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Leveraging Technology To Impact Reading Achievement Of Early Elementary Students

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LEVERAGING TECHNOLOGY TO IMPACT READING ACHIEVEMENT OF EARLY ELEMENTARY STUDENTS

by

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CHAPTER ONE

Introduction

Overview

The adoption of iPads by schools across the country has created an opportunity for teachers to think differently about how instruction is provided for students. Learning to read has taken a new twist as technology such as smart phones, iPads, electronic books, computer games and the Internet is the standard for students who have only known a life saturated with technology. Technology should be integrated into the classroom in a careful, deliberate and personalized way to increase student achievement and accelerate learning (Northrop & Killeen, 2013). In many classrooms across the country, I wonder if this is the case. In my daily work as a 2nd grade teacher I am given the task of teaching students to read by also incorporating technology into their learning experiences. I often reflect about the connection between literacy and technology. I am curious about the combination of technology and literacy and if I am using the best technology tools out there to accelerate student growth. Given the work that I do, and the background knowledge that I have, I am led to wonder; *How can teachers leverage technology to impact reading achievement of early elementary students?*

As I begin to address this question, it is necessary I reflect on my own educational journey and beliefs about literacy and technology. This chapter focuses on my professional and personal experiences which led to the development of my capstone research question.

My Personal Story

Education has always been very important in my family. Growing up, my parents instilled in me the value of education and succeeding in school. I grew up in a middle-class

family, and both of my parents were well-educated. Each night they helped my sister and me with our homework. Video games, cell phones and electronic devices were not something you would see in our home. We had a television and my sister and I were allowed to watch one episode of *I Love Lucy* if our homework was completed each night. Novels, children's books, and dictionaries filled the shelves in our home. I loved to read and knew when I grew up I wanted to be a teacher so I could share my reading passion with others.

Throughout the years, as the times changed my family got our first computer. It was enormous and cumbersome, but still my sister and I were intrigued by it. Unlike the students of today, we didn't necessarily use the computer to complete school work but instead we played games, specifically Oregon Trail. We would spend hours playing together, hunting for food and trying to win the various levels. This was my first real experience using technology and I was hooked. Eventually, I used the computer to write a few papers as I finished high school, but looking back I never saw the connection between technology and education.

My first year in college my parents purchased a laptop for me to complete the necessary papers that were required. I was excited, yet completely intimidated by the device I now called my own. Throughout my four years in college I wrote hundreds of papers and truly learned to embrace technology and all it had to offer. The world felt like it was at my fingertips - a simple click away. My professors in college did not over utilize the technology that was available. Many of them still wanted you to submit your papers using a floppy disk. I graduated with my education degree and was excited for the adventure ahead.

My Career Path

I will never forget my first teaching job. Fresh out of college, I moved to a different state and began my job at a new school with a new curriculum. The first reading lesson I taught

focused on reading a text and answering clarifying questions. I opened the basal reader, read the instructions, and taught the lesson step-by-step. I wheeled the old, rusty overhead projector to the front of the room, and placed my ever so carefully copied transparency sheets on the top. I taught using this method all year until spring when I was asked to attend a training about SMART boards. A SMART board is an interactive whiteboard, which is used as an instruction tool. SMART boards can display digital images using a projector. Teachers and students can manipulate the board by using their finger as the mouse directly on the screen. After the training, I was also expected to bring the information back to school to train others. "Me?" I thought. I was surprised I was the one they considered to lead this new technology initiative. After some persuasion, I attended the training on Smart boards. I felt completely inadequate and overwhelmed yet very enthusiastic. The endless possibilities that the SMART board could bring to my classroom were captivating. The next school year, all classrooms were equipped with brand new SMART boards, projectors and Apple computers. I, as the certified SMART board trainer had the very important role of training others. This was a pivotal moment in my career as my newly discovered passion for technology emerged as well as my curiosity. I enjoyed sharing my knowledge of how having a SMART board could completely transform a classroom. I taught others the necessary basics of the SMART board and as the year went on I presented at many different professional development days. Through the years in Arizona, I perfected teaching with a smartboard, and ultimately had to say farewell to my trusty overhead projector.

Six years ago, I moved back home to the Midwest to be closer to my family and landed a job in small Midwest suburb. Little did I know that the school district had a very large technology initiative being rolled out the year I was hired. It was their vision that each student would have an iPad K-12. I felt as though I was a master at teaching with a SMART board, but

1:1 iPads greatly intimidated me. After a few trainings, workshops and conducting my own personal research on how to incorporate iPads into the classroom, I started to wonder about how iPads were going to affect the learning of my young students. I knew that 1:1 iPads could have the possibility to change learning environments into richer, more personalized, and highly engaging settings. But, I wondered how myself and my colleagues would navigate the new waters of iPads.

During a professional development day, I learned more about Puentedura's (2006) SAMR model (Substitution, Augmentation, Modification, Redefinition). The SAMR model's focus is to help teachers infuse technology into teaching and learning. The purpose of this training was to reflect on your current usage of technology, specifically iPads and develop ways to move your teaching up the SAMR scale. Teachers were asked to create tasks that aim for higher order thinking skills as well as designing tasks that have a significant impact on student outcomes. This was a challenge for many teachers. Their personal mindsets about technology and the feeling of being overwhelmed had set in. I could see on so many faces that they were discouraged and needed direction. According to Wood and Jocius (2014), there has been an effort to increase the availability of technology in schools. However, teachers don't have the tools to really leverage the technology for authentic and meaningful purposes. Too often, electronic devices tend to be used to only develop basic skills. I knew that after taking this training, the SAMR model would help my struggling readers, because the SAMR model allows teachers to critically look at how technology can be personalized to enhance learning experiences for all students. This was another pivotal moment that helped shaped the basis of my research question and project.

If you walked into my 2nd grade classroom today, you would see iPads being used in every subject area. Students are not only reading novels on their iPads, they are also creating their own stories, iMovie's, and science experiments by using technology. My curiosity and wonder of iPads still exists in my teaching every day. I constantly reflect and wonder if having 1:1 iPads is truly helping increase student achievement. Could I be doing something more and different with the iPads to reach a deeper level of success?

The Purpose

The purpose of my research is to investigate different methods teachers can use to integrate technology with literacy. Personally, I want to learn the best ways to use technology to increase reading achievement. Over the past six years, reading achievement scores at my elementary school have slowly declined and are behind the national average. Wolfe and Nevills (2004) argue that, "A child who is not at least a modestly skilled reader by the end of third grade is unlikely to be a skilled reader in high school" (p. 1). With all of the technology available, this has fueled my desire to learn more about how teachers can use technology to increase reading achievement. Each year more struggling readers are falling further behind in classrooms across the country. Understanding how educational technology can be integrated to improve the reading skills of struggling learners is something all teachers should know and be able to apply in their own classrooms (Cheung & Slavin, 2013). Knowing the importance of the SAMR model, the Common Core State Standards for reading and the abundance of technology available, I created professional development that I can facilitate to my colleagues. The professional development features technology tools, aligned to literacy standards and next steps for implementation. I strive to present multiple professional development sessions during the 2017-2018 school year and serve as a peer coach to teachers. The goal of the professional development is to provide teachers

with information to help navigate technology with early elementary students which would hopefully increase our reading achievement scores dramatically. Various lessons would be shared along with the important research collected.

I am fortunate enough that my district has already supplied each classroom K-12 with 1:1 iPads. Many other neighboring districts have also followed suit. With all of the technology possibilities available to students and teachers, it is important to find out how these devices can increase achievement, especially in literacy. We cannot simply give students an iPad and expect them to learn, or that the device will be effective (Palfrey & Gasser, 2008). Creating professional development opportunities for teachers of early elementary students will lead to rigorous, differentiated, and inspiring learning experiences for all.

