

**SCHOOL LOOP AT HOME:  
AN INTERACTIVE eMODULE FOR PARENTS**

A Project  
Presented to the  
Faculty of  
California State Polytechnic University, Pomona

In Partial Fulfillment  
Of the Requirements for the Degree  
Master of Arts  
In  
Education

By  
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2018

**SIGNATURE PAGE**

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eMODULE FOR PARENTS

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## **ACKNOWLEDGEMENTS**

I would like to thank those who supported and contributed to my graduate work. First, I would like to thank my Heavenly Father who always has a plan for me, constantly opening doors and reminding me to place my trust in Him. I would also like to thank my family and friends who have walked this journey with me, supporting and encouraging me to further my education. Without their support, this project would not have been possible. A special thanks to my husband, Brian Yu, for the never ending prayers and encouragement throughout graduate work. Finally, I would like to thank Dr. Shahnaz Lotfipour for guiding me throughout my classes and my project.

## **ABSTRACT**

Problems are ongoing as schools attempt to build relationships with parents through constant communication (St. George, 2010). With technology becoming increasingly popular, schools have access to innovative ways to improve communication. The purpose of this project was to create an eModule to teach sixth-grade parents to use the school grading website system, School Loop. The eModule was designed to explain how to use various components of the school grading application and communication system such as registering, checking student's grades, and emailing teachers and staff. The project was intended specifically for sixth-grade parents to learn before their child starts middle school.

This project investigated various literature on the impact of positive involvement from homes that can greatly impact students' school life (Dearing, Kreider, Simpkins, & Weiss, 2006). Although parental involvement is highly encouraged, there are barriers that hinder families from being active participants in their child's education (Sirvani, 2007). These barriers include lack of resources, responsibility, and training. The project focused on equipping parents to utilize the school grading and communication system so that they are trained with the proper resource to be more engaged with their child's school life.

This project used Articulate Storyline 2 to create the interactive training program and was created with the ADDIE instructional design model as the backdrop. The result of the needs assessment conducted with a group of sixth-grade parents provided the content for the tutorial. This training program was created to allow parents to learn how to use the school grading and communication system, to register for the system, to email

teachers and administrators, learn the basic navigation of the website, and how to check their child's grades online. The tutorial was installed at Cal Poly server. After IRB approval, sixth-grade parents were invited via recruitment letter to participate in the tutorial and survey. The survey asked for their feedback about the module.

Parents of one hundred and eight six grade students were invited to participate in the field testing process. Twenty six responded through the online survey. Feedback was received from parents about the interactivity of the module, multimedia components, aesthetics, and navigation of the training program through the survey. The results showed a positive attitude from a majority of the participants. After the field testing was completed, it was concluded that the tutorial accomplished the learning goals as majority of the participants indicated that the tutorial gave them enough knowledge to begin using the school grading and communication system, School Loop.

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## **CHAPTER ONE**

### **INTRODUCTION**

The transition from elementary school to middle school could potentially be an overwhelming and stressful experience for both students and parents. Parents often feel untrained and inexperienced to keep up with six classes and teachers, instead of just one (Ryan, Shim, & Makara, 2013; Murray, Finigan-Carr, Jones, Copeland-Linder, Haynie, & Cheng, 2014). At the middle school level, parent-teacher conferences were considered inconvenient and obsolete, so they were subsequently replaced by a fully operated online grading and communication system (Thompson, Mazer, & Grady, 2015).

With technology thriving so rapidly, teachers utilized resources such as e-mail, text messaging, social media, and various smartphone apps to maintain an open communication with parents (Thompson, Mazer, & Grady, 2015). However, many of these communication platforms did not guarantee that the information was received on the parents' end (Neely, 2005). Therefore, the promotion of parent involvement was crucial in the public school system, especially in the P-12 level (Thompson, 2009). Without a preparatory program such as this project to teach parents how to utilize the school system, teachers continued to struggle to get parent involvement in their child's school life.

Students and their families need an appropriate online resource that is relevant, meaningful, and "user-friendly" to assist them in utilizing technology. Therefore, it is a worthwhile investment to equip and train parents on these digital resources in order to encourage student success (Lazarus & Rothsuh, 2010).

## **Background of the Problem**

Evidence had shown that parent and teacher interactions have been a necessity to student success in the educational setting (Z. Chena & C. Chena, 2015). In fact, research stated that parents who used technology were more involved in their child's education (Thompson & Mazer, 2012). Their involvement led to an improvement of student success, as evidenced by higher academic achievement, graduation rates, and school attendance ((Thompson & Mazer, 2012). However, parents were unable to use the technology that was necessary to stay informed about their child's progress, contact teachers, or didn't know how to be involved in their child's education (Lazarus & Rothschuh, 2010). The lack of training on these communication systems caused a withdrawal in parental involvement, which created a barrier for effective home-school communication (Lazarus & Rothschuh, 2010). Therefore, it was a worthwhile investment to equip and train parents on these digital resources in order to encourage student success (Lazarus & Rothschuh, 2010).

The ability to be kept informed about student progress connected two potentially important learning areas, home and school (Senge, Cambron-McCabe, Lucas, Smith, Dutton, & Kleiner, 2000). The most common Web-based tool used was e-mail, which enabled a two-way rapid communication between parents and school (Olmstead 2013). Thompson et al. (2015) found that parents chose to use e-mail as their main form of communication due to convenience. Another common channel of communications was the student information system. Teachers inputted student data, such as grades and citizenship as a way to keep parents informed on their child's updated progress in class. In addition, certain systems also allowed teachers to take attendance and communicate

specific feedback on homework and behavior by adding comments (Lazarus & Rothschuh, 2010).

Lazarus and Rothschuh (2010) recommended establishing parent training and support, which would enable meaningful training and technical support for parents to support their children's education. This project aimed to fill the communication barrier between parents and their child's school with better understanding of useful technology aids. It would involve teaching parents how to use the school information and communication system by providing a training website that could ultimately increase student achievement and success.

### **Statement of the Problem**

According to the literature review, teachers and parents play a prominent role in encouraging and participating in student achievement. Studies continue to show that parents who are actively involved result in students are more motivated to do well in school. There is also an increase in test score when parents include themselves in school related activities (Palts & Kalmus, 2015). Although there are parents who want to be more involved in their child's academics, many parents admit to having limited training and access to technology to communicate with teachers and participate in their school related activities (Swindle, Ward, Whiteside-Mansell, Bokony, & Pettit, 2004). Communities provide various resources and training sessions to educate parents on how to utilize the available technology (Rivera, 2014).

## **Purpose of the Project**

The purpose of this project was to create a website to teach sixth grade parents to use the school grading website system, School Loop. The website would explain how to use various components of the school grading and communication system such as registering, checking student's grades, e-mailing teachers and staff, and receiving instant alerts and notifications. The project also included an interactive animation demonstrating why it is important for parents to be involved in their child's education such as checking homework, encouraging their child, and communicating with teachers. Each page was self-navigated with checks for understanding to ensure that the user understood the content.

Each section of the website was created with various multimedia components to model each component of the training. The website began with a short interactive animation, created with Adobe Animate, which showed how parents could be involved in helping their child succeed. Checks for understanding quizzes were also embedded throughout the training to test knowledge and maximize chances of understanding.

The tests for understanding were recorded to see how well the information was retained. After completion of the training, the learners were given a survey to rank their comfort level on utilizing School Loop and satisfaction with the training.

## **Scope**

### **Assumptions**

For the purpose of this project, the author assumed that the learners know how to use computers to go to the given website and self-navigate through the module.

### **Limitations**

The project was limited to sixth-grade parents in a specific middle school. This project was limited by the time allowed to complete the training. Since the school grading and communication system could be changed the following year, it is important for parents to complete the training to better assist their child before any possible changes were made by the district. This project only collected parents' comfort levels and knowledge of the school grading website based on pre and post surveys and embedded quizzes. The training description information was also limited to minimize the time needed for parents to participate. Therefore, key concepts that the author felt were most necessary to improve parent-teacher communication were included in the training. The project was only offered to parents of sixth graders, as it focused on assisting those needing to navigate a new system from the one used in their elementary school.

## **Definition of Terms**

### **Parent-teacher communication**

Parent-teacher communication represents a primary form of parental support, emphasizing the connections between support and academic achievement (Thompson & Mazer, 2012, p. 131).

### **School Loop**

School Loop provides us with a web based communications utility that allows parents and students to keep in touch with teachers and other staff members. Teachers can maintain their own sections of the website. In addition to the public website, the School Loop Utility allows the school staff to create news and calendar events that are viewable only for registered users, such as parents, students, teachers and staff, when they log in to the website. (Mission San Jose High School, n.d., ¶ 1).

### **Title I School**

A Title I School is a school that includes a federal program that receives financial assistance to ensure that all children have a fair and equal opportunity to high-quality education (U.S. Department of Education, 2015, ¶ 1).



