews with parents in this income range, the ease of use was not brought up during our discussions. The administrator-researcher assumed that these parents did not find difficulty or frustration with using technology given that it was not a part of their reaction to my interview questions. Most parents stated that they relied more on their child than on technology. One parent stated: "Technology does not influence, but communication with my daughter has a bigger influence." Another parent said: "I tend to rely on the conversation with my daughter, but find the online grading system, weekly email blast very useful." Parents from this income level therefore did not perceive technology to be difficult or easy to use, but instead suggested that communication about school-related topics happened predominantly with their child, as opposed to directly with the school.

Perceived Usefulness

Perceived usefulness is the degree to which an individual believes that using a particular information system or information technology will enhance his or her job or life performance (Davis, 1989).

Lowest income level (Under $25,000). Parents stated that the following were useful: school website, emailing teachers, homework link, and Powerschool (Student Information System). Parents believed all of these communication tools were useful in providing them information about their child.

Middle income level ($25,000– $49,000). Parents stated that the following were useful: SignUp Genius (online volunteer capabilities), weekly newsletter, Powerschool, homework link,

the fact that everything is online, and the ability to email their child teacher(s). One parent said, "Weekly updates newsletter that goes out in the email blast, I've learned to depend on that." Another parent stated, "Technology facilitates me getting the information accurately."

Upper middle income level ($50,000–$74,999). Parents stated that being able to email the teachers, and accessing the school and homework websites were all perceived to be useful. One parent mentioned, "Yeah, I look at the school newsletter every week, so yeah, I'm always on that. The emailing with the teachers, yes, I've gone on the website." Another parents said, "It is a way to stay connected to school in case we don't get the information from our child, it is just critical." Another parent stated, "I can access it whenever I want it." This group of parents appreciated the convenience the use of technology brought. They believed it was an effective way to connect and could be accessed from anywhere, which parents valued.

Upper income level ($200,000 or more). One parent stated, "I love the fact that I get occasional emails about opportunities, it is a reminder for me to volunteer when I have a chance." Another parent stated, "The website includes things that I can reference such as the school policy, absent forms, teacher emails, and the school calendar, and still get the weekly email blast at the end of every week." A parent stated, "I can access the information I need whenever I need it." Another parent stated, "Having access to Powerschool, and the homework website have made it a relatively easier non-confrontational way to talk to my child about grades and performance." This group of parents perceived the use of technology as easy, convenient, and beneficial.

In the Technology Acceptance Model, there are two determinants, perceived ease of use and perceived usefulness. Both concepts positively affect the attitudes toward an information

system; and further, positively affect an individual's intentions to use the information system. In addition, perceived ease of use positively affects the perceived usefulness, and both perceived ease of use and perceived usefulness are influenced by external factors, such as frustration, language barriers, and reliance on others.

Parent Attitudes about Technology

The TAM posits that perceived ease of use and perceived usefulness can predict attitudes toward technology that then predict the usage of that technology. Davis (1989) thus posited that TAM's belief-attitude-intention-behavior relationship predicts user acceptance of information technology. The parents' attitudes toward using technology at WLAC were both positive and negative; parents had access to what they needed in order to stay involved in their child's education; however, there was a group of parents whose attitudes toward technology at WLAC were negative due to frustration with access to the school website, links, or grades. Perceived ease of use and perceived usefulness positively affect the attitudes toward an information system, and further, positively affect the individual's' intentions to use and the acceptance of the information system. These attitudes are described next by parents in varying income levels.

Low income level (under $25,000). One parent stated, "It's a big challenge . . . a big fight with the technology," because this parent did not grow up with technology, let alone use it at work. Another parent stated, "It's hard, I'm getting experience," and she indicated that she asked other parents to help assist her from time to time. Another parent commented on the fact that being a parent at this school meant that she needed to learn as much as she could so she could stay involved in her child's education. Another parent said, "It's hard for me." She continued:

I use my smartphone more that I use a computer and if my smartphone isn't working then I call the school I think it is easier for me, talking on the phone . . . it is easier for me than doing it over the computer.

One parent asked "How do we use the computer and get answers to all of our questions, when our second language is English? It is hard to get involved when you do not speak the language." Another parent said, "If my son doesn't help me, there is no way for me to do, it's like I am a slave of my child," Yet another parent stated, "It's not like we don't want to be involved, it's harder for us." Based on the comments above indicating frustration with technology, the overall attitude toward using technology among this parent group WAS negative, suggesting an issue with the fact that WLAC did not translate information for parents who did not speak English.