Literacy Achievement and Technology

I became a teacher for two reasons; I enjoyed working with children and my love of literature. When choosing to be an elementary teacher, I knew that literature is a large component of a school day. Literature is sprinkled throughout a student's day and can be used in every subject area from science to music. Wolfe and Nevills (2004) suggest that, "Teachers are the critical force to structure school environments where children construct their reading brain and their attitude about themselves as a reader" (p. 149). When I ask my 2nd graders what the best part of their day is very few of them respond with "reading." I knew I needed to change their response, but how?

It was not until I witnessed students reading on an iPad when a shift began. Many of my students started to read for pleasure rather than a teacher assigned task. Something magical happened when a book became digital. It sparked a new phenomenon in my classroom and students were begging to read on an iPad. My once popular book corner is now used to read

electronic books (e-books) instead of the hundreds of paper books. According to Jones and Brown (2011) there is a major shift in the publishing industry where many book sellers are actively promoting e-books because they are less expensive and a more efficient method to read. Knowing that literacy achievement is our school goal and the importance of all students reading at grade level by grade 3 has prompted my curiosity of the connection between technology and literacy. Why do students enjoy reading on an iPad versus a paper book? Are there any benefits of reading on an iPad? What can teachers' do to continue the momentum that has already started. Can technology increase reading achievement? If so, how?

Conclusion

My personal and professional experience with technology has left a lasting impression on me. I never thought that technology would play such an instrumental role in my teaching. While there are many different aspects of technology in the classroom that I could study and research, I chose literacy achievement because of its large impact on my teaching and the success of my students. Technology itself cannot change the classroom; it could change the way in which students are motivated and how information is learned. The way in which teachers purposely weave technology and literacy into the hands of students will have lasting effects. As I look ahead, I am eager to learn new ways to integrate technology and literacy by using various tools on the iPad. I am motivated and willing to share my new-found knowledge through professional development that I create. These beliefs are the groundwork to my research question; *How can teachers leverage technology to impact reading achievement of early elementary students?* In the next chapter I detailed the research I have found that merges the connection between early literacy skills, motivation, technology in the classroom and technology integration models.

CHAPTER TWO

Literature Review

Introduction

Technology has changed every facet of my life; from how I teach, communicate and even read literature. The integration of technology is not instantly productive or even effective because of its existence in the classroom. Technology integration requires a creative and thoughtful approach in order to greatly impact student achievement. These beliefs are the foundation of my research question, *How can teachers leverage technology to impact reading achievement of early elementary students?* In chapter one of this capstone, I provided a brief overview of my personal educational journey with technology and literacy. I also revealed the purpose of my research and why connecting technology and literacy is significant to me. I shared my experiences growing up with very little technology and my love of literacy, to my experience with SMART boards to now currently teaching in a 1:1 school district. The subtopics that will be addressed throughout this chapter are; early literacy skills, motivation, technology in the classroom and technology integration models.

The first section of chapter two addresses early literacy skills and why it is imperative that students become proficient readers. The next section examines motivation and how it correlates with literacy achievement. The third section highlights supporters and opponents of technology in the classroom. Additionally, the third section showcases the various ways technology is used to impact reading achievement in classrooms. Finally, the fourth section discusses how teachers can integrate technology into the classroom by using several technology integration models.

Early Literacy Skills

According to Snow, Burns and Griffin (1998), "Reading is essential to success in our society. The ability to read is highly valued and important for social and economic advancement" (p. 1). In order for young students to become literate, there are a number of crucial skills that must be developed. According to the National Early Literacy Panel (NELP), 37% of fourth graders in the United States fail to achieve basic levels of reading achievement. In addition, reading failure is even higher within low-income families, ethnic minority groups and English-language learners (NELP, 2008). Research has shown that we can predict, with reasonable accuracy students' future academic success by their reading level at the end of third grade (Wolfe & Nevills, 2004). The National Early Literacy Panel helped to establish a framework for the importance of early literacy development in children. They identified foundational skills that should be in place by the time children begin school. These skills are precursors to literacy success.

The first foundational skill students need to be successful readers is the ability to recognize and name the letters of the alphabet. Thousands of words are formed from the 26-letter alphabet, which Wolfe and Nevills (2004) considered to be a predictive factor for learning to read. Students must not only be able to recognize but identify letters in many different contexts. As children learn to read the letters, they are also learning to say the sounds the letter make. Adams (1990) suggested that this is the single most important thing children must understand when learning to read: the alphabetic principle, which is the understanding that letters have corresponding sounds that make words when combined.

The next foundational skill students need is a strong phonemic awareness. Students need an understanding that a few phonemes can be arranged to make many different words. Students that portray phonemic awareness are able to segment sounds in words (Wolfe & Nevills, 2004).

Demonstrating phonemic awareness also involves the isolation of sounds within words, as well as having the ability to hear rhyming within words. Children who are better at detecting syllables, rhymes, or phonemes learn to read much faster. The relationship to learning to read and phonemic awareness are actually reciprocal. Phonemic awareness is crucial to learning to read, and learning to read increases phonemic awareness (Whitehurst & Lonigan, 1998).

The final foundation skills students need before entering school are connected to rapid automatic naming (RAN). Students need to have the ability to quickly name a sequence of random letters or numbers, as well as name pictures of objects ("car," "bus," "dog") and colors (NELP, 2008). The National Early Literacy Panel suggested that a child's readiness for reading must also include the ability to write their own name, and also demonstrate the ability to write letters in isolation. Understanding of letters and how they translate onto paper is an important skill for literacy achievement (NELP, 2008). Finally, students need to have a solid phonological memory, which is the ability to remember spoken information for a short period of time. Wolfe and Nevills (2004) stressed that these early literacy skills have been shown to have a high correlation with later reading ability.

Early literacy skills are a necessary foundation for students to be successful readers and writers. An understanding of the alphabet, phonemic awareness and RAN skills will ensure students are ready to begin reading. The next subtopic, motivation discusses how fostering motivation in a classroom setting will lead to literacy success for students.

Motivation

Ryan and Deci (2000) stated, "To be motivated means *to be moved* to do something" (p. 54). Student motivation comes from a student's mindset and experiences, their willingness to

participate and various learning activities (Brophy, 2004). Gambrell, Palmer, Codling and Mazzoni (1996) emphasized the importance of students developing self-confidence and the belief that they are capable of accomplishing complex tasks. This section explores subtopics in intrinsic and extrinsic motivation, as well as how motivation is closely tied to student's reading achievement.

Intrinsic and extrinsic motivation. Motivation comes in two forms; intrinsic and extrinsic. Intrinsic motivation originates from internal desires, interests, and experiences (Ryan & Deci, 2000). When students are intrinsically motivated, they do something because it is naturally fun or rewarding for them. Students are unique in what motivates them, and not everything motivates all students the same way (Ryan & Deci, 2000). Brophy (2004) also suggested that students who possess intrinsic motivation enjoy discovering new skills, techniques and new ways of gathering knowledge. They often feel excited when completing an activity because they are so involved and motivated to learn something new.

Extrinsic motivation occurs when there is an external reward or goal (Ciampa, 2012). Students who are extrinsically motivated do not find value in learning itself and they do not find pleasure in learning because they typically are not driven by challenge or are uninterested (Brophy, 2004). Praise is a common method used to reward students for a specific accomplishment and ultimately, help motivate some students. Praise is an excellent way to provide students with specific feedback. However, for praise to be effective, Kast and Conner (as cited in Brophy, 2004, p. 139) argued that it needs to "be informative and appreciative rather than controlling." Finding the type of extrinsic motivation that works best for each student will be an important step for teachers.