## **CHAPTER TWO**

### **REVIEW OF LITERATURE**

Teachers, schools, and families play important roles in students' education through adequate and active collaboration together (Griffin & Steen, 2010). Despite the barriers that hinder parental involvement in education, experts continue to use digital communication to enhance the connection between parents and teachers through proper channels (Strom & Strom, 2002). Through various media outlets, parents and teachers have the ability to create relationships that would focus on establishing a practical avenue for students to grow and improve (Palts & Kalmus, 2015).

This chapter investigates the following topics: parent involvement in their child's education, parenting of the new digital generation, and parent involvement in lower economic status families.

#### **Parent Involvement with Schools**

Parental involvement and communication with schools are generally underestimated by the public. Many studies show that student academic outcomes increases when positive and open communication are created between families and schools. The forms of collaboration between both parties include school websites, phone calls, and parent conferences (Epstein, et al., 2008). Parent involvement results in an increase in academic achievement, student sense of well-being, school attendance, and positive student attitudes and behaviors towards their learning. When parents and

teachers create a relationship that allows positive collaboration, students are more accountable and hold more responsibility in their learning (Sirvani, 2007).

Educators who place a priority on parental involvement and constantly pursue communication with parents create better learning environments for students (Epstein et al., 2008). Generally, when parents monitor their children's school work, there is an increase in achievement. In Japan, Matsuoka, Nakamuro, and Inui (2015) who studied students from fourth to sixth grades and their parents, conclude that parents who have higher educational expectations for their child actively participation in their children's education.

Another study conducted in Japan shows the desires of students to pursue higher education is influenced by parents encouraging them to spend learning hours during fifth and sixth grades. Through parent encouragement, students not only improve in academics, but also in behavior. In addition, this study continued to investigate the result of "rigorous" parenting that included the expectation of high number of learning hours over the weekdays, weekends, and holidays, checking their child's homework, volunteering at school, and in-depth parent-child interactions such as discussing life decisions. All of these involvements led to an increase of academic performance in ninth-grade, which gradually turned, into a positive influence as to whether these students will continue to higher education (Uzuki, 2004).

Studies show how parental involvement encourages more active participation from the students. With proper motivation and accountability by parents such as

checking student work and ensuring that students study efficiently, students tend to have a more positive outlook on school and other school activities (Epstein, 2001).

One study was conducted on the value of parental involvement on literacy performances. The study was based on a cohort of 281 low-income children from kindergarten to fifth grade classes. The results showed a direct correlation between student literacy achievement and parent involvement. As parents actively involved themselves in their child's reading by reading with them and keeping them accountable to consistently read challenging books, the child's reading level increased significantly. Furthermore, the study showed that educators can actively seek for parental involvement through newsletters, parent conferences, and teacher websites, which will eventually increase student performances (Dearing, Kreider, Simpkins, & Weiss, 2006). There are times where parents are unaware or do not know how to help their student, therefore, teachers need to recruit and educate parents on various resources that they can use to support their student (St. George, 2010).

### **Role of Communication**

Communication is essential for building relationships, therefore, teachers strive to create a bridge to close the communication gap. One common method is to create classroom newsletters to inform parents of various school activities that include homework, lessons, upcoming assessments, extra resources, and other important dates and announcements (St. George, 2010). Educators actively seek to connect and improve relationships with parents by creating various resources and tools such as classroom websites or blogs. The use of these technology allows both parents and teachers to

passively communicate with one another without any physical or verbal meetings (Olmstead, 2013).

The bridge between school and home represents a crucial connection in improving students' school life through an increase in academic and behavioral performance. An environment that promotes care and advancement is a result of a positive collaborative relationship between home and school. The communication between the two parties become easier and creates an environment where students know that there is positive support both at home and at school (Epstein, 2001). A district in Massachusetts had 7,000 students between Kindergarten and twelfth-grade, were culturally and linguistically diverse so they conducted a study to implement a Parent Partnership for Achieving Literacy (PAL) Program in order to meet their community's needs. Findings of this study show that listening and communicating with parents can build a positive environment to student improvement academically, socially, and behaviorally. Both the students' grades and behavior improved as well as their social abilities to work together with other students (Colombo, 2006).

Studies show that there needs to be a bridge that connects schools and homes to create a sound education (Epstein & Salinas, 2004). While there are many ways to link parents with their student's education, reporting progress is one of the four proposed types of parent participation. These four proposed types of parent participation include reporting progress, attending special events, attending meetings and workshops that promote parent education, and being involved in teaching their children at home. More specifically, constant communication with parents and including parents in classroom

goals is suggested to be one of the top ways to constantly involve parents (Epstein, Sanders, Simon, Salinas, Jasorn, & Van Voorhis, 2008).

Through collaboration with communities, schools will be able to understand the parents' and families' culture and needs to better communicate with each other in hopes of bridging relationships that would open up opportunities to collaborate for the benefit of students. For example, when a parent informs the school of their home situation, it is more likely that the educators are understanding and willing to work with the circumstances that are affecting the students' academic and behavior progress (Griffin & Steen, 2010).

### **Obstacles to Parent Communication and Involvement**

Though it has been proven that effective parental communication with schools creates a positive impact on students' academics and behaviors, there are many obstacles that hinder the process of good communication. Studies showed that parent involvement decreases, as students' age increases. More specifically, parental participation in children's schoolwork decline after elementary school. According to the U.S Department of Education National Center for Education Statistics, parent-teacher conferences parental involvement both declined in frequency (Sirvani, 2007).

### **Lack of Training**

One reason that hinder parental engagement in their students' school life may include the lack of training for both parents and teachers. In Carol St. George's study (2010) found that training teachers is an essential component to bridging communication

between teachers and parents. With proper professional development, teachers are now able to create newsletters and websites to effectively communicate with families.

Epstein and Salinas (2004) explain different ways the school can partner with families, from writing to math, to effectively educate parents. Through their research and trials with different elementary and junior high schools in the National Network of Partnership Schools, they implemented various activities that involve the parents and community to support school programs. In writing and math, training sessions were set up to help parents learn about state writing and math standards and taught parents how to support their student at home. Thurmonth Middle School in Thurmont, Maryland targeted parents with students who did not pass the state's Functional Math Test and had recordings for parents to view if they were unable to attend. After the workshops, more than 80% of the sixth-graders passed the math test, which surpassed the percentage of passing seventh-graders whose parents did not attend the training sessions (Epstein & Salinas, 2004).

### **Lack of Resources**

There are families who have a desire to be actively involved in their child's education by checking homework or attending meetings. However, parents may need to focus on other priorities such as their familial responsibilities and careers or they may have limited time to be involved in school related activities (Constantino, 2003). Lack of technological experience or access and parents' work schedule can cause ineffective communication since parents may not have the ability to take phone calls during work. In fact, paper copies of any progress or document may get misplaced or never be received

by the parents, which creates a loss of connection between schools and parents.

Therefore, schools play a key role in supporting and assisting parents overcome these obstacles by opening up communication to involve parents (Ozturk, 2013).

### **Lack of Responsibility**

In other cases, many people believe that it is the parent's responsibility to enforce their children's good behavior in the classroom, while some parents have an expectation for schools to control their children's behavior and take the role of rearing their children (Strom & Strom, 2002).

Sirvani (2007) compared mathematics achievement of four Algebra 1 classes in high school, taught by the same teacher, in the southeastern part of the United States. Two classes were chosen at random to receive a progress report twice a week. Fifty ninth-graders received monitoring sheets that included tests and daily homework scores for each student. These students were required to obtain a signature from their parents within two days of receiving the progress report. After twelve weeks, the results showed the students who received monitoring sheets significantly outperformed the group of students who were not part of the experiment. This showed that both teacher and parents have a strong responsibility in students' education (Sirvani, 2007).

Furthermore, consistent collaboration between teachers and parents is more likely to improve student motivation, behavior, and performance. Not only do parents need to involve themselves in their child's education, the teachers also need to keep constant communication with parents by notifying student progress in academics and behavior to

keep students accountable for their performance in both academics and behavior (Senge, Cambron-McCabe, Lucas, Smit, Dutton, & Kleiner, 2000).

### **Role of Technology in Parent-Teacher Communication**

In order to achieve effective parent involvement, there must be efficient communication skills. Epstein (2001) emphasizes the overlapping spheres of influences that increase the involvement of families and schools between home, school, and community. Epstein's Sphere of Influence Model shows that school and families promotes collaboration and communication between each party (See Figure 2.1). This model represents the interaction between the three spheres, therefore, when parental involvement is present in their students' education, the other two spheres increase as a result. The goal is to constantly involve all three parties when making a positive impact on child.



Figure 2.1- Epstein's Spheres of Influence (Giardina, 2011, ¶ 5)



In the same way, the interaction between the two spheres functions at its best when schools and families effectively work together (Olmstead, 2013).