Middle income level ($25,000–$49,000). One parent stated, "I think I take for granted I am computer literate, that I take for granted that level of sufficiency." Another parent said, "I am able to communicate on that level through technology." Yet another parent said, "I like getting the email and the weekly updates and the website." Another parent stated:

Accessing information does not require a huge effort on the part of the parent so even if you don't have a computer or don't have a phone you can still, at least have access, you can figure out a way to get the information.

The attitude toward accessing technology among this parent group was positive; they shared that they felt it does not take much effort to access the information.

Upper-middle income level ($50,000– $74,999). Most parents in this group had similar responses. One parent stated, "I think technology is a great tool for letting people know about

what's going on and then being able to get involved in that way." The attitude toward using technology for these parents can also be seen as positive, due in part to their belief that it was a useful tool.

Upper income level ($200,000 or more).   One parent from this income level stated, "I'm not a big technology person. Somebody else might feel that the technology was more important but for me, it all about communicating with humans." Based on this example, the parent's attitude toward using technology was neither positive nor negative. Instead, this parent had a neutral view technology and, if anything, felt it was less effective than relying on their child. Most parents in this income bracket expressed similar views.

In conclusion, WLAC parents' attitudes toward technology were both positive and negative, varying based on income level. Parents liked that they could access the website and their child's grades, and received information about the school every week. On the other hand, some parents were frustrated with the fact they only could get information in English, when they were not English speakers, and had trouble accessing technology with their device such as a smartphone.

Attitudes about WLAC Policies

All parents' attitudes toward WLAC policies were positive. The current policy at WLAC included volunteering for at least 16 hours (per year, per family) during school hours, weekends, or evenings. This could include participating in a school project, event, or classroom activity, in addition to the other requirements of the Home-School Contract. Parents from every income level expressed that "it is a good policy." Specifically, parents believed that the policy was good because it encouraged them to be more involved in their child's education while staying

connected to the school. However, a parent from the lower income level expressed that it was a "good policy for parents who are savvy and a bad policy for parents who are not." While a parent from the upper income level shared: "The school policy is great, but may be hard to enforce increased involvement."

Technology Conclusion

Based on the findings related to the Technology Acceptance Model (Davis, 1989), WLAC parents had mixed attitudes, both positive and negative, about the perceived ease of use and usefulness of technology. Technology determined parental involvement; it was not about access, but about comfort level. Lower income families were not comfortable and felt lost while trying to use technology, which then resulted in the parents feeling unsure about how to be involved. When they tried calling the school, it was not any more efficient than having access to technology. These groups of parents wanted to be involved, but there were barriers that limited them. Attitudes about technology delineated along income levels, such that parents from lower income levels felt frustration in getting information, navigating the website, and having to rely on others to answer their questions. Parents from upper income levels felt positive about technology because it came easy to them. Some neutral comments about technology were made by members of the upper income bracket but even these suggested that technology was an accepted aspect of their lives.

The purpose of study was to investigate the intersection between technological access and parental involvement at WLAC. WLAC relied on technology to communicate with parents and expected parents to be involved in the school. This case study first sought to determine how technology influenced parental involvement at WLAC and whether these

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experiences differed for parents with and without access to technology. It was discovered that parental involvement at WLAC was hindered by technology: for some parents, access to technology in the lower income level was frustrating because their devices (phones) did not work when they were trying to access their child's grades, and they were also frustrated because they were not able to volunteer during school hours due to work or other commitments.

The second research question attempted to identify parents' perceptions about school policies related to technology. Specifically, the researcher sought to understand whether technology hindered or facilitated parents' involvement in the school. WLAC parents shared a variety of ways they were involved in the school but interestingly, technology both facilitated and hindered that involvement. First, involvement descriptions differed by income level such that lower income families discussed ways of direct involvement in the school in forms of service (i.e., cleaning, coaching). Upper income families described involvement in more indirect ways (i.e., carpooling, donating, raising money). Lower income families expressed greater frustration with the technology, which served to hinder their involvement. Upper income families expressed greater comfort with technology, which facilitated their involvement.