There is a connection between intrinsic and extrinsic motivation and the desire to learn to

read to become an independent reader in schools across the country. Dweck (2007) emphasized that the most motivated and successful students are ones who believe in their own skills and talents as readers and embrace perseverance through learning. Developing self-confidence and focusing on the value of reading is critical for young readers. The next section discusses how motivation is linked to literacy and what teachers can do to boost motivation in their students.

Motivation for literacy achievement. Ciampa (2012) suggested that, "Motivation to read is both the essential element for actively engaging young children in the reading process and a strong predictor of later reading skills" (p. 2). Teachers have recognized for quite some time that motivation and creating interest in reading are crucial in any classroom to achieve success (Gambrell et al., 1996). Kohn (2011) also stated that if students are finding academic assignments boring, they are much less likely to show interest and understand the material at a deep level. Students tend to be more motivated to learn when choice is provided. When teachers can relate topics and activities to student interests and passions, motivation rises and students retain the content and necessary skills (Kohn, 2011). Gambrell et al. (1996) also supported student choice by arguing that, "Highly motivated readers are self-determining and generate their own reading opportunities. They want to read and choose to read for a wide range of personal reasons such as curiosity, involvement, social interchange and emotional satisfaction" (p. 518). When students are motivated to read, they are reading more for pleasure and enjoyment. Sadly, this is found less among students and there has been a steady decline in leisure reading as students move through school (Ciampa, 2012). Encouraging and teaching children to devote motivation to reading is an important, yet challenging task for teachers. Learning to read takes effort, and a large amount of motivation is needed each day to persevere to become a life-long reader (Ciampa, 2012).

Learning to read requires persistence, teacher support and most importantly motivation. This section overviewed the differences between intrinsic and extrinsic motivation as well as provided evidence connecting motivation and literacy. Instilling the love, passion and value of reading is important for all educators to pass onto their students. The next section reviews what characteristics proficient readers portray and the elements required for a literacy-rich classroom.

Proficient Readers

According to the National Reading Panel there are five elements that every student must have to be considered a proficient reader: phonemic awareness, phonics, comprehension, vocabulary and fluency (NICHHD, 2000). Kindergarten is an important step in a child's educational journey in reaching reading proficiency. According to Wolfe and Nevills (2004), all children are expected to transition from pre-readers to readers during their first two years of formal schooling. Primary educators have the challenge of making reading a reality for all children (Ciampa, 2012). Learning to read is a very complex task in which many factors must align for a student to become a successful, proficient reader (Cheung & Slavin, 2013). Students not only need to have mastered the literacy foundational skills, students also need to be able to blend the sounds into syllables and comprehend meanings of words by themselves (Adams, 1990). Students must also be able to read with sufficient fluency to comprehend vocabulary and word meanings. Comprehension difficulties can be prevented by actively building comprehension skills as well as linguistic and conceptual knowledge, beginning in the earliest grades (Snow et al., 1998). To be considered a proficient reader, a student must display a high level of vocabulary and the ability to comprehend text. According to Wolfe and Nevills (2004) both appear to be developed simultaneously as a child becomes a proficient reader, which indicates these two skills are dependent on each other.

Vocabulary. According to Sternberg (1987) and Terman (1916), "Vocabulary knowledge is one of the best indicators of verbal ability" (as cited in Graves, 2006, p. 2). Children begin using vocabulary at a very young age, and it initially occurs through simply talking (Wolfe & Nevills, 2004). As children grow, the size of a students' vocabulary continues to increase with schooling and beyond. It is estimated that students acquire around seven words per day, which results in 2,700-3,000 words per year during elementary through high school (Snow et al., 1998). Emphasis on vocabulary building must happen concurrently with phonological processing and decoding instruction during the early school years (Wolfe & Nevills, 2004).

There are many methods in which educators can teach students new words. Michael Graves, author of *The Vocabulary Book* suggested that one method to teach vocabulary is to teach words individually (Graves, 2006). Graves also noted that it is impossible to teach students all words, as there are far too many (Graves, 2006). Wolfe and Nevills (2004) suggested that educators should select eight to ten new words each week to introduce to students. Additionally, Beck and McKeown suggested, "Vocabulary instruction is most effective and is most likely to influence students' comprehension when it is rich, deep and extended" (as cited in Graves, 2006, p. 6). Another method Graves suggested is to foster classroom environments that provide students with rich and varied language experiences (Graves, 2006). Students have the chance to learn new words in many different ways; listening, speaking, reading and writing. Wolfe and Nevills (2004) also supported Grave's method when they stated, "Vocabulary grows through interactions with people, activities, and books that introduce new words, ideas and concepts" (p. 124). It is important to provide students with various language opportunities within a classroom setting so they can learn new words in vocabulary-rich environments (Graves, 2006). Finally,

Graves stressed the importance of teaching word-learning strategies as well as word-consciousness (Graves, 2006). Understanding that words have meanings is critical for students to understand to become strong readers (Graves, 2006). Wolfe and Nevills (2004) suggested that, "Children learn strategically to self-analyze unknown words. Teachers explicitly teach the morphology of new words through identification of prefixes, suffixes, and roots that help students to identify the word's meaning and pronunciation and to determine its part of speech" (p. 127). Additionally, Graves (2006) stated that, "Word consciousness integrates metacognition about words, motivation to learn words and deep and lasting interest in words" (p. 7). Creating curiosity and fostering the appreciation of new words key component in vocabulary instruction (Wolfe & Nevills).

Comprehension. Wolfe and Nevills (2004) defined comprehension as "The process of attaching meaning to written or spoken language by accessing previously stored experience or knowledge" (p. 156). The National Reading Panel encouraged teachers to explicitly teach, model and demonstrate comprehension strategies to students. Doing this will lead students to improvement in text understanding, and help students interact with a text without assistance (NICHHD, 2000). Additionally, students who demonstrate comprehension are also able to use inferencing strategies (Snow et al., 1998). By using text clues and their schema, students are becoming strong readers. Another critical part of comprehension is vocabulary. Comprehension depends greatly on the words a child knows and can call on automatically (Wolfe & Nevills, 2004). Comprehension is required for effective reading. Without it the reader will struggle with understanding a text.

Becoming a proficient reader requires a combination of strong reading skills, vocabulary knowledge and the ability to comprehend text. The way in which students locate and even read

texts has dramatically changed. No longer is paper text the only option, reading has now become more digital than ever before. The next section overviews how the digital age has influenced how students read today.

Reading in the Digital Age

Computers, iPads and SMART boards have become the norm in classrooms around the country. It is difficult to find a classroom without some type of technology component incorporated. This shift in education has required educators, parents and administrators to think differently about educational technology and the endless possibilities it offers to provide students a unique way of learning (Pitler, Hubbell & Kuhn, 2012). According to Schacter and Fagnano (1999), "Applied effectively, technology not only increases student learning, understanding and achievement but also motivates students to learn, encourages collaborative learning, and helps develop critical thinking and problem-solving skills" (as cited in Pitler, Hubbell & Kuhn, 2012, p. 3). Technology has the incredible power to change the classroom and impact the way in which students learn and gather information (Blagojevic, Brumer, Chevelier, O'Clair & Thomes, 2012). This section showcases how technology can be used to impact literacy instruction for students. The subtopics discussed are; electronic books, iPads and the various impacts iPads can have on classroom instruction. Additionally, this section reviews how iPads can be used to support literacy instruction.

Electronic-books. Online storybooks are one example of how teachers of beginning readers are using technology to motivate and excite their students about reading (Guernsey & Levine, 2016). Digital books come in all different styles, some are based on paperback books and others are written specifically for digital texts. Reading electronic books (e-books) promotes

traditional literacy skills and is very supportive in the area of vocabulary development. A young students' interaction with e-books allows them to communicate and comprehend across modes and platforms, sometimes called trans-literacy development (Cahill & McGill-Franzen, 2013).