With technology rapidly advancing every year, schools are constantly offering new and inventive ways to support communication in education (Lunts, 2003). Olmstead (2013) uses Epstein's model to explain that a one-way communication cannot benefit a child's learning. Many schools tend to push information to parents without providing a way for parents to share information as well. Common ways that information is pushed through are school and teacher websites, newsletters, online textbooks, educational websites with games and videos, blogs, wikis. Parents of fourth through sixth graders from Olmstead's study indicated that although most technology is an effective tool to promote parental involvement, the exchange of emails, phone calls were the preferred method of communication.

Positive impact towards a child can also increase student achievement and parental involvement. These influences include high parental expectation, positive communication, and positive influence of their child to take charge in their studies. These factors lead to effective involvement and active participation in their child's education (Anderson, 2000).

According to Bouffard's (2008) findings, only less than one-fifth of the families and a little over half of principals indicate that teachers utilize a website as a tool of communication with parents. Teachers who do not consistently update and upload valuable information on their website or use another resource to communicate with parents, establishes an ineffective channel of communication (Strom & Strom, 2002).

With the available technologies such as online textbooks, school and teacher websites, and links to additional educational websites, parents have various venues to better provide support for their child's educational life (Bouffard, 2008). In addition, technology creates interaction between teachers and parents through blogs, wikis, and emails. These technological tools have the potential to improve communication between teachers and parents if used to its maximum potential. With proper training, educators are given an opportunity to increase their knowledge of technology to enhance communication with families. Through these trainings, teachers have the ability to communicate with parents through voice-calling systems, websites, emails, and parent portals. Voice-calling systems can notify parents of important announcements such as missing assignments and low-test grades (Olmstead, 2013).

Parent involvement is shown to decrease rapidly after the elementary level. Therefore, e-mail has become increasingly popular and acts as the main source of communication between parents and teachers after the elementary level. While e-mail communication brings up several negative issues such as misinterpretation of e-mails and replacing face-to-face interaction, studies found ways to resolve these issues. Some strategies were implemented to improve communication such as putting a positive note or a disclaimer to set the tone of the e-mails as well as utilizing all methods of communication such as via phone or having a face-to-face meeting prior to communicating through e-mail. While some argue that online interaction replaces face to face meetings, it merely gives another option to communicate where needed, rather than risk no contact at all or total lack of communication (Thompson, 2009).

## **Parenting of the New Digital Generation**

Parents, mainly females 35 years old and above of lower socio-economic status, are greatly influenced by their children in the digital environment. Research states that women tend to gain knowledge of technology from their children (Terras & Ramsay, 2016). With technology integrated in today's culture, the younger generation of students is more familiar with new technologies and digital media compared to the older generation of students. They are constantly surrounded by technology such as computers, videogames, cell phones, and tablets. They are able to learn programs, apps, and features very quickly, therefore, they are known as "digital natives," while their parents are known as "digital immigrants" (Correa, Straubhaar, Chen, & Spence, 2015).

According to Hockly (2011), digital natives are those who have "grown up using technology and the internet," while digital immigrants are those who have "come to technology later in life" (p. 322). Digital natives feel comfortable in the online setting. They can read an article on the computer screen, while digital immigrants, generally the older generation, will often create a print out of the article (Hockly, 2011).

Marc Prensky (2001) coined both the terms due to the radical change in today's students. He states that the college graduates of millennium spend an average of less than 5,000 hours of their lives reading, but over 10,000 hours playing video games and 20,000 hours watching television. They represent the first generations to grow up with the technology today. In this generation, it is uncommon that a parent passes down their expertise on technology (Wartella, Rideout, Lauricella, & Connell 2013), rather a

bottom-up manner is more common where the child teaches their parents how to use today's technology and digital media (Correa, Straubhaar, Chen, & Spence, 2015).

Technology has progressively become more user-friendly, which provides an easy channel for parents to be involved, but parents still face a struggle to keep up with new technology. In fact, parents of the digital natives have the most difficulty in dealing with today's technology. As the digital world expands, the attitudes and skills of parents also change alongside it (Terras & Ramsay, 2016). Many digital immigrants are generally more comfortable with the technology they grew up with. It is difficult for them to deal with the rapid changes in today's technology. Even within one device, the operating systems are constantly updated with new features where digital immigrants struggle to keep up (Prensky, 2001).

Parental attitude towards technology in the new generation can greatly affect their involvement in school related activities due to the constant changes in technology (Terras & Ramsay, 2016). Parents who view technology as a hindrance on their family life lead to a negative influence on children's social skills (Wartella, Rideout, Lauricella, & Connell, 2013). Evidence show that parents who use technology has a positive influence in the quality of parent-child relations, causing parents to want to be involved in their child's education (Terras & Ramsay, 2016). Research state that use of communication technology maintains family relationship that supports positive youth development (Rudi, Walkner, & Dworkin, 2015). Therefore, parenting in the new digital generation requires positive communication and involvement between parents and children.

Parenting includes active participation and engagement in their child's academic life such as checking homework, studying with the child, and attending parent meetings. Study show that parents who incorporate technology to bring forth a positive environment in their households eventually leads to an increase in academic success. Although technology is advancing, parenting is still required to enable active participation in a child's education. If schools expect parents to be involved in their child's academics, they should provide resources to educate parents on technology use to increase student achievement (Griffin & Steen, 2010).

### **Parental Involvement in Lower Economic Environments**

Parents play a large role in students' education. Their background and financial situations influence the amount of participation they invest in their children's education (Deng, Wang, & Yang, 2016). Children from low-income families tend to perform at a lower level in school because their parents are found to be less involved in their children's education (Camacho-Thompson, Gillen-O'Neel, Gonzales, & Fuligni, 2016). Since low-income families tend to have a larger share of economic hardships and stress, parents tend to neglect expectations and participation in their children's educational achievement. Since these parents have lower expectations for their students, consequently parental involvement also decreases in these homes.

Low-income parents also have a time and energy constraint because they experience more stress due to their lack of financial resources (Deng, Wang, & Yang, 2016). Furthermore, parents in the middle and upper class are more likely to be able to afford private tutoring and other related activities to increase student achievement. In

Korean, a study followed seventh-graders for two years and concluded that private tutoring significantly increased math and English test scores. Since it is difficult for families in a lower economic environment to have the funds for additional educational services, parents have one less resource to utilize (Park, Byun, & Kim, 2011).

In addition to economic stress, parents have various education levels. Highly educated parents generally have higher expectations on their children, therefore have a greater ability to assist them in their education. On the contrary, parents with lower education are not confident or comfortable contributing to their children's homework and other school activities. Subsequently, parents rely on teachers to be the experts when it comes to educating their children since they feel unfamiliar and incapable of helping their children with their school-related activities (Deng, Wang, & Yang, 2016).

Some parents are unfamiliar with new technology, which causes them to restrict technology use for their children. For example, parents of Latino background typically limit their children's access to mobile devices or the Internet over the television because they feel that new technology can be a risk (Tripp, 2011). However, they do not recognize the importance of using those media platforms to further their academics (Katz & Gonzalez, 2016). However, proper training and resources to educate these families can increase the ability and willingness for parents to be involved in their child's education (Rivera, 2014).

Internet access is accessible in many areas. However, there are families, mainly low-income Latino families, who do not have the luxury of being connected online, mainly because of financial barriers (Katz & Gonzalez, 2016; Lewontin, 2016). Research

states that many low-income families have Internet access, but many of them remain ‘under-connected’ due to slow or bad connection (Lewontin, 2016). Because of the lack of connection, the technology gap increases, causing fewer opportunities for Spanish-speaking immigrant families (Monkman, Roland, & Theramene, 2005). These technology gaps also result in poor relationship between families and schools (Rivera, 2014).

Hispanic parents are less likely to have the resources to assist their children in academic activities and tasks due to feeling uncomfortable using technology, a lack of resources, and constrained access to the Internet (Rivera, 2014). In addition, students who have difficulty connecting to the Internet develop “homework gaps” if they need to use the Internet outside of the classroom. The “homework gaps” causes students to fall behind because they do not have the resource at home to practice the materials from school (Lewontin, 2016).

### **Best Practices in Preparing Parents**

Today, parents of low-income families do not have the time or energy to participate and be involved in school-related activities (Rivera, 2014). Therefore, technology interventions will have a greater impact than in-person contact because it can serve as an alternative for those too busy to meet in person. In addition, parents may not be able to attend onsite programs regularly and educators might have a difficult time with recruitment due to lack of time commitment (Swindle, Ward, Whiteside-Mansell, Bokony, & Pettit, 2014).

In a recent study (Rivera, 2014), a Mexican Institute established Community Learning Centers. These learning centers allowed Hispanics parents to receive assistance in learning computer technology in Spanish. The courses included basic computer skills and parenting tips. They also utilized these courses to educate parents on how to be positive role models to their children such as encouraging them to advance and stay in school. This research permitted technology networks with multiple public school districts, which increased technology services for the Latino immigrant communities as a whole. With these learning centers in place, the results showed that parents were more equipped with using devices, therefore, allowing them to be more comfortable in helping their children with their homework as well as other school related activities (Rivera, 2014).