Regarding school policies, utilizing Epstein's theoretical lens about communication, the administrator-researcher noticed that the school offered one-way communication only through the use of technology (i.e., website, Powerschool, SignUp Genius, emailed newsletters). To engage in two-way communication, parents had to initiate the conversation with the school, usually after they received an initial one-way communication from the school. Parents (in the upper and upper middle income levels?) indicated their appreciation for timely and responsive school staff, suggesting that true two-way communication was happening and that a dialogue

was occurring, by having a technological dialogue (i.e., emails back and forth). Lower income families expressed a preference for calling the school by phone. Issues hindering parental involvement, especially for lower income families, were tied directly to the school's one-way technological communication in that these forms of communication were not translated into Spanish to meet the needs of these families.

Utilizing the TAM's theoretical lens, the administrator-researcher noticed that parents from lower income levels were frustrated while attempting to use technology, did not see it as useful, and had negative attitudes about it. These parents had particular difficulty understanding what they were signing up for, how to get their questions answered, and how to access their child's grades. Parents from upper income levels found the technological communication easy to navigate, but found speaking to their child more useful in order to find out about ways to participate in the school. Their attitudes toward the use of technology could be conceptualized as neutral or positive in that they expressed that it was part of their daily life.

Epstein's (1992) six types of involvement establish the framework for constructing successful family-school-community partnerships that in turn foster academic achievement and behavioral success. Davis (1989) proposed the TAM framework to address why users accept or reject information technology. Parental involvement did not require parents to be physically at their child's school. The question of how technology could be used to keep parents connected to their child's school will continue to exist. As schools invest in websites, phone calling systems, parent portals, online curriculum, and other types of technologies that connected schools to home, research needs to continue to focus on the effectiveness of these technologies to increase parent involvement (Olmstead, 2013).

CHAPTER 5

DISCUSSION

The purpose of this study was to understand the intersection of parental involvement and the use of technology at WLAC through the lens of four groups of parents: low-income level of $25,000/year and under; middle-income level of $25,000–$49,000/year; upper-middle income level of $50,000–$74,999/year; and upper income level of $200,000 or more/year. WLAC was a school where all income levels were represented, so to be able to pull from all income levels provided a perspective that illuminated the wide range of experiences that parents had at WLAC related to parental involvement and the use of technology. After interviewing parents from each of the four groups, the administrator-researcher applied Epstein's (1989) framework of the types of parental involvement, with a focus specifically on one- and two-way communication. Next, the administrator-researcher applied Davis's Technology Acceptance Model (1989) as a framework to address why parents accepted or rejected information technology by examining their perceived ease of use of technology, perceived usefulness of technology, and attitudes toward using technology. This analysis will assist WLAC in understanding whether current policies encourage and support the use of technology to communicate with all parents or if new policies are necessary. Findings also have the potential to contribute to the larger body of literature that currently does not connect technological access with parental involvement at schools.

Discussion of Findings

The primary finding that emerged from the data was that technological access and parental involvement at WLAC were closely intertwined. For example, those parents who

struggled with technology were also limited in their involvement, specifically due to issues with the English language and with the lack of technological skills that limited their ability to navigate online school systems. While the desire to be involved was apparent across all families, comfort with participating was a barrier expressed particularly by the lower-income parents. Specifically, lower income parents shared their discomfort and frustration in their attempts to be involved at WLAC and indicated that they often needed to rely on others to translate information for them.

Social Justice Implications

The researcher, by virtue of serving as an administrator at the school, assumed, prior to conducting the study, that parents who were not involved in their child's education did not have access to technology. Based on this study, the administrator-researcher now concludes that all parents (at least those who completed the technology survey and those who were interviewed) have access to technology. The varying experiences of parents ranged from complete reliance on the use of technology for communication, to not relying on technology but rather relying on their child to communicate with them. These experiences are reminiscent of the work by Van Dijk (1999) who suggested four types of access to technology. The "material access" or actual possession of computers was not an issue among WLAC parents. However, two kinds of access were very clear in the findings: "skills access" (lack of digital skills caused by insufficient user friendliness and inadequate education or social support) and "usage access" (lack of significant usage opportunities or equal distribution of them). Parents in the lower income level repeatedly said they were not as familiar with technology, and they commented that they felt they should be more familiar with technology, which made them feel as though they didn't have adequate support. Some parents admitted to not having the skills to navigate through the website, send an

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email, or access information about their child's grades. Parents in the same income bracket also indicated that their jobs did not require the use of technology, that this use was only required at their child's school, and they were learning to use it day by day. In this way, the concept of "mental access," or computer anxiety, as suggested by Van Dijk (1999) could also be observed among WLAC parents at this income level. Frustration was a clear sentiment expressed by parents, suggesting "mental access" issues among parents; when a parent feels frustrated, the technology can appear unattractive, leading to less usage.