There is a suggested set of criteria for selecting a quality e-book. Teachers are encouraged to look for visually presented text on a screen, book-like configuration, organized subject matter and multimedia enrichments (Cahill & McGill-Franzen, 2013). While selecting picture book apps, it is important to look at the quality of the app and only select apps with high quality literature (Cahill & McGill-Franzen, 2013).

Research conducted by Cahill and McGill-Franzen (2013) have found that children's use of digital picture books has positively influenced language and literacy learning. Digital texts allow for a more personalized reading experience. Users can select appropriate scaffolds of support which leads to reading proficiency (Cahill & McGill-Franzen, 2013). Northrop and Killeen (2013) stated, "As with any format of narrative or informational text, the content of a digital picture book should provide a springboard for discussion and reflection" (p. 35). Blagojevic et al. (2012) echoed this thought when they suggested that children's books provide great conversation starters with adults who are in their lives. The importance of discussing the book has proven to be as important as the actual reading of the book. Blagojevic et al. (2012) also stressed that, "Now that e-books are part of the picture, the importance of these conversations has not receded" (p. 39).

iPads

Children are using iPads and other devices more than ever before (Blagojevic et al., 2012). According to Rideout (2013), within the last few years, technology has drastically increase in personal and family use. Additionally, 75% of families own some type of mobile

device as well as 40% own a personal tablet (as cited in Lauricella & Wartella, 2015, p. 11). Tablets, such as iPads have endless possibilities. Everyone from elementary to high schools were purchasing iPads at a rapid rate in 2010 (Dober, 2011). With approximately 65,000 education apps created specifically for iPads, there is something for every student and teacher to utilize (Mareco, n.d). According to Apple (2012), "As of January 2012, Apple reported some 1.5 million iPad devices being sold into educational institutions, including more than a thousand reflecting 1:1 deployment" (as cited in Clark and Luckin, 2013, p. 9). It is evident that iPads are here to stay in classrooms across the country. This section will discuss iPad benefits, monitoring and assessment possibilities, personalized learning and teacher perceptions of iPads in the classroom.

There are endless benefits of having iPads integrated in the classroom. Larson (2010) stated that, "Additional research reveals that digital tablets assist struggling readers. The tablets support comprehension by allowing students to manipulate the text size, use text-to-text speech options, and access a dictionary" (as cited in Delacruz, 2014, p. 63). iPads are also great for supporting students of dual languages. iPads are quick to translate back and forth in different language settings to assist students in their learning (Blagojevic et al., 2012) According to Clark and Luckin (2013), "Research suggests that the adoption and use of iPads in and beyond the classroom allows students to augment and enhance their learning in ways that were previously not possible or not so easy to do" (p. 2).

Schools are using the iPad as more than just a device to learn. They are also using iPads to assess, monitor and provide feedback to students everyday (Wood & Joicus, 2014). iPads have the ability to track a students' progress and notify teachers of the results, strengths and weaknesses of each student. Selecting apps that have a tracking ability is key (Blagojevic et al.,

2012). With the help of the iPads, students are able to create digital portfolios to be used to demonstrate knowledge and share their learnings (Clark & Luckin, 2013). Blagojevic et al. (2012) encouraged educators to explore apps that provide feedback for students, whether from the app or from the teacher electronically.

iPads have the incredible ability to personalize learning for each student. Apps can be selected on an individual basis to provide students exactly the type of learning experiences they need to achieve success (Clark & Luckin, 2013).

Clark and Luckin (2013) suggested the following:

> All learners are different and require teaching and learning interactions that acknowledge these differences and provide suitable support. A technology, such as an iPad, that is owned by an individual learner and populated with material and applications that are particularly suitable for their needs could be a powerful, portable, personal learning partner. (p. 11)

Blagojevic et al. (2012) found that educators should explore various apps that allow for easy audio and photo input for students to add pictures of their own culture. This creates a personalized experience for students, when they see themselves in their learning.

Overall, teachers have been excited about the opportunity to welcome iPads into their classrooms (Clark & Luckin, 2013). Burden et al., (2012) also stated:

> Teachers felt that the use of iPads in the classroom caused them to rethink their professional role and facilitated greater collaboration between themselves and students as co-learners in partnership with each other and with students learning independently of the teacher as well as increasing peer-to-peer learning and mentoring (as cited in Clark & Luckin, 2013, p. 22).

When selecting a technology tool to use with students, such as an iPad it is important that educators have a basic understanding of the functions of the technology device or app, how to appropriately monitor progress, and if the technology tool will be successful in meeting the needs of each student (Blagojevic et al., 2012). Wood and Joicus (2014) stated that, "Like paper and pencils, technology is a tool, and it's what teachers and students do with the tool that matters" (p. 133).

Using iPads to support literacy instruction. According to Delacruz (2014), "Using iPads or other tablets in elementary classrooms as tools for reading has yielded positive results" (p. 63). To successfully integrate iPads in the classroom to support literacy instruction, Northrop and Killeen (2013) suggested teachers use a technology integration framework.

The framework consists of four main steps. First, teachers must model and explain the literacy concept, without using technology. Northrop and Killeen (2013) argued that, "Apps provide plenty of time for practicing literacy concepts, but should not be substitutes for directly teaching concepts" (p. 533). Next, teachers should explain the app and the concept target that the app will help students practice. Palfrey and Gasser (2008) also argued that it is important that teachers decide how technology can support their students learning goals and standards. Modeling the app is a critical step so students can see how to appropriately use the app independently. The third step is facilitating guided practice with the app. It is important that teachers are checking in with students so, like Northrop and Killeen (2013) stated they "understand not only how to use the app, but also that they understand the literacy content the app is using" (p. 534). Finally, once students have a strong understanding of the literacy concept and the app, they are ready for independent practice. Palfrey and Gasser (2008) suggested, "The use of technology in teaching makes no sense if it's just because we think that technology is

cool" (p. 246). When deciding on an app, it is necessary to decide if integrating the app will allow students to do something better, more efficiently and effectively than before (Dober, 2011).

Technology, such as E-Books and iPads have become an integral part of classrooms. Rosen (2010) stated that, "Technologies that are loved and consumed by the iGeneration present many unique possibilities, and any barriers to them, are in my opinion, insignificant compared to technologies' ability to engage our young students in the learning process" (p. 180). It is important for educators to consider how E-Books and iPads can enhance learning experiences for students. The next section explores the controversy of having technology in the classroom. It also introduces Digital Natives and the skills teacher require to teach them effectively.

Technology in the Classroom

It is evident that electronic devices such as iPads, Kindles, Nintendo DS, and iPhones are in the hands of young students. If you go into any store, restaurant or even the airport you will find these devices being used by students (Wood & Jocius, 2014). Some students are using the devices to play various games while other students are using the devices to read, learn and gather information. According to Palfrey and Gasser (2008), "This has been the most rapid period of technological transformation the world has ever seen" (p. 3). There are many benefits of using technology in education, however, there are also downsides to consider and plan for. Schools, teachers and principals have the difficult challenge of finding the balance with technology. It should be a priority to decide how and when technology can and should be used to enhance the learning (Palfrey & Gasser, 2008).