### **Summary**

Parent involvement is known to be a necessity in a students' school life to increase academic achievement (Colombo, 2006). Studies exhibit positive communication through the connection between family involvement and student academic outcomes (Epstein, Jansorn, Sanders, Simon, Salinas, & Van Voorhis, 2008). Research show that these positive factor of parent involvement results in an increase of academic achievement and social behaviors. Test scores go up and students are properly motivated (Sirvani, 2007).

With many barriers and difficulties, it becomes problematic for parents to be involved with their students' education life (Olmstead, 2013). Various factors prevent parental involvement such as the lack of resources, responsibility, and training.



Furthermore, families in the lower economical environments contributes to more obstacles that hinder parents to support their children with their school-related activities (Den, Wang, & Yang, 2016). Due to the economic stress, not all parents have equal access to computer technology or access to internet at home (Brogan, 2000). In addition, the difference between digital natives and digital immigrants changes the way learners approach technology. Although digital immigrants do not necessarily mean that they are all digital illiterate, some do require additional help and support (Hockly, 2011).

Studies have shown that technology can overcome those challenges to develop higher quality communication between parents and teachers. With communication tools such as training sessions or online tutorials, parents will be able to effectively collaborate with educators to support their student to achieve academic excellence (Strom & Strom, 2002).

## **CHAPTER THREE**

### **METHODOLOGY**

The purpose of this project was to create a tutorial to teach sixth grade parents to use the school-wide grading website system, School Loop. The project was intended for parents to obtain the necessary tools to use various features of the school grading and communication system to its full potential such as registering to use the School Loop system, e-mailing teachers, checking their child's grades, and receiving instant notifications of school news and their child's daily progress. School Loop at Home is an interactive module that allows the learners to click through the interactives to learn more about the school grading and communicating system. The ADDIE instructional design model was used throughout the production of this project. The ADDIE model includes five phases, analysis, design, development, implementation, and evaluation.

#### **Content Development**

This section covers two phases of the ADDIE model:

The "A" in the ADDIE model stands for analysis. The analysis phase sets the focus to a target audience, determines the learners' characteristics, and investigates the technology availability (Forest, 2014).

#### **Needs Assessment**

The project involved developing an informative and interactive tutorial for middle school parents to use as an introduction to School Loop, the district's grading and

communication system. A needs assessment was conducted with sixth grade parents prior to creating the project. This assessment was created as a worksheet and was sent home by each sixth grade class teacher to the parents (see Appendix A). There were a total of ninety-one responses that were received. About seventy percent of the parent responses stated that they do not know how to conduct at least one of the following: sign up, log in, check grades, email teachers or administrators on a School Loop account, access school or teacher website, or attach and download documents on School Loop. About thirty percent of the parent responses stated that they were able to perform all of the actions above. The questionnaire also checked on parents' access to computer and internet for their usage, if they knew how to utilize the basic features of School Loop, and how often they used the parent portal system. With ninety-one middle school parent responses, the content of this project was decided on. Not all of the parents are trained to effectively communicate with teachers. Therefore, embedding technology in this tutorial will open opportunities for parent-teacher communication.

### **Technology Availability**

The result of the needs assessment showed that not all parents have direct access to the technology to complete the tutorial. Therefore, it was decided to have the school open their computer lab to provide internet and Chromebooks to allow parents to access the tutorial.

## **Design Phase**

The next phase in the ADDIE Model is the design phase. This stage determines the learning objectives, tools, and content of the project. The designer will create a systematic procedure on how the tutorial will be presented (Forest, 2014).

Based on the needs assessment, a project was developed to teach parents how to sign up, log in and check their child's grades on School Loop. In addition, parents would be able to utilize e-mail features on School Loop to communicate with teachers and administrators such as attach and download documents. Parents would also be able to access the school or teacher websites through School Loop.

Since users learn better when there are words with graphics (Clark & Myer, 2011), each embedded interactive includes both images and words when explaining each process.

The project included a tutorial that allowed the learners to go through a game and answer questions to move their game piece to the finish line, the school. Within the tutorial, an interactive guided the learner to accomplish the learning goals. Each interactive was followed by a question as check for understanding. Images were pulled from the School Loop system as well as Google. At the end of the flowchart, there was a results section to congratulate the learner for completing the tutorial with a link that directed the learners to take a quick survey to share their learning experience.

## **Program Development**

Program Development follows the Development Phase of the ADDIE Model.

## Development Phase

The Development phase of the ADDIE model covers the production and testing of the project. Data collected through the Analysis and Design phases are used to develop a program to meet the learning needs of the learners (Forest, 2014).

Upon starting the tutorial, users were greeted by a welcome statement through text and audio (see Figure 3.1). The general objectives for the entire tutorial program were stated. One of the principles of andragogy is to know what they are learning, the purpose, and the value of the content (Chan, 2010). Therefore, the specific learning objectives were stated at the beginning of the tutorial. Learners would be instructed to select a game piece to start the tutorial.

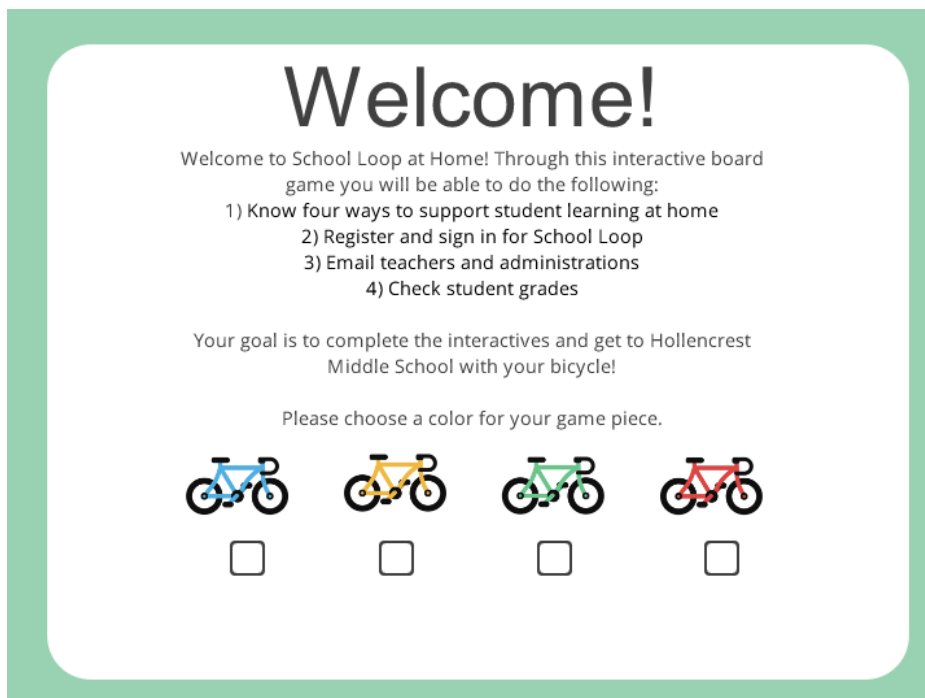


Figure 3.1 Welcome Slide

Next, a game board would be presented to get the learners to interact as they complete the tutorial. After the objectives slide, users would proceed to an interactive Flash model that allowed users to explore various way that parents can be involved in their child's education (see Figure 3.2).



Figure 3.2 Interactive Flash Model

Users would have the ability to navigate through the tutorial by going through various interactives embedded in the tutorial (see Figure 3.3).