Prior to the study, the administrator-researcher had also originally assumed that uninvolved parents at the school were not involved simply because they did not desire to be involved. Based on this study, however, all parents expressed a desire to be involved in their child's education, but barrier after barrier kept them from being able to participate. These barriers not only hurt the parents, but also ultimately could affect the student's ability to achieve. The barriers were stated as the following: information in English only, remembering passwords, and not being able to access information from their smartphone. Parents at the lower income levels mainly experienced these barriers.

Disparities in Access: Income Levels

There was a clear disparity in access to technology based on income level among parents at WLAC. Similar to the research suggesting that income level is a major factor in access to technology (NTIA, 1995), parents in the low-income level were frustrated with the fact that their smartphones did not work when trying to access Powerschool (the WLAC online grading system) to view their children's grades. The parents in the middle-income level had access, but were more frustrated with the fact that they needed to remember a username and password when

logging into the system. The parents in the upper-middle income level stated that technology was part of their daily lives and that they felt comfortable with their level of access. The parents in the upper income level had access, but relied heavily on their children for communication regarding school-related topics. Based on the findings from this study, issues related to access clearly affected the lower income levels the most, similar to findings from previous research (NTIA, 1995). As such, there was a clear digital divide within the parent groups interviewed. WLAC needs to find ways of closing the gap within the school. Borrowing from the Technology Acceptance Model (TAM) framework by Davis (1985), attitudes toward using technology will improve when parents perceive the technology to be easy to use and find it useful. Knowing now that parents have access to technology, WLAC needs to ensure that communication about the school is offered in Spanish and can be accessed via a smartphone. Providing support and tutorials, and making these readily available to parents might also improve negative attitudes towards technology, which in turn, according to the TAM, should lead to stronger intentions to use technology in the future.

Parent Involvement

Researchers continue to find evidence that higher levels of involvement by parents are related to academic success for students (Epstein, 2001). The promotion of parental involvement in order to increase academic success raises issues of equity, since rates of parental involvement are significantly higher among middle- and upper-class parents than in low-income families (de Carvalho, 2001). Parents with higher incomes and more education maintain stronger relations with schools than parents with lower incomes (Baker & Stevenson, 1986; Lareau, 1989).

Communication between schools and families is essential for building trusting relationships that foster parental involvement. Technology offers parents the means to actively participate in their child's education without being visible in the school, thus fostering adolescent independence in a supportive environment. This is critical during the middle school years because students are going through physical, emotional, and intellectual changes while seeking greater autonomy and self-sufficiency (Ouimette, Feldman, & Tung, 2004). Although parental support is important for a child's academic success, middle school students need support in all areas of their lives (Grolnick, Benjet, Kurowski, & Apostoleris, 1997).

Research has indicated that middle school is a pivotal time in a child's life when they need their parents to cheer from the sideline. But if their parents are unable to access their child's information, how can they cheer them on? The simple answer is that they cannot. This is an issue because students need their parents to remain involved in their academic life all the way through 12th grade.

Parent Involvement Framework

Epstein's (1998) work on parental involvement can provide a way to foster communication and a home-school partnership. Intersecting this notion of communication with today's reliance on technology, parents and teachers now have the opportunity to explore new ways of communicating. Technology has the power to improve the parent-school relationship by providing easy, efficient, and effective methods of transferring information. The majority of information that schools share with families has traditionally been one-way: letters, flyers, automated phone messages, newsletters, and Web pages. It is clear that the Internet is a uniquely powerful communication tool (The Children's Partnership, 2010). Technology provides parents

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with a way to monitor their child's schoolwork, and research has suggested that it is important for parents to monitor their child's daily activities and communicate frequently with teachers in order to improve student achievement.