Supporters of technology. Moratelli and DeJarnette (2014) stated that, "Technology in the classroom can serve as an educational tool for both teachers and students" (p. 587). The great

thing about having access to technology in schools is the way in which students can receive information. Instead of relocating a class to a computer lab, having access to technology such as iPads in the classroom can offer more flexibility and differentiated instruction (Moratelli & DeJarnette, 2014). Teachers have the ability to access endless amounts of curriculum content online to use with their students, and much of which is free resources (Rosen, 2010). Russel and Sorge (1999) argued that, "Integrating technology into instruction tends to move classrooms from teacher-dominated environments to ones that are more student-centered" (as cited in Pitler, 2007, p. 3). Supporters of technology in the classroom stress the purpose of integrating technology in the classroom is not to "teach with technology" but rather to use technology to bring content to students in a more powerful, interesting and personalized way (Rosen, 2011). Palfrey and Gasser (2008) also agreed that, "The most important thing that schools can do is to not use technology in the curriculum more, but to use it more effectively" (p. 247). It is evident that students learn more when they are engaged, and as Rosen (2010) stated, "Technology is all about engagement" (p. 15). Supporters of technology in the classroom recognize that technology has the ability to completely differentiate and engage learning for all students, thus leading them down path to success (Pitler, Hubbell, Kuhn, 2012).

Opponents of technology. Palfrey and Gasser (2008) argued that, "Teachers, parents and psychologists have some legitimate reasons to worry about the digital environment that young digital natives are spending so much of their time in" (p. 8). Wright (2001) claimed that using technology with young children is simply developmentally inappropriate and that there are very few instructional benefits. Opponents of technology would prefer to have students interacting with hands-on materials, creative play and experiments, rather than using electronic devices (Wright, 2001). The way in which students learn to think critically and collaboratively is not

through an electronic device, rather it is through dialogue with one another. Students need the opportunity to exchange view-points, ideas and ask questions about different topics in a face-to-face real life type of setting. The integration of technology in school has inhibited the conversations students need to accelerate their learning (Palfrey & Gasser, 2008). Rosen (2010) indicated that internet safety is the main concern of most opponents of technology in the classroom. Larry Rosen (2010) in his book, *Rewired,* conducted a survey with parents, students and district technology directors. He discovered that 80% of parents were concerned with the type of information that their children were sharing online. Interestingly enough, only 29% of students surveyed shared the same concern with online privacy and safety. Rosen stressed the importance of privacy and taking proactive steps to ensure students are navigating the online community safely (Rosen, 2010).

Digital Natives. The term "Digital Native" refers to students who were born after the 1980's, when all social digital technologies became an online phenomenon. Children and youth born in this generation are most known for their love of technology, their need to multitask and the various modes in which they communicate with others (Rosen, 2011). Digital Natives operate differently in the way they work, read, write, study and interact with their peers. Their entire world is online (Palfrey & Gasser, 2008). They view their smartphones and iPads as more than just electronic devices, it is simply a way of life. They are not questioning the existence of technology, instead they are using it to their advantage in a variety of ways (Rosen, 2011). Rosen (2011) suggested that, "Their WWW doesn't stand for World Wide Web; it stands for Whatever, Whenever, Wherever" (p. 12). Palfrey and Gasser (2008) explained in their book, *Born Digital* that Digital Natives spend the majority of their lives online. At times, it is hard for them to distinguish the difference between the online world and offline world. Palfrey and Gasser (2008)

argued that, “Digital Natives will move markets and transform industries, education and global politics. The changes they bring about as they move into the workforce could have an immensely positive effect on the world we live in” (p. 7).

Teaching Digital Natives. Students who are Digital Natives have high expectations when it comes to learning. They expect it to be fun, entertaining, engaging and filled with customization (Wright, 2001). Palfrey and Gasser (2008) noted that some teachers are feeling very inadequate because they are unable to keep up with the changes in technology. Teaching Digital Natives has become challenging for many. Schools need to respond to teaching Digital Natives differently than ever before. No longer can teachers require students to single-task, by solely asking students to listen to the teacher, take notes and complete a worksheet (Rosen, 2011). Digital Natives are actually excellent multitaskers (Rosen, 2011). Students are connected to the internet, messaging friends, listening to the teacher and studying for their next class all at the same time (Palfrey & Gasser, 2008). Rosen (2001) suggested that teachers should provide students with information by using a variety of modalities, because Digital Natives are eager to learn. Educators need to understand how their students process technology and learning digitally. Once uncovered, teachers can more creatively approach teaching and engaging these technology-savvy learners (Rosen, 2010). Allowing students choice will instill deeper, more complex understanding of the material by also strengthening engagement and fostering creativity. Teachers and parents find themselves on the front lines of Digital Natives. In reality, they have a big responsibility, but often are scared of Digital Natives and cut themselves off because of the language and cultural barrier differences. Palfrey and Gasser (2008) stated that they really “need to let Digital Natives be their guides into this new, connected way of living” (p. 10).

Technology in the classroom is a controversial topic. There are many supporters and opponents with various opinions. Teachers in classrooms today have a unique challenge of deciding what technology looks like in their classroom. This section provided research for all educators to consider before welcoming technology into their classroom. Digital Natives were also introduced in this section and provided an understanding of how students have evolved. The next section focuses on technology integration models, their importance and why teachers should consider using technology integration models to support students' in their learning.

Technology Integration Models

The way in which teachers provide students with information is different than ever before. In many classrooms across the country, the teacher is communicating with students digitally through an iPad or laptop. While it is possible for teachers to create an engaging learning environments for students without technology, the use of technology has the ability to transform and dramatically change the learning experience for students. As teachers are inviting technology to be integrated into their classrooms, it is clear that there are necessary steps teachers and students must take to learn more about how technology can be purposely used to amplify a learning experience. The SAMR model and TPACK framework are two popular technology integration models used throughout schools across the country that assist teachers with the task of implementing technology to redesign learning experiences for students.

SAMR model. Ruben R. Puentedura developed the SAMR model to help educators assess the levels at which technology was being used with students to enhance their learning as cited in Jacobs-Israel & Moorefield-Lang, 2013. The SAMR model includes four levels of technology integration; substitution, augmentation, modification and redefinition (Romrell, Kidder & Wood, 2014). The lowest level of technology integration is substitution. Jacobs-Israel

and Moorefield-Lang (2014) stated that, “This is the level of enhancement, where one kind of technology replaces another” (p. 16). Puentedura (2006) also suggested that teachers who are just starting out with technology in their classroom begin at the substitution level, in many cases using applications (apps) as a tool to enhance learning without a functional change. Augmentation is the next level in which technology provides a substitute for a learning activity. In this step, functional improvements are added, but it is still at the enhancement level (Romrell et al., 2014). Chell and Dowling (2013) suggested that for teachers to move up the SAMR scale, the learning should become more interactive. Modification is the next level in which transformation can truly begin to take place. Modification allows for creation, innovation and voice from students. At this level, the learning activities are redesigned in an entirely new way (Jacobs-Israel & Moorefield-Lang, 2013). The highest level in SAMR is redefinition. At the redefinition level, technology is being used to completely transform the learning outcome. Students are now becoming producers, innovators and creators. They also begin to reflect on their own learning (Puentedura, 2006). When students and teachers reach redefinition, the creation of the task could not have been done without the use of technology (Romrell et al., 2014).

The SAMR model provides a clear framework for educators to use to classify and evaluate the use of technology in their own classrooms (Romrell et al., 2014). Puentedura wanted the model to be used to significantly enhance how teachers use technology with students. The goal of the SAMR model is for all students to experience redefinition in their learning at some point (Puentedura, 2006). Understanding the SAMR model allows teachers an opportunity to reflect on their technology usage, while searching new ways to meet learning targets in a creative, more engaging way which leads to transformation (Romrell et al., 2014). Jacobs-Israel

and Moorefield-Lang (2013) supported the work by Puentedura by stating, “Together with the SAMR model, educators can effectively scaffold the necessary skills to take students through the stages of technology integration and adoption helping them become creators of their own knowledge” (p. 18).