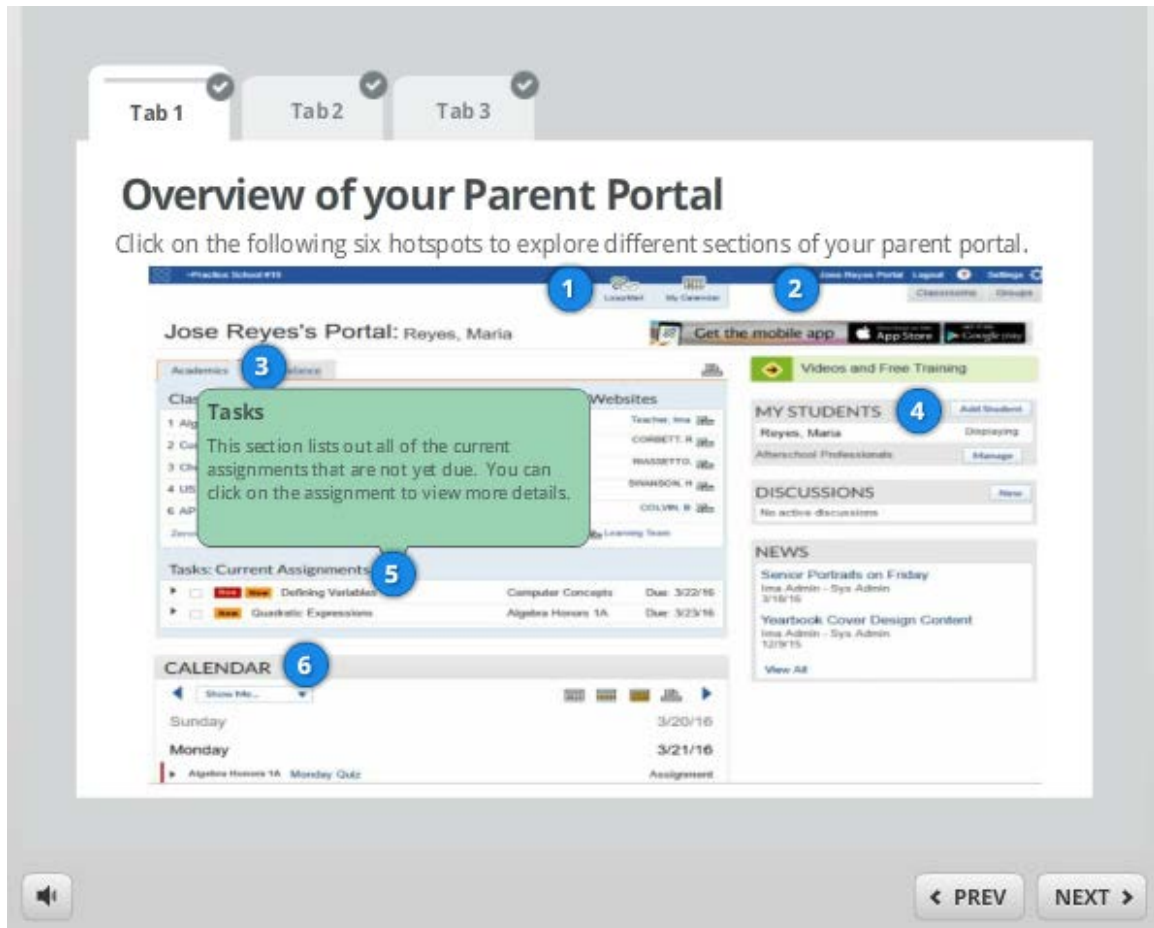


Figure 3.3 Interactive tutorial

Evaluating learning outcomes through assessments are essential to ensure that the objectives have been met and to provide learners with feedback on their progress (Stödberg, 2012). Interactive e-assessment were created after each module with closed-ended questions such a true-false and multiple choice format (see Figure 3.4).

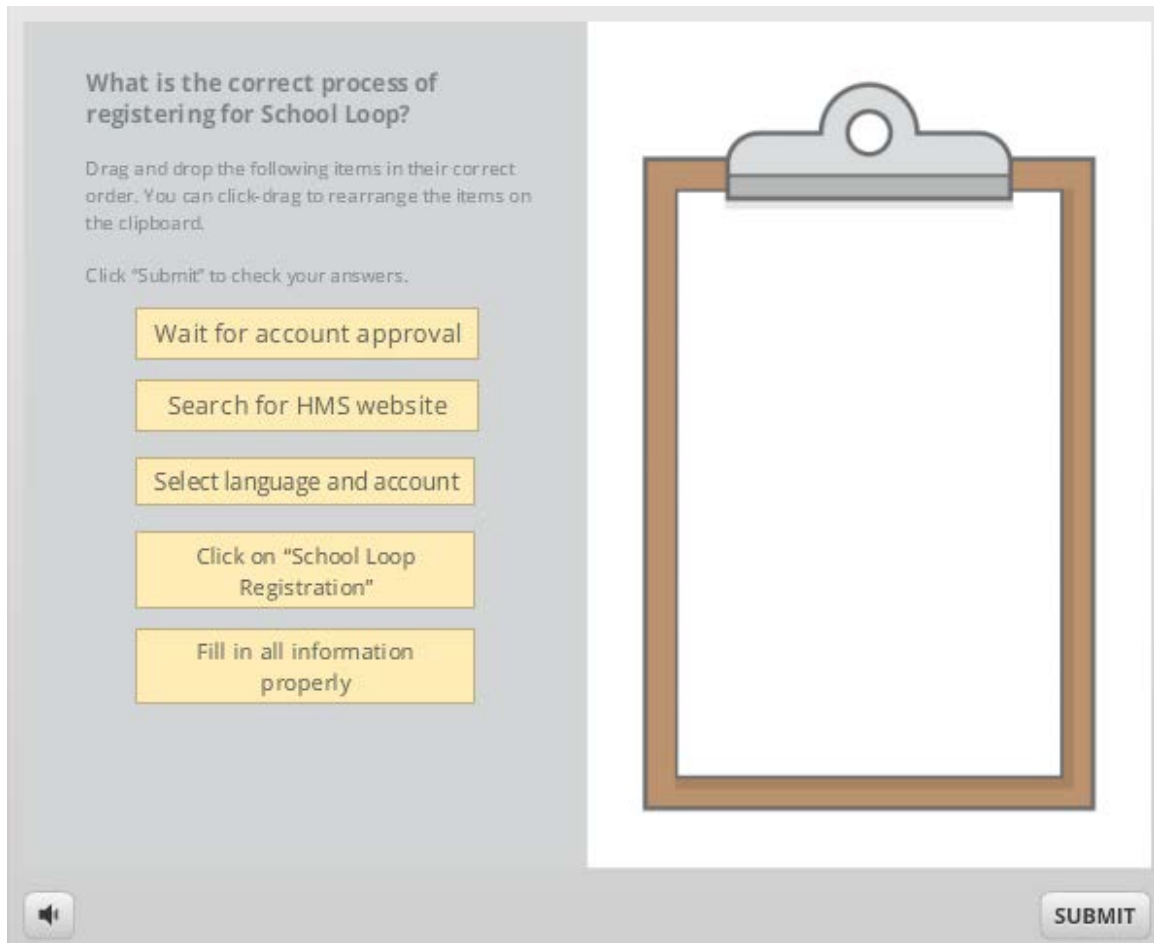


Figure 3.4 Formative Assessments



At the end of the tutorial, users were congratulated for completing the tutorial program and were invited to take a survey.

This project was created primarily using Articulate Storyline 2. The original project file was saved in a proprietary file format, .story. The Articulate Storyline program has predesigned templates that allows the designer to easily select and download a template. The Game Board Template was chosen for this project. Storyline already has a storyboard viewing option so the planning of the flowchart was easy to see and envision. The template has a menu bar located on the left-hand-side of the module that allows the participant to know which section they are viewing.

Various external program productions were embedded to provide the tutorial. Adobe Animate CC 2017 was used for a flash animation to interact with the users to show how parents can be involved in their child's learning. All of the other interactives in this tutorial were created within Adobe Animate CC 2017. Photos used were obtained through the district, school, and School Loop website with the use of the Snipping Tool feature from Microsoft in Windows 10. Some of the images were formatted to JPEG and PNG and edited with Adobe Photoshop CC.

Directions were given for each section to assist the user as they navigate through the module. Each question added points to the user's score, allowing them to move ahead to reach to the final destination, the school. A next button was also provided for the users that they know how to move on to the follow section.

In order to receive feedback about the module from parents who were going to field test the project, a survey was created using Google Forms. A link was added at the end of the module for parents to easily click and be transferred to another screen.

### **Field Testing Procedure**

Field Testing of the module covers the last two phases of the ADDIE model: Implementation Phase and Evaluation Phase.

#### **Implementation Phase**

The first step of the field testing procedure included the “I” in the ADDIE model, which is implementation. This stage tests the tutorial and looks for ways to modify, update, and edit the project (Forest, 2014).

Once the project was completed, all of the content was uploaded through an FTP server, Filezilla 3.30.0, and stored on the Cal Poly Pomona FTP web server. Through the FTP server, the project file is accessible on any computer with internet connection with the link to the tutorial. The project went through the beginning stages of implementation of troubleshooting after it was uploaded. Each link went through the process of testing within different browsers such as Safari, Chrome, and Mozilla Firefox. The project was also tested on different devices and systems such as an iPhone, Android phone, iPad, Mac Book, Chromebook, and Windows to ensure users could access the tutorial through any browser and device without facing any issues.

## **Evaluation Phase**

The final stage in the ADDIE model, “E,” is evaluation. The evaluation stage looks back at the learning objectives and goals to see if they have been met. A process of reflection is also taken into consideration to determine if further research is necessary to increase the success rate of the project (Forest, 2014).

This project was to be evaluated using the Kirk Patrick’s Four-Level Training Evaluation Model. This model includes the following four levels: Reaction, Learning, Behavior, and Results. The reaction level measures how the participants in the program react to the training. This level allows the designer to improve on the training program from the initial reaction and feedback of the target audience (Praslova, 2010). This can also include the learners’ satisfaction of the project and suggestions from the participants on how to improve the tutorial (Forest, 2016). The second level is “Learning” which compares the progress through a pretest and post-test. The third level, Behavior, evaluate the learners’ behavior due to the training program. The final level to Kirk Patrick’s Evaluation Model is results. This level measures the success of the program, mainly for business results (Praslova, 2010).