According to the literature, "When introduced, supported and used appropriately, technology can improve links between home and school learning and close the gap between parents, teachers and learners" (Lewin & Luckin, 2010, p. 756). Communication can be effective when provided in a manner that is easily accessible and convenient to use (Liao & Tsou, 2009; Patterson et al., 2009) by both parents and teachers. Findings from this study highlight that there is a disconnect between the use of technology and parental involvement, primarily seen among lower income parents at WLAC. This finding sheds light on the fact that while communication can be effective via technology, that is not always true among parents who struggle with technological access or access to information (i.e., not being able to read information provided only in English).

Knowing this, school administrators, who have the power to implement programs in public education, can develop strategies for improving parent knowledge of and attitudes toward using technology to communicate with the school.

Because the literature has indicated that barriers to high parental involvement still exist (Kim, 2009; Turney & Kao, 2009), despite the fact that technological advancements in the 21st century have made communication easier (Chang & Wang, 2008; Jones & Fox, 2008; Shayne, 2008), exploring what works and what does not work related to the use of technology as an avenue for increasing parental involvement in the academic setting is of critical importance. Technology has strong implications for promoting social change by reaching a

larger community quickly. However, administrators must understand the dynamics of parental involvement and technology use in order to create new social practices and new patterns of communication between parents and teachers. Results of this study could be used to change these conditions. Specifically, parents' use of technology to communicate with teachers can be an avenue for increasing teacher/parent communication and thus parental involvement.

Limitations

This study was significant because the results have the potential to be used to improve parent/teacher communication within a school environment. As with all studies, however, the study was limited primarily because it only included parents in grades six through eight at one school site: WLAC. The study is not generalizable beyond parents in those grade levels or beyond the research site; however, findings may be helpful to schools with similar demographics and school resources. The demographics at WLAC consist of an entire student body of 825 students with 50% Caucasian, 27% Latino, 16% African American, 4% Asian, and 3% other. The free and reduced lunch population was 17%; 10% was comprised of special education students. Any school that has a parent population of varying socioeconomic backgrounds enrolled in the school, and any school with a culture that places great emphasis on parental involvement, would benefit greatly from this study. Schools that primarily rely on technology to communicate with parents might also benefit from this study.

Using interviews for data collection can be limiting because not only do they provide indirect information filtered through the views of interviewees, but they also provide information in a designated place rather than in a natural field setting. However, given that the purpose of the study was to begin to explore the intersection of parental involvement and technology at a

school, interviews of parents provided the personal experience of parents and were therefore an appropriate way to address the purpose of the study. Finally, the researcher is an administrator at the school site and this dual role may have generated biased responses (Creswell, 2014). To compensate for these limitations, the administrator-researcher attempted to stratify based on income to increase the diversity of the sample. The administrator-researcher also member checked all transcripts of each interview conducted to mitigate any personal bias in the interpretation of the data. Still, as an administrator at the school site, with direct influence over the implementation of school policies and procedures, the administrator-researcher's positionality may have skewed interpretations of the data. The administrator-researcher believes that issues of access are putting parents at an extreme disadvantage considering all school communication is done via the Internet. A benefit of having the dual role as administrator-researcher in this case study is that recommendations for WLAC can be implemented immediately.

Recommendations

Implications for Practice

Although it is 2016, it cannot be assumed that using technology comes easily to everyone. Some parents only check their email once a week, or not at all, which means they may be alerted about volunteer opportunities after a signup deadline passed. There are parents who do not use technology in their everyday lives and need assistance and support. Providing this assistance will allow those parents to access the same information as the other parents within the school environment. Schools need to take the time to teach parents about how to use technology so that they are not frustrated when they try to access student and school information. As such,

WLAC will implement a parent technology-learning program, offering parents the opportunity to learn how to access the electronic resources they need to use.

Policies are very much a part of the mission of WLAC and are viewed as holding parents accountable for being involved in their child's education. Based on the findings, several recommendations for WLAC can be offered. Specifically, the reasons for low parental involvement among the low-income level parent population were found to be due to having to rely on a family member to translate the information from English to their native language, not being familiar with how to use the computer, and not being able to access information through their smartphone. Providing more translatable communication may help bridge the communication gap between parents and teachers. As such, WLAC needs to take the time to translate all communication that goes out to parents. WLAC also needs to make all stakeholders aware of this issue and so that addressing it becomes a priority. WLAC also needs to make sure parents can access all information via their smartphone. The study's findings demonstrate that WLAC needs to provide both one- and two-way communication with parents if they want to increase parental involvement and possibly increase academic success for students (Topor, Keane, Shelton, & Calkins, 2010). Therefore, to foster, encourage, and support parental use of technology to communicate with the school, it is recommended that district administrators, school administrators, or both:

1. Be sure that all communication from the school can be translated by a click of a button for parents, because a parent from the lower income level stated, "My son knows how to speak Spanish, but doesn't know how to translate it to me, so I have no idea what to do."