TPACK framework. TPACK, which stands for Technological Pedagogical Content Knowledge, is a technology framework that encourages teachers to reflect on how their content knowledge can be used to integrate, design and evaluate curriculum with technology instruction (Neiss, 2011). TPACK considers what teachers know, how they teach and the methods in which technology can be used to effectively impact student achievement (Mishra, 2016). According to Neiss (2011), TPACK is used to assist teachers in “making instructional decisions with respect to integrating digital technologies as learning tools” (p. 300). There are three main domains in the TPACK model; content knowledge, pedagogical knowledge and technological knowledge. The TPACK framework does not simply look at the three primary forms of knowledge in isolation. Rather, TPACK examines the kinds of knowledge that exist at the intersection between the primary forms; Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK) and Technological Pedagogical Content Knowledge (TPACK) (Koehler, 2012). Content knowledge (CK) refers to the understanding and expertise a teacher has in a subject area. CK represents the the facts, concepts and theories in a particular subject (Mishra, 2016). Pedagogical knowledge (PK) is the true art and science of teaching. PK includes methods of assessment, and instructional strategies that allows teachers to design and implement successful experiences for their students (Neiss, 2011). Pedagogical Content Knowledge (PCK) is the intersection of the pedagogical and content areas. PCK is the knowledge that teachers bring regarding content and how to teach a specific content to accelerate students learning (Mishra, 2016). Technological

knowledge (TK) represents a teachers' knowledge of technology and how technology can be integrated to facilitate learning. Koehler and Mishra (2009) suggested, "Understanding the impact of technology on the practices and knowledge of a given discipline is critical to developing appropriate technological tools for educational purposes" (p. 65). Technological Content Knowledge (TCK) refers to how technology is used in a subject area to leverage deep learning for students (Kohler, 2012). It is important for teachers to understand the type of technology that will best assist students learning the content in various subject areas (Koehler & Mishra, 2009). Technological Pedagogical Knowledge (TPK) is the understanding of how to choose technology for students learning. Knowing the type of technology that will lesson a students' workload or allow students to think differently about a topic is an important component in TPK. Koehler and Mishra (2009) stressed that a teacher needs to be "forward-looking, creative, and open-minded seeking of technology use, not for its own sake but for the sake of advancing student learning and understanding" (p. 66). Finally, the intersection of all three domains; content, pedagogy and technology is the core of the TPACK framework (Mishra, 2016). It is important to begin with content and pedagogy and layer in technology to support and enhance learning. TPACK reminds teachers that technology is just one aspect of strong teaching. The combination of content, pedagogy and technology is where deep, innovative learning will take place (Koehler & Mishra, 2009).

Teaching while incorporating technology is a challenging thing to do well (Koehler & Mishra, 2009). Teachers across the country have been looking to the TPACK framework for guidance and support. Borthwick et al., (2008) argued, "The TPACK framework reminds us that effective integration requires deep understanding of content, pedagogical content knowledge, and

thoughtful exploration of ways in which new capabilities of emerging technologies may intersect" (p. 26).

Summary

Throughout chapter two, I have reviewed the works of several professionals as I researched the areas of early literacy skills, motivation, technology in the classroom and technology integration models. I have provided research about the importance of early literacy skills and the need for students to experience a strong literacy education. I have also shown a significant link between reading achievement and motivation. I have included research regarding technology in the classroom and how technology can support students in their learning achievement. Lastly, I have provided two technology integration models in which teachers can utilize in order to integrate technology at the highest level in their classrooms. All four areas intermingle with one another to create a common goal: improve learning experiences for students to accelerate learning and growth.

My research question, *How can teachers leverage technology to impact reading achievement of early elementary students?* investigates how to effectively incorporate technology into classrooms to meet the needs of all students while providing students the opportunity use technology at the highest, most effective level.

In the next chapter, I detail how I will provide teachers at my school professional development that successfully incorporates technology to impact reading achievement. I also provide research that supports why professional development is valuable and a description of the participants and setting.

CHAPTER THREE

Methods

Introduction

Mizell (2010) argued "Professional development provides ongoing opportunities for educators to continue to improve their knowledge and skills so they can help students achieve. When educators learn, students learn more" (p. 19). It is evident that technology is here to stay as there are 2 billion people across the world that have access to internet (Pitler, Ross & Kuhn, 2012). No longer is technology an addition to the work that teachers do each day. It is purposely integrated into classrooms to accelerate learning and offer students unique learning experiences.

In chapter two, I analyzed and synthesized professional literature featuring the concepts of early literacy skills, motivation, technology in the classroom and technology integration models. I discovered a correlation between technology, motivation and the impact it can have on reading achievement. I also introduced the value of utilizing technology integration models to integrate technology successfully in the classroom. The literature provided me the opportunity to set the groundwork in my research question, *How can teachers leverage technology to impact reading achievement of early elementary students?*

To begin this chapter, an overview of the educational setting in which I work and background of the demographics of the students who attend the school is provided. The teachers who are involved in my project are defined and information regarding the community in which the school is located is also identified. My project is described as well as the researchers who support my project approach. Finally, a timeline of my project and the required steps in the development are shared.

Setting

The district that I am employed in serves approximately 5,700 students from three different suburbs. Currently, there are two kindergarten through third grade elementary schools, kindergarten through fifth grade Spanish immersion school, grades four and five intermediate school, grades six through eight middle school, nine through twelve high school, as well as a school for highly gifted students and an online distance learning program. In fall 2018, a new kindergarten through fourth grade school is scheduled to open. The school district has seen significant growth over the past ten years. There has been an increase of 1,100 students, with 1,000 additional students projected within the next ten years. The school district is known for innovation and design thinking mindsets. They are passionate about student engagement and setting high expectations for all students.

My school is located in a small, urban neighborhood. The school serves 720 students in grades kindergarten through third grade. There is significant diversity within the school, both culturally and socioeconomically. The diverse student population is comprised of 7.5% Asian, 21% African American, 12.7% Hispanic, 2.8% Native American and 55.9% White. The percentage of students who qualify for free and reduced meals is approximately 57% of the student population.

The community in which the school is located is home to 6,500 residents. Although it is small in size it is a vibrant place to live and work. It consists of only 2.1 miles, but it is home to many businesses, schools, six community parks and many recreational activities

Participants

The participants of this study are 58 teachers at my school. Of the 58 teachers; 32 are kindergarten through third grade classroom teachers, 11 are academic specialists, four are content specialists (music, physical education and art), two are behavior support specialists, three

are instructional coaches, and six teachers are special education teachers. My school is quite diverse in the range of teaching experiences that teachers have to offer. There are 20 teachers who have been teaching for 1-5 years, 19 teachers with 6-10 years of experience, nine teachers with 11-15 years of experience and 10 teachers with 15 or more years of teaching experience. Each teacher is provided a laptop and iPad to use, and the classrooms are equipped with iPads for each student and a SMART board.

Research Supporting the Approach

Every child deserves an amazing, highly skilled and qualified teacher. Parents, community members and principals can all agree that the most important factor to a student's success in school is the quality of the teacher (Mizell, 2010). In fact, the National Staff Development Council argued, "The qualifications of the teacher constitute 44% of the impact of student learning" (as cited in Bowe & Pierson, 2008, p. 11). According to Mizell (2010), professional development is simply the "most effective strategy schools and school districts have to meet this expectation" (p. 1).

Technology professional development is necessary in schools today due to the number of classrooms that are integrating technology into student learning. In a study conducted by Sparks (2006), it was reported, "That only 7% of schools have teachers who are technologically advanced enough to effectively integrate technology into their lessons" (as cited in Bowe & Pierson, 2008, p. 11). The Software & Information Industry Association (2000) also argued that, "Students of teachers with more than 10 hours of training significantly outperformed students of teachers with five or fewer hours" (as cited in Wright, 2001, p. 40). Technology professional development will not only benefits students and teachers, it will help to benefit the greater good of the school community (Brooks & Gibson, 2012).