The field testing of this project was based on level one, Reaction. A survey was conducted at the end of the tutorial to obtain feedback from the participants on how they felt about the training program.

The following steps were taken for field testing:

- A meeting was set up with the principal of the middle school in West Covina, California to obtain approval to field test School Loop at Home with the sixth grade parents of the school (see Appendix B)
- Permission from the Institutional Review Board (IRB) was received (see Appendix C).
- A letter (see Appendix D) was sent to invite one hundred and eighty parents of the sixth-graders to participate in the study by field testing the module. The letter included information about the project and what was expected of them, if they choose to participate.
- The school will open up their computer lab after school for an hour each day for parents use the internet and computer if technology is limited at home.
- After the participants completed the training module, they were instructed to take a survey to give their opinion on the tutorial (see Appendix E).

## **CHAPTER FOUR**

### **SUMMARY, CONCLUSIONS, RECOMMENDATIONS**

#### **Summary**

Schools are constantly looking for ways to improve on parent involvement and communication. Creating E-learning modules is a common way to transfer information to learners.

Research was conducted on parent involvement with schools as well as the role of technology in parent-teacher communication. Although parents play an important role in student learning, it is just a crucial for parents and teachers to practice positive collaboration to create a positive learning environment for students. Collaboration can include communication through school websites, phone calls, and parent conferences (Epstein, et al., 2008). Research show that collaboration between both parties result in an increase in academic achievement and positive student attitudes and behaviors toward learning (Sirvani, 2007).

The use of technology is continuous rising in the classrooms and educators create various resources and tools to connect and improve relationships with parents. Educators commonly use classroom websites and blogs to passively communicate with parents without any physical or verbal meetings (Olmstead, 2013). One of the top ways to involve parents is to constantly communicate with parents, especially including them in classroom goals (Epstein, Sanders, Simon, Salinas, Jasorn, & Van Voorhis, 2008).

Although educators attempt to positively collaborate with parents, there are obstacles that hinder parent communication and involvement. The lack of training and resources for both parents and teachers create a barrier that effective communication. The lack of responsibility is another factor that play into ineffective communication and involvement. Both parents and teachers believe it is the other parties' responsibility to enforce good behavior in the class room while they dismiss the fact that it is a collaborative responsibility (Strom & Strom, 2002). Parents need to involve themselves in their child's learning while teachers need to constantly communicate and notify parents with student progress in academics and behavior (Senge, Cambron-McCabe, Lucas, Smit, Dutton, & Kleiner, 2000). Epstein's Sphere of Influence Model show that school and families promote collaboration and communication between each of the three parties. The interaction between the three spheres effect each other. When parent involvement is present in their students' education, the other two spheres increase as a result. The interaction between the two spheres function at its best when schools and families effectively work together A one-way communication will not positively contribute to a child's learning (Olmstead, 2013). Understanding the importance of parent-teacher communication determined the need of the training program.

Research was also conducted on the role of technology in parent-teacher communication. Although technology is increasingly advancing every year, schools need to understand how to utilize the given technology to effectively promote parent-teacher communication. Common ways that information is pushed through are teacher websites, newsletters, and blogs, however, many schools tend to push information to parents without providing a way for parents to reciprocate communication (Anderson, 2000).

Schools need to use technology to create interaction between teacher and parents through emails, blogs, wikis, and parent portals (Olmstead, 2013). Incorporation of training in the use of the school grading and communication system was determined to be the main concept for the training program. With proper training, both parents and teachers will be able to utilize the school grading and communication system to its maximum potential.

The purpose of this project was to create a tutorial to teach sixth grade parents to use the school-wide grading website system, School Loop. Through the research that was conducted, the Articulate Storyline program was selected to create the training program. The project was intended for parents to obtain the necessary tools to use various features of the school grading and communication system to its full potential such as registering to use the School Loop system, e-mailing teachers, checking their child's grades, and receiving instant notifications of school news and their child's daily progress.

The ADDIE instructional design framework was used throughout the design and development of this project. The ADDIE model includes five phases, analysis, design, development, implementation, and evaluation. ADDIE was originally developed for the U.S Army and was later implemented throughout all branches of the U.S Armed Forces. Although revisions have been made throughout the years, the current ADDIE model is now used to create effect learning modules in instructional design (Forest, 2014).

Based on the research, an e-learning tutorial was created using Articulate Storyline. Within Storyline, a Flash interactive was embedded into the tutorial along with various check for understanding questions such as multiple choice, ordering, drag

and drop, and true and false. Other interactives require users to click on hotspots. A flow chart was created to show where each component of the tutorial will be placed.

After the design and development was completed for the tutorial, field testing began. The first step to field testing was to receive permission from the principal of the school (See Appendix B) and to complete the Institutional Review Board (IRB) process.

Once the approval from IRB was obtained (see Appendix C), the invitation of consent was sent out to one hundred and eighty parents and the two week window opened to field test the program. The chosen start date was May 3, 2018 and finished two weeks later on May 16, 2018.

A printed invitation to participate was sent home to one hundred and eighty sixth-grade parent through each sixth-grade math teacher (see Appendix D). The invitation provided information about the student, how long it would take to complete, and how to access the training program. The invitation also explained that their participation would be completely voluntary and could stop the training at any time. To ensure anonymity of the participants, participants do not need to return any forms. Participants can go on the provided link, <https://tinyurl.com/ydbmkd35>, through their web browser and give their consent to voluntarily participate and allow the use of their responses in the research study. A total of twenty-six parents responded.

At the end of the tutorial, users were congratulated for completing the module and were invited to take the online survey. The survey was created on Google Forms, an online application provided by Google (see Appendix E). The option to collect email addresses was turned off so the responses cannot be traced back to the participant. The



responses were collected and stored in Google Forms. Only the principal investigator has access to the survey responses.

An online survey was conducted at the end of the tutorial for convenience. The survey questions covered various topics from multimedia components, interactives, aesthetics, and open ended questions on how the users felt about the tutorial. The survey was designed to be easily accessible and short in length because less people are likely to respond if the survey was longer.

### **Conclusions**

This section summarizes the survey results of the two weeks of field testing of the module. From one hundred and eighty sixth-grade parents who were invited, twenty six participated in the training program. Not all of the participants responded to every question since each question was optional. Most of the unanswered questions were the open ended questions.

The first six questions of the field testing survey required participants to select how they best felt about various sections and components of the training program. Participants were asked to select an option from the Likert Scale: Strongly Agree, Agree, Neither Agree or Disagree, Disagree, and Strongly Disagree.

**Question #1: The interactivity, video clips, and questions enhanced my learning experience.**

The first question involved the key components of the tutorial and asked the participants to select how they best felt about above statement (see Table 4.1).

- Seven out of twenty six participants (27%) strongly agreed.
- Fifteen out of twenty six participants (58%) agreed.
- Three out of twenty six participants (11%) neither agreed nor disagreed.
- Zero out of twenty six participants (0%) disagreed.
- None of the participants (4%) strongly disagree.

Table 4.1  
User Satisfaction of Learning Experience

Responses	Total	Percent
Strongly Agree	7	27%
Agree	15	58%
Neither Agree nor Disagree	3	11%
Disagree	0	0%
Strongly Disagree	1	4%
<b>Total</b>	<b>26</b>	<b>100%</b>

**Question #2: The process of going through the entire tutorial was easy to follow.**

The second question was about how easy the tutorial was to navigate and asked participants to select how they best felt about the above statement (see Table 4.2).

- Twelve out of twenty six participants (46%) strongly agreed.
- Ten out of twenty six participants (38%) agreed.
- Two out of twenty six participants (8%) neither agreed nor disagreed.
- Two out of twenty six participants (8%) disagreed.
- None of the participants (0%) strongly disagreed.

Table 4.2  
User Satisfaction on the Flow of the Tutorial

Responses	Total	Percent
Strongly Agree	12	46%
Agree	10	38%
Neither Agree nor Disagree	2	8%
Disagree	2	8%
Strongly Disagree	0	0%
<b>Total</b>	<b>26</b>	<b>100%</b>

**Question #3: The content was well organized and free of grammatical errors.**

Question three asked about the organization of the tutorial and asked participants to select how they best felt about the above statement (see Table 4.3).

- Six out of twenty six participants (23%) strongly agreed.
- Twelve out of twenty six participants (47%) agreed.
- Four out of twenty six participants (15%) neither agreed nor disagreed.
- Four out of twenty six participants (15%) disagreed.
- None of the participants (0%) strongly disagreed.