2.   Create online software that allows parents to retrieve their passwords easily, because a parent from the lower income stated, "The password is saved on my email saved always wrong, but it same email. Sometimes get in. Sometimes does [sic]."

3.   Create an implementation plan to update mobile phone number, email address, an alternative email address, and contact information along with other emergency information at the start of each school semester to ensure the most current information is logged into the student database. A parent in the lower income bracket stated, "Calling I think is easier for me, talking on the phone or telling us what to do is easier for me than doing it over the computer."

4.   Develop a concise online tutorial, for parents, regarding the use of the notes embedded in the website, online grading (Gradebook) system to communicate with teachers, because a parent form the lower income stated, [when navigating the website]:
Why this show up? How I going to close this? Why so many opens? How I go back. I get lost. Where is my page where I was [sic]? It is a bit complicated to navigate through the website as a Spanish-speaking parent."

5.   Make teacher contact information readily available to parents in a hard copy (in the school main office and by traditional mail) and electronic (web based) forms, as a parent from the lower income stated, "The only problem I have is everything is computerized. We don't get any paper like report cards that we are used to [sic]."

These recommendations would help ensure that all parents were given equitable access to be able to be involved in their child's education without barriers.

Future Steps

The administrator-researcher is committed to sharing the findings of this study with the WLAC community. To that end, the administrator-researcher will present the data in the aggregate to the parent community and engage the parents in a dialogue about additional recommendations for WLAC. The administrator-researcher has already presented the findings in the aggregate to WLAC faculty and staff, which provided a chance for faculty to offer specific feedback that can be implemented in the immediate future at WLAC. Additionally, the fact that these recommendations came from WLAC faculty and staff may suggest a level of commitment to seeing these recommendations through. Specifically, the recommendations include:

- Hire an Information Technology (IT) employee to implement the changes to the website and ensure all communication from the school can be translated into other languages easily.

- Send text messages on a weekly basis to lower income families who have access to smartphones, to make sure they receive all communication from the school.

- Research a new SIS (student information system) that may be more user-friendly for the population that WLAC serves.

- Encourage teachers and faculty to be more proactive in reaching out to the lower-income families from the beginning of the school year, with the mindset that not everyone has the same type of access to technology.

Implications for Researchers

This study helped fill the gap in literature about parental involvement and the use of technology. As an exploratory study, this case study shed light on how technology intersects

with parental involvement and provided insight to school administrators who want to bridge the gap between parents who have access and parents who do not have access. Additional research is needed to extend this line of inquiry, including replicating the research in other school contexts. While this study focused on middle school parents due to the research on how important parental involvement is during those critical years, future research may examine early elementary school practices or high school practices related to parental involvement and the use of technology. Finally, the current study did not examine how parental involvement affects student achievement. This study suggests that the relationship between parental involvement and student achievement may be mediated by school policies that rely on the use of technology and parents' access to or attitudes toward technology. Future research should examine if such mediated relationships exist in order to document the impact parental involvement has on student achievement. Such research can then extend to broader policy recommendations. Based on the current study, one policy recommendation for practitioners is to consider parental access to and attitudes toward technology prior to implementing school policies. Nationally, policy makers should encourage schools to gather technology information from families and offer technological assistance to families.

Conclusion

Parental involvement is critical to student success. Technology has changed how parental involvement looks in schools. Yet schools may over-rely on technology to communicate to parents, and inadvertently widen the digital divide for families without technological access, technological skill, or positive attitudes toward technology. Communicating through the use of technology is not successfully increasing parental involvement among low-income level families

at WLAC. If schools put forth considerable effort to establish strong connections with their students' parents, parents are prone to get involved with their children's education, and students are prone to make greater academic achievements (Galindo & Sheldon, 2012; Lloyd-Smith & Baron, 2010). It is in the best interest of schools then to investigate policies related to parental involvement and the degree to which technology plays a role in that involvement.