Mizell (2010) suggested that,

> All schools should be places where both adults and students learn. Teachers and administrators who routinely develop their own knowledge and skills model for students that learning is important and useful. Their ongoing development creates a culture of learning throughout the school and supports educators' efforts to engage students' in learning (p. 18).

The more successful and effective types of professional development are focused on student need and improving student achievement. Student learning increases when educators have the opportunity to engage in professional development aligned to specific skills and knowledge students need (Mizell, 2010). Professional development should not only enrich a teacher's knowledge base but also introduce new instructional practices to improve student learning (Borko, 2004).

Guskey, a leader in professional development, stressed the importance of planning. Guskey (2014) noted that, "For decades, schools have implemented professional learning not knowing exactly what they hoped to accomplish" (p. 10). Guskey (2014) argued that, "High quality professional learning is the foundation on which any improvement effort in education must be built" (p. 14). He also suggested that, planners of professional development need to start backwards and begin with the student learning outcomes. The goal of professional development is to improve student learning, keeping the focus on students will set all teachers up for success. Guskey's order for planning professional development includes:

1) Student learning outcomes
2) New practice to be implemented
3) Organizational support

4) Desired educator knowledge and skills
5) Optimal professional learning activities (Guskey, 2014, p. 11).

Mizell also suggested that, for professional development to be effective, it must occur during the school day, instead of being limited to those who can volunteer their time and stay after school (Mizell, 2010). Additionally, Brooks and Gibson (2012) stated, "When teachers are able to experience a more personalized approach to learning that incorporates contemporary technologies and makes authentic connections to their practices they are more likely to take up a similar approach with their students" (p. 11).

Description of Project

For my project, I designed professional development for teachers at my school to help them leverage technology to impact reading achievement with their students. Professional development is the most effective and influential way to present my information. I am fortunate enough to work in a large school, in which professional learning is a key component each week. Each week teachers meet in professional learning communities (PLC's) to discuss student growth, analyze data and plan effective lessons. Teachers are engaged in learning topics that are directly related to our school goal which is also connected to the district operational plan. Weekly grade level meetings are focused on student growth and developing lessons that will accelerate growth for learners.

The teachers at my school will benefit from technology professional development not only because of our 1:1 digital initiative, but it also keeps teachers up-to-date on new technology tools and applications. Through the professional development I designed, teachers have the chance to collaborate with others, learn new technology tools and bring their new knowledge back to their students to positively impact learning. The professional development will take place

during the 2017-2018 school year. My school has multiple professional development days during the school year as well as weekly Wednesday meetings which include professional learning.

Teachers will have the opportunity to self-select technology professional development sessions to attend based on their individual interests and passions. There are three main learning sessions; creation apps and technology tools, SAMR model integration with language arts learning targets and providing students feedback using technology. I chose these sessions based on informal conversations I had with teachers and an informal survey I gave teachers (see Appendix A). I received an overwhelming response in these three areas, so I knew I needed to facilitate professional development around them.

The creation session provides teachers the opportunity to learn about the use and purpose behind student-led creation. Some of the creation apps featured are; iMovie, Book Creator, Thinglink and Kidblog. Teachers have the opportunity to explore each app during the professional development session. I will model, explain and demonstrate each app and the various ways to use the apps in the classroom to impact students reading achievement. I also used the district essential learning outcomes (ELO's) to link the appropriate app with grade level specific language arts learning targets. This session is suggested for teachers who are comfortable and confident using technology with students in their classroom.

The SAMR model session is designed to educate teachers on the importance of the SAMR model. This session introduces the SAMR model and allow teachers to self-assess where they are currently using technology with their students. The session explains the SAMR model in detail and showcases various lessons related to literacy at each level in the SAMR model (substitution, augmentation, modification and redefinition). This professional development allows teachers time to explore, practice and create lessons based on the SAMR model.

Examples, demonstrations and ideas will be provided to teachers in order to spark creative ideas. It is my goal that teachers will leave this session with multiple ways to incorporate technology with their students. This session also helps teachers assess the level at which technology is used in their classroom and motivate them to develop lessons that increase on the SAMR model. This session is designed for teachers of all levels of technology confidence and background knowledge.

The student feedback session educates teachers on how to provide students feedback during their core reading and targeted reading hours while incorporating technology. Feedback is one of our staff's leverage behaviors, so it is important that teachers understand how to provide feedback efficiently. Classkick, Seesaw and Schoology are all apps that are showcased during this session. Each app will be demonstrated and explained, allowing teachers time to explore the apps. Examples of how to use the app to provide students feedback will also be reviewed. Teachers have the opportunity to practice during professional development, ask questions and bring their new learning immediately back to their own classrooms. This session is designed for teachers of all technology backgrounds and experiences.

The professional development that I designed will assist teachers with choosing technology that will have the most impact with their students. I listened to what the teachers at my school were interested in learning more about and designed professional development around their interests and passions. Whether they select to attend one or all three professional development sessions, student achievement will be greatly impacted in a positive way.

Evaluation will be key to my professional development design. After the professional development sessions, I will first gather feedback from the teachers who attended each session. Feedback will be gathered face-to-face and by using an online survey. I will be interested to

know what teachers learned, how they will implement their learning in their own classrooms and what questions they may still have. Secondly, I will look at our English language arts (ELA) formative and summative assessment data from 2016-2017 to 2017-2018 school years. I will begin with the six high leverage ELA learning targets to gather trends and observe the impact of the professional learning and how student achievement was impacted. I will use this data to determine effectiveness and next steps in professional development for teachers. The next section will discuss why professional development was a strong approach for my project.

Timeline

The timeline of my project is critical to the success and implementation. First, in April 2017, I informally surveyed the teachers at my school to gather information as to what type of technology professional development would help them to increase reading achievement for their students (see Appendix A). In May 2017, I met with my building principal to discuss professional development opportunities for the 2017-2018 school year. With a busy district calendar, I wanted to ensure my professional development has a place on the calendar. During the months of June 2017- August 2018 I designed, planned and refined the professional development I will be using during the upcoming school year. Guskey (2002) stated that, "High-quality professional development is a central component in nearly every modern proposal for improving education" (p. 381). The timeline created ensures that I am focused on improving the professional development at my school for teachers and students.

Summary

This chapter described the professional development project I created for teachers at my school. I shared various research that supports using professional development and the impact it has on student learning. I gave an overview of my school and the teachers who will participate in

the professional learning opportunity. I also described a timeline for my project. In chapter four, a conclusion to my project as a whole will be shared.

CHAPTER FOUR

Conclusions

Introduction

This study broadened my knowledge and viewpoint of how technology can be used in classrooms to impact daily reading achievement for students each day. Through this process, I learned the importance of reading proficiency and the various characteristics each student must display. I discovered the techniques in which teachers use technology in their classrooms that foster a positive impact on literacy achievement and student motivation. Throughout this process, I focused my research and project on answering my research question, *How can teachers leverage technology to impact reading achievement of early elementary students?* The purpose of my project is to educate teachers on how to strategically embed technology into their daily instruction.

In this chapter, I share my thoughts and reflect on what I have learned throughout this entire capstone process. I review main ideas from my literature review as well as discuss implications of the project and address the project limitations. Finally, I reflect and share my future research plans.

Connecting to the Research

In order to provide engaging literacy instruction with youth today, proper implementation of electronic devices is a must. As reported in Chapter Two, Palfrey and Gasser (2008) authors of *Born Digital* emphasized the importance of understanding the iGeneration students. The way in which these students communicate, learn and even read is different and new for teachers. Rosen (2011) also supported Palfrey and Gasser's work by suggesting that Digital Native's view their smartphones and iPads as more than just electronic devices, it is simply a way of life. They

are not questioning the existence of technology, but use it to their advantage in a variety of ways. variety of ways. In some cases, teachers are very intimidated by Digital Natives, because they are unable to keep up with the changing technology. Palfrey and Gasser (2008) and Rosen (2011) encouraged schools and teachers to let Digital Natives multitask and take the lead when it comes to technology. Also, providing students with information using a variety of modalities will only motivate and inspire Digital Natives.

Additionally, learning to read in the digital age has revealed positive results. Students are engaged in reading E-books, and using iPads for various projects and creations. Schools are using technology in a variety of ways including assessments, feedback and progress monitoring. (Wood & Joicus, 2014). Blagojevic et al. encouraged teachers to look critically at apps they are using with students. This ensures that students are exposed to the highest quality applications. Northrop and Killeen (2013) echoed this by suggesting teachers use a technology integration framework to successfully integrate iPads in the classroom to support literacy instruction. With sufficient preparation, technology improves student literacy skills.

Finally, a key finding in my research came from Ruben R. Puentedura (2006). Puentedura developed the SAMR Model to help educators assess the levels at which technology was effectively implemented to enhance students' daily learning and achievement. Romrell et al. (2014) also supported Puentedura's work by emphasizing that the SAMR model allows teachers an opportunity to reflect on their technology usage. When teachers try new ways to meet learning targets that are creative and more engaging, student transformation, and growth occur.

Description of the Project

My project focuses around professional development for teachers at the elementary school in which I teach. Teachers will have the opportunity to self-select technology professional

development sessions to attend based on their individual interests and passions. There are three learning sessions; creation apps and technology tools, SAMR model integration with language arts learning targets and providing students feedback using technology. The 45-minute professional development sessions will occur during the 2017-2018 school year. Teachers will have the opportunity to learn about new technology tools at each session and be able to immediately integrate the technology into their classrooms. The professional development sessions were created using Google Presentations and have the ability to be shared with others after the sessions are presented.

Limitations of the Project

As I started to design my professional development project I experimented with a few different presentation platforms. I landed on Google Presentations because of its ease of use, the ability to share efficiently with others and the clear presentation design. As I was creating the project a few challenges arose. I first realized I am under a time limit when presenting the professional development. The information I am able to share from all of my research is limited to the most important and valuable points. It was a challenge to leave out some information, but in the end, I know I created and shared the most beneficial and powerful findings. Additionally, I wanted to create professional development that was engaging, interactive and purposeful. Thinking outside the box to create professional development that not only teachers would enjoy but be able to implement their learning was more challenging than I was anticipating. I often had to pretend I was the participant in order to view the professional learning from a teacher's perspective. I created professional development that is a combination of learning, videos, collaboration with others and worktime. As I begin to implement the project, a limitation that I foresee would be staff participation. I have decided to make the professional development

sessions optional for staff to attend. I am hoping that most staff consider attending at least one of the sessions if not all three. Their feedback will be valuable to me as a researcher and presenter.

Implications of the Project

When I reflect on my research question, *How can teachers leverage technology to impact reading achievement of early elementary students?* I feel confident that my project supports the question as a whole. I chose to design a project that focused on professional development for teachers. Professional development should not only enrich a teacher's knowledge base but also introduce new instructional practices to improve student learning (Borko, 2004). I am hopeful that my professional development does just that. By focusing on a teachers' knowledge base and expanding their knowledge to new technology integration tools, teachers will have the capacity to bring their knowledge back to their classrooms and positively impact student achievement. The knowledge teachers bring into the classroom and pass on to students can lead to dramatically different results. These results tend to happen when teachers are provided a professional development in an area of need or interest. In my school's case, technology and literacy integration. After teachers have attended the professional development sessions, it is my hope that they will gain confidence in technology integration and be able to immediately implement their new learning, which would lead to impactful learning for students. The great thing about this project, is that the learning doesn't stop after one professional development session. I envision numerous professional development sessions in the future where teachers come together and reflect on how their technology has changed students learning and what their next steps are going to be. My goal through the three technology sessions is to fuel the fire for teachers. I would like teachers to explore technology in the classroom while failing forward and learning from their mistakes.

Author's Reflection

Before the start of my research, I had a grasp on the power that technology could have within a classroom. What I uncovered through my research is that technology must be purposely woven within a classroom to be successful. Technology alone cannot increase student achievement and create proficient readers. What was clear through my research is that technology can transform a classroom and dramatically change results when teachers have the knowledge, background, training and confidence to welcome technology into their daily teaching.

Another finding in my research was the importance of technology integration models. In schools across the country technology is being purchased at a rapid rate. Teachers are provided new technology tools daily, but many teachers are left wondering how to successfully integrate these tools into their classroom. There are necessary steps teachers and students must take to learn more about how technology can be purposely used in order to amplify a learning experience. SAMR model and TPACK framework were two technology integration models I studied in detail. To truly change the way in which teachers view technology, a technology integration model must be adopted. These models assist teachers with the task of implementing technology to redesign learning experiences for students. Without a model, teachers are simply putting technology in front of students without reflecting on why they are doing so.

Additionally, I learned the importance of creating a literacy rich learning environment for all students. Before starting my research, I thought I knew the importance of proficient literacy. What I have learned is that being a proficient reader is so much more than just being able to read a text. Students must have foundational literacy skills as well as vocabulary and comprehension skills. Teachers must be dedicated to teaching each individual child and personalize learning to

their needs. I also discovered that Digital Natives require teachers to teach differently than ever before. Teachers must connect literacy and technology to motivate and ignite proficient readers.

Gaining an understanding about the way in which teachers can leverage technology to impact reading achievement enables me to share the results with my colleagues. The three professional development sessions that I have created will set the stage to allow me the opportunity to share my results in a meaningful way. Through the professional development sessions, teachers will have the chance to learn new technology tools and how to appropriately integrate them into their own classrooms. I have developed three unique sessions based on teachers' interest and student need. The professional development will impact students immediately in a positive way. Teachers will be given an opportunity to bring their new learning right back to their classroom to test, reflect and refine. I'm excited to share my learning and research with others.

This research project focused on literacy and reading proficiency. For a future research project, I would like to focus the research on mathematics in early elementary school. I am curious to find out how teachers can leverage technology to impact math achievement, specifically number sense. With a wide variety of technology for math out there, I would like to know more about using technology to effectively teach math and support mastery of number sense.

Finally, the capstone process taught me that I am a researcher in my own classroom. I have never viewed myself as a researcher before this experience. I now have a new confidence in my teaching approach. This process has provided me countless skills and knowledge that I will bring back to my classroom. I continually teach my students the importance of being life-long learners, this capstone process has allowed me to do so as well.

Conclusion

Throughout this chapter, I reflected on the capstone process, revisited the literature review and discussed how my research is connected to it. I determined limitations of the project and possible implications. Additionally, I shared my reflection and described my growth and learning during the experience of answering my research question, *How can teachers leverage technology to impact reading achievement of early elementary students?* Although this project has ended, I am grateful for the experience and incredible new learning I have gained. I am ready to implement and share my knowledge while emphasizing the importance of being a life-long learner.

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Appendix A

Informally, this is what I asked teachers at my school to gain feedback for planning professional development.

1. What type of technology professional development would help you impact reading achievement for your students?

- [ ] Creation Apps for the iPad
- [ ] Schoology (how to add resources, quizzes, feedback, etc)
- [ ] More information on the SAMR model
- [ ] Apps that can provide feedback for students
- [ ] E-Books
- [ ] Book Creator
- [ ] Using video with students
- [ ] Designing Nearpod lessons
- [ ] TPACK framework
- [ ] Kidblog
- [ ] Seesaw
- [ ] Other