Table 4.3  
User Satisfaction on the Organization of the Tutorial

Responses	Total	Percent
Strongly Agree	6	23%
Agree	12	47%
Neither Agree nor Disagree	4	15%
Disagree	4	15%
Strongly Disagree	0	0%
<b>Total</b>	<b>26</b>	<b>100%</b>

**Question #4: All of the activities and questions in the tutorial worked properly.**

The fourth question involved the efficiency of the activities in the tutorial and asked participants to rate how they best felt about the above statement (see Table 4.4).

- Eight out of twenty six participants (31%) strongly agreed.
- Thirteen out of twenty six participants (50%) agreed.
- Three out of twenty six participants (12%) neither agreed nor disagreed.
- Two out of twenty six participants (8%) disagreed.
- None of the participants (0%) strongly disagreed.

Table 4.4  
User Satisfaction on the Activities and Questions in the Tutorial

Responses	Total	Percent
Strongly Agree	8	31%
Agree	13	50%
Neither Agree nor Disagree	3	12%
Disagree	2	8%
Strongly Disagree	0	0%
Total	26	~100%

### **Question #5: The content of the tutorial was effective and relevant**

Question five discusses the effectiveness of the content of the tutorial and asked the participants how they best felt about above statement (see Table 4.5).

- Fourteen out of twenty six participants (54%) strongly agreed.
- Eight out of twenty six participants (31%) agreed.
- Two out of twenty six participants (8%) neither agreed nor disagreed.
- Two out of twenty six participants (8%) disagreed.
- None of the participants (0%) strongly disagreed.

Table 4.5  
User Satisfaction on the Content of the Tutorial

<b>Responses</b>	<b>Total</b>	<b>Percent</b>
<b>Strongly Agree</b>	14	54%
<b>Agree</b>	8	31%
<b>Neither Agree nor Disagree</b>	2	8%
<b>Disagree</b>	2	8%
<b>Strongly Disagree</b>	0	0%
<b>Total</b>	<b>26</b>	<b>~100%</b>

**Question #6: I would recommend this module to another parent.**

Question six involved the participant stating if they would recommend the tutorial to another parent by asking how they best felt about the above statement (see Table 4.6).

- Nine out of twenty six participants (35%) strongly agreed.
- Twelve out of twenty six participants (46%) agreed.
- Four out of twenty six participants (15%) neither agreed nor disagreed.
- One out of twenty six participants (4%) disagreed.
- None of the participants (0%) strongly disagreed.

Table 4.6  
User Recommendation on the Tutorial

Responses	Total	Percent
Strongly Agree	9	35%
Agree	12	46%
Neither Agree nor Disagree	4	15%
Disagree	1	4%
Strongly Disagree	0	0%
Total	26	100%

**Question #7: What are the overall strengths of the module?**

The seventh questions was an open ended one. The question asked, ‘What are the overall strengths of the module?’ (see Table 4.7).

- Two participants felt the tutorial was easy to follow.
- Six participants felt the tutorial’s interactives and visuals were helpful and created a positive learning experience for them.

Table 4.7  
Users’ Thoughts on the Overall Strengths of the Tutorial

#	Text Response
1	It was easy to follow
2	The visuals were helpful, interactive, and informative
3	It wasn't boring.
4	I enjoyed how the module was an interactive game, instead of a PowerPoint
5	This is very organized
6	I really like how engaged the tutorial is
7	It gave me step by step instructions to complete the things I need to check up on my child.
8	It has helped me a lot. We recently came into the district this 2017-2018 school year. And this has opened my mind more and helped me achieve some tasks.
9	There were no strengths: it was a complete waste of time.



**Question #8: What are the overall improvements that can be implemented in this module?**

Question eight was an open ended question. The question asked, ‘What were the overall improvements that can be implemented in this module?’” (see Table 4.8).

- Four participants did not like the drag and drop question. If they did not answer the question correctly, the system did not tell the participants they were incorrect. Participants expressed that they were frustrated because they thought the system did not work.
- Two of the participants stated that some of the screenshots or texts were too small. One of the participants suggested to make the font bigger while the other suggested to break up the content a little more to ease reading the content.

Table 4.8  
Users’ Thoughts on the Overall Improvements for the Tutorial

#	Text Response
1	One of the questions asks the user to drag and drop onto a clipboard. If you don't properly place them, it won't let you submit. Make it clear that answers need to be close to each other. It also not show any "spaces" for the answers.
2	Some of the screenshots were hard to read. Make the font bigger.
3	The menu on the side did not follow the order of the activities.
4	Break up the words because when all the words are together, it's less interesting.
5	Make a Spanish version for parents who do not know English well.
6	It was good, no need for improvements.

**Question #9: What is your overall opinion of the module?**

The last question was an open ended one. The question asked, ‘What is your overall opinion of the module?’ (see Table 4.9).

- Six participants felt the tutorial was easy to use, and well-organized.
- Seven participants felt the tutorial was purposeful and interactive.
- Two participants gave a lower score due to grammatical errors in the tutorial.
- Two participants felt the tutorial had unnecessary animations. They mentioned that they already knew the content being presented in the training program.

Table 4.9  
Users’ Overall Opinion on the Tutorial

#	Text Response
1	It was easy and organized. It was very parent-friendly. I would recommend to other parents.
2	Overall, I like the overall look and feel. It's interactive and clean.
3	I like the way the topics were presented in a game form.
4	I like the animations and the game
5	The module was informative, helpful, and purposeful. I learned a lot.
6	A majority of the animations seemed unnecessary. I knew most of the information.
7	I gave a low score on one of the questions because there were some spelling issues, but other than that, I enjoyed this program. I would love for the creator to add more lessons and topics!
8	It was a nice attempt in allowing us parents to better help our child's education process. It would be nice if there was a system input at the end asking the question of "Do you have any other questions?" And perhaps have the users enter their email if so, and if the answer is no, then it would end. I found it quite helpful, as I had no prior knowledge to this subject and this was a nice guide.

## **Recommendations**

The results of the field testing survey showed data that can contribute to future research as well as the improvement of the project to better enhance the learning experience for parents.

The first six questions of the field testing survey involved how the participants best felt about the training program's aesthetics, content, interactive efficiency, and relevance, and multimedia components. The majority of the response were positive with a few users who disagreed with most of the statements (see Tables 4.1, 4.2, 4.3, 4.4, 4.5, & 4.6). The questions that received negative feedback were about the organization of the content and due to grammatical errors.

About four out of twenty six (15%) disagreed with the statement, 'The content was well organized and free of grammatical errors' (see Table 4.3). Since the question asked about two different topics (organization and grammatical errors), participants could have agreed to half of the statement while disagreed with the other half. The participants noticed that there were a few spelling and grammatical errors within the training program (see Table 4.3). This was the question with the most negative response. The participants were not able to express their thoughts fully until the opened ended question that asked for improvements. For that question, users stated that the tutorial was well-organized but had several grammatical errors (see Table 4.8).

On the other hand, the questions with the most positive response came from the participants agreeing that the interactivity, videos, and questions and answers enhanced their learning experiences, and the content of the tutorial was effective and relevant.

Both questions had a total of 85% of the users either agreeing or strongly agreeing with the respected questions (see Tables 4.1 & 4.5). This result could imply that the interactivity and interface design of the tutorial enhanced the content of the training program.

In question eight, users stated that the project screen size was too small which made the fonts and screenshots too clustered together (see Table 4.8). Unfortunately, that is part of the Articulate Storyline system when projects are uploaded to a website.

Four participants stated that clipboard check for understanding activity did not work very well (see Table 4.4 & 4.8). The users had a difficult time knowing the exact placement of the answers even though the order of events were correct. The program also did not let the users know if they selected the incorrect order, therefore, some of the users thought the program did not work, until they chose a different order.

Overall, many of the participants enjoyed the training program. Many stated that the tutorial was easy to follow, informative, interactive, and purposeful (see Table 4.9). Although several comments were made on the technicality of the tutorial, the participants still identified the tutorial as a program that they will recommend to other parents.

### **Recommendations for Future Research**

Upon reflecting on the results of the field testing, there are several recommendations to be made for future projects. Grammatical errors and other technical issues could be easily fixed within Articulate Storyline. Other frequently asked questions about School Loop could be an extension to this project. Since the participants expressed

that the text was either too small or had too many words, voice-overs could also be an improvement to this training program. Users will not necessarily have to read all of the text if they prefer to listen to the voice-over instead. Another option could be breaking the information into smaller segments so that the font has more room to be larger on the screen. The designer will consider all of the suggestions presented by the parent participants to improve the tutorial before releasing to the six-grade parents next school year.

The last recommendation is to make sure each question focuses and asks about one topic at a time to avoid confusion on the part of participants. One of the questions was difficult to analyze because the participants were asked to state how they feel about two different topics of the training program: content and organization. There should have been two questions rather than one, asking about each topic. That makes it more direct for the participants to respond to and also make it easier to analyze the results by the designer.

The release of the training program could have been launched earlier in the school year when many six-grade parents are trying to learn the system. Since the time to finish the project and obtain the approval from IRB took longer than expected, the end of the school year was approaching quickly. By then, many parents had already learned the system and the number of participants was less than expected, with only 14% participation of the possible target audience.

As mentioned from before, IRB took longer than expected. The designer recommends future Educational Multimedia students to get started with IRB process

earlier in the quarter, and be ready to quickly respond to any comments and questions presented to them from IRB Office. The designer had to call IRB Office for clarification on some of the comments that she had received. This made the approval process much longer.

The designer suggests to stay organized from the start of your project. With numerous research papers, articles, online sources, books, etc., it is extremely important to be organized in terms of your references, thoughts, notes, and other important documents. The designer also had computer difficulties and almost lost all files. The designer strongly suggests to save all working files constantly and in multiple areas, such as in the cloud, at school server, zip drives, etc. Although technology has been increasingly more reliant, anything could go wrong and will go wrong and, when it does, it definitely is very time consuming and expensive to recover! Lastly, the designer recommends students enjoy and be passionate about their chosen project. The process may be difficult, but learning the research behind the topic is very purposeful and can improve the e-learning environment for the educational community.

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## APPENDIX A: Needs Assessment

### School Loop Survey

**Directions:** Answer questions #1-#10 by circling one of the options.

- |  |                          |
|--|--------------------------|
| 1) Do you have access to the internet?                           | YES / NO                 |
| 2) Do you have access to a computer?                             | YES / NO                 |
| <b>Do you know how to...</b>                                     |                          |
| 3) Sign up for a School Loop account?                            | YES / NO                 |
| 4) Login to your School Loop account?                            | YES / NO                 |
| 5) Check grades on School Loop?                                  | YES / NO                 |
| -If yes, how often do you check grades?                          | DAILY / WEEKLY / MONTHLY |
| 6) Email teachers, counselors, or administrators on School Loop? | YES / NO                 |
| -If yes, how often do you use the email option on School Loop?   | DAILY / WEEKLY / MONTHLY |
| 7) Attach documents to emails on School Loop?                    | YES / NO                 |
| 8) Download documents on School Loop?                            | YES / NO                 |
| 9) Access school or teacher websites through School Loop?        | YES / NO                 |

## APPENDIX B: Letter of Approval from Principal



2007 2011



2015

February 21, 2018

To Whom It May Concern,

I would like to give authorization to Christin Jow, graduate student from Cal Poly Pomona University, to do her field testing for her Master Project at [REDACTED] Middle School. The purpose of her project is to integrate technology in parent-teacher communication through SchoolLoop. She is going to be field testing with the sixth-grade parents and getting feedback from them.

Thank you,

A handwritten signature in black ink, appearing to read "J. Jow".

[REDACTED]  
Principal

[REDACTED] Middle School

## APPENDIX C: Institutional Review Board (IRB) Approval Memo

### CAL POLY POMONA

#### Memorandum

California State Polytechnic University, Pomona  
Institutional Review Board -- Office of Research Compliance

*Federalwide Assurance 00001759 -- IRB principles: respect for persons, beneficence, and justice*

**Date:** April 30, 2018

**PI Name:** Christin Jow; **Department/College:** Education, Educational Multimedia

**Co-PI(s):** Shahnaz Lotfipour

**IRB protocol number:** IRB-18-38

**Protocol Title:** School loop at Home Thesis

**Protocol Submission Type:** Initial; **Review Board Type:** review by the CPP IRB office

**Decision Date:** April 30, 2018

**Decision:** Exempt

Dear Investigator(s),

The protocol as described above has been reviewed by the Cal Poly Pomona Institutional Review Board (IRB) by the ~~exempt review~~ method. It was found to be in compliance with both applicable federal and state regulations and Cal Poly Pomona policies regarding the protection of human subjects used in research. Thus, the Cal Poly Pomona IRB grants you approval to conduct the research. On its behalf, I thank you for your adherence to established policies meant to ensure the safety and privacy of your study participants. You may wish to keep a copy of this memo with you while conducting your research project.

You may initiate the project as of April 30, 2018.

The reason for approving by exempt review is as follows: Exempt-Category 2

It would be appreciated that you advise the IRB upon the completion of your study involving interaction with human subjects. Please use the closure form in the Cayuse system.

Approval is conditional upon your willingness to carry out your responsibilities as the investigators under University policy. Your research project must be conducted according to the methods described in the final approved protocol. Should there be any changes to your research plan as described, please advise the IRB, because you may be required to submit an amendment (with re-certification). Additionally, should you as the investigator or any of your subjects experience any "problems which involve an undescribed element of risk" (adverse events in regulatory terms), please immediately inform the IRB of the circumstances. There are forms for both modifications and adverse events in the Cayuse system.

If you need further assistance, you are encouraged to contact the IRB. The Board wishes you success in your future research endeavors.

Sincerely,



Bonny Burns-Whitmore, MPH DrPH RD  
Chair, Institutional Review Board  
Professor, Human Nutrition and Food Science  
Huntley College of Agriculture

### APPENDIX D: Recruitment Letter to Parents

*This message has been automatically generated by the Cayuse system installed at Cal Poly Pomona by Evisions. Please contact the IRB office ([irb@cpp.edu](mailto:irb@cpp.edu) or 909.869.4215 or .3713) if you have questions or you believe you have received this message in error. Thanks for your compliance with the regulations while conducting human subjects research. [2/13]*

## **APPENDIX D: Recruitment Letter**

### **California State Polytechnic University, Pomona**

#### **Invitation Consent Form for Research Involving Human Subjects**

You are invited to participate in a research study, which the Cal Poly Pomona Institutional Review Board (IRB) has reviewed and approved for conduct by the investigators named here. This letter is designed to provide you – as a human subject – with information about this study. The investigator will describe this study to you and answer any of your questions. If you have any questions on your rights as a subject, please contact the Compliance Office within Cal Poly Pomona’s Office of Research and Graduate Studies at (909) 869-4215. More information is available at the IRB website, <http://www.cpp.edu/~research/irb/index.shtml>.

Project Title: School Loop at Home

Protocol Number: IRB-18-38

Principal Investigator: Christin Jow  
Graduate Student  
Master of Arts in Education, Educational Multimedia  
California State Polytechnic University, Pomona  
[cwjow@cpp.edu](mailto:cwjow@cpp.edu)

Faculty Advisor: Dr. Shahnaz Lotfipour  
[slotfipour@cpp.edu](mailto:slotfipour@cpp.edu)



Dear Parents/Guardians,

My name is Christin Jow. I am a graduate student at California State Polytechnic University, Pomona. In fulfillment of the Masters of Arts in Education with Multimedia option I am pursuing, I have created a project titled School Loop at Home. As you may already know, School Loop is the main communication system used at Hollencrest Middle School. I have created a responsive tutorial that contains valuable information and an online survey. The project was created to train parents/guardians to utilize the school-wide online grading system and encourage communication between home and school. In this tutorial, you will learn how to register for School Loop, email teachers and administrators, and check student grades. The tutorial should take about 15-20 minutes. This time will be well spent because you will learn how you can assist your child in their academic progress. Your participation is greatly encouraged and appreciated. By participating or not, you and your child's standing with Hollencrest Middle School will not be affected. If you choose to participate in this study, you will be asked to complete the following:

1. Navigate through the module to learn about the grading system. The tutorial will take about 15-20 minutes to complete. You may stop at any time and return to the tutorial as long as you use the same device.
2. Provide your feedback with the survey at the end of the module.

If you need internet access or a computer to complete the tutorial, the school computer lab will be opened for one hour every day, 3 P.M. to 4 P.M., from May 2- May 18. Your participation is voluntary and all information from the surveys will be kept anonymous since you will not be asked to place your name on the survey. If you would like to

participate and learn about the School Loop system, you can copy the link below to your web browser. By going to this web link, you are consenting to participate in this research study. At the end of the tutorial, a link will take you to the survey asking about your opinion on the School Loop system. (<https://tinyurl.com/ydbmkd35>).

Thank you for your support and feedback.

Christin Jow

# APPENDIX E: End of Tutorial Survey

5/30/2018

School Loop Tutorial End Survey

## School Loop Tutorial End Survey

Thank you for completing the School Loop Tutorial! Please take the following survey to help me continue to enhance this tutorial process. No private information will be collected. Thank you for your time.

### 1. Select how you best feel about each part of the tutorial.

Mark only one oval per row.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
The interactivity, video clips, and questions enhanced my learning experience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The process of going through the entire tutorial was easy to follow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content was well organized and free of grammatical errors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All of the activities and questions in the tutorial worked properly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The content of the tutorial was effective and relevant.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would recommend this module to another parent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 2. What were the overall strengths of the module?

\_\_\_\_\_

### 3. What were the overall improvements that can be implemented in this module?

\_\_\_\_\_

### 4. What are the overall opinion of the module?

\_\_\_\_\_

Powered by  
 Google Forms