Rogers and Wright (2008) suggested that parents and teachers are not taking full advantage of technology to communicate with each other. With that in mind, this qualitative study was designed to understand the intersection of parental involvement and technology use at WLAC, while being mindful of different experiences based on income levels. Many parents could not take advantage of involvement opportunities because they lacked the technological skills or because what was offered via technology was not helpful (i.e., language barriers). Although parents were generally supportive of the new communication technology, school officials must not ignore concerns expressed by some parents in this study. It serves as a reminder that developing technologies and the attention necessary to implement and maintain them can obscure the best interests of students and parents. Schools can avoid this pitfall by carefully balancing the appealing nature of communication technology with what research indicates are best practices for home-school communication. Failure to achieve this balance may result in parental rejection of computer-assisted communication and the waste of the millions of dollars that schools will spend on their infrastructure. The ultimate goal of such research is to enhance administrators' understanding of the dynamics of parental involvement and technology use an to encourage the creation of new school policies and new patterns of communication between parents and teachers, all of which could increase parental involvement and, eventually,

student academic success. Ultimately, the study found that *language* was a barrier to technology and therefore to parental involvement. Access to technology was not the barrier to parental involvement in and of itself; in fact, all parents had access to technology. What mattered most was whether parents could access the language of the school. If parents cannot read words in English, navigate the words used on the school's website, or type an email to teachers, they cannot be involved at the school. In short, language was the issue of "access" found in the study. Knowing that language was the key barrier shed light on concrete ways in which the administrator-researcher can address the intersection of technology and parental involvement at WLAC.

Parent Interview Protocol

Explanation and introduction to parents: "Hello, my name is Tanisha M. Barnett, and I am conducting a study on access, technology and parental involvement. Thank you very much for taking the time out of your busy schedule to speak with me. Your opinions about access, technology and parental involvement are very important. I want you to know that your participation in this study is voluntary, and that all of your answers will be kept in strictest confidence. I will be the only one reading your answers. My only request is that you respond as fully and honestly as possible to all of the questions asked. Your answers will provide information to help our school plan for better policies that include access, technology and parental involvement for all parents. I will take notes during this interview and will not use your name or the name of school in my study. Do you have any questions?"

Questions for ALL parents

1. What type of involvement do you have with WLAC?

o   What type of involvement do you think helps you feel the most connected to WLAC?

o   Does WLAC provide suggestions on how to get involved? How so?

2. Do you use WLAC's technological resources (e.g. website, email blast, online   grade book) to get information about school events, policies, or your child's schoolwork?

•   If yes, which resources do you use?

•   If no, why not?

3. What other practices or strategies have you used to get the information you need about your child?

4. There is a school-wide policy at WLAC about being involved in your child's education. How do you feel about this policy?

•   What changes would you like to see made to this policy?

Questions for parents WITH access

5. Has using technology increased your involvement at WLAC?

•   In what ways?

6. Do you feel that the technology tools WLAC has provided for parents are sufficient to stay involved in the school community?

7. What challenges have you experienced using technology to stay involved at WLAC?

8. Can you give an example of something WLAC does with technology for parental involvement that you like?

9. Can you give an example of something WLAC does with technology for parental involvement that you DO NOT like or find difficult to use?

10. Do you have any ideas or suggestions for ways to use technology to increase parental involvement at WLAC that you would like to mention?

Questions for parents WITHOUT access

5. What challenges have you experienced using technology to stay involved at WLAC?

[If top reason for not using tech tools is lack of access to hardware/internet]

APPENDIX A

6. What resources would you need in order to access the technological tools provided by WLAC?

7. If you had access to those resources, do you think you would use the website, online grade book, etc.?

8. Are there things besides access to hardware/internet that hold you back from using technology (in general and in respect to the WLAC community?)

9. Do you feel that communication and opportunities for parental involvement are sufficient for parents who do not use the technological tools?

10. Do you feel "left out" of certain school events or communications because you do not have access to the website, grade book, etc.?

11. Do you feel that you are able to be involved in your child's education as much as you would like, even without access to the technological tools?

12. Do you have any ideas or suggestions for what the school could do differently to support families who do not have access to the technological tools provided for parental involvement?